STIMULATING SUSTAINABLE URBAN DEVELOPMENTS:

INCENTIVIZE DEVELOPERS TO SUSTAINABLE MIXED-USE URBAN DEVELOPMENT PROJECTS

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Graduation thesis:

Stimulating Sustainable Urban Development Investments:
Incentivize developers to sustainable mixed-use urban development projects

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Sustainable Private Sector-led Urban Development
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The word sustainability is used more than ever before, and the more it seems to be used, the more it seems to be directed at rationalizing unsustainable development. Almost everybody is talking about sustainability, but despite this subjective awareness, the world is becoming objectively less sustainable. So why are we not acting effectively to achieve this sustainability?
– James Paul, 2015

PREFACE

Sustainability has been a major buzz word the past few years, especially grabbing the attention of the younger generation. Yet, it wasn't until I saw the documentary 'Banking Nature' that my interest for this topic really started developing. To me the documentary introduced a perspective of sustainability which I hadn't seen before; the role of the major private corporations in facing climate change. The documentary shed a (dark) light on the fact that the execution of sustainability is mainly in hands of the powerful private parties and not- as we are mostly taught in lectures- in the hands of society individuals. Therefore, if the goal is sustainability, we have to learn to speak their language and participate in their game to get them on board. This became the starting point for this research about making sustainable urban developments attractive for developers and investors.

This report represents the results of a research which has started in February 2016 and is the graduation thesis for the Management in the Built Environment at the Delft University of Technology. My personal interest in the field of sustainable private-led urban developments has given me the motivation to work on this thesis in the past year.

During this journey I was also motivated by many others. I would like to take this opportunity to thank all those who have made this graduation thesis possible. In the first place I would like to thank my graduation mentors Erwin Heurkens and Ilir Nase, for their criticism, guidance, motivation and helping me put my thoughts into words when I was unable to do so myself. Your input is much appreciated!

Furthermore, I would like to thank Jos Schild, Radboud Ammerlaan and Mariska Ruiter for being so enthusiastic about the research topic and for offering me the opportunity to do a graduation internship at Royal HaskoningDHV. I also want to thank Mario van Teijlingen, Fred Bruijn, Just Pereboom, Maarten Dansen, Bert Krikke, Deborah Goeree, Bart Sieben, Tor Fossum, Anna Barosen, Mark Robinson, Chris Findley, Anthony Marcelis, Sabina van der Spek, Marc Barenbrug and Mark Spetter, for taking the time for interviews which have led to great insights.

I would also like to give a special thanks to my friends for supporting me with kind words and actions during this period. Many thanks to you!

And last but not least, I would like to take this moment to thank my parents for their endless love and support. Thank you for always believing me. Esaki ta pa boso.

Happy reading,

Corina Regales

Introduction

This report draws attention to the slow rate in which sustainable urban development projects are being realized and thus why incentives are needed to stimulate developers to invest in this. With cities facing rapid urbanization and environmental challenges, political agendas being filled with ambitions to develop more sustainable urban development projects. However, at the same time economic downturns made governments shift from their active role to a facilitating one, thus hereby creating room for private-led investments. Yet, private developers see more disadvantages than advantages and are therefore not stimulated to participate in sustainable urban development. Concerns about the finance, risks, complexity and uneven distribution of costs and revenues form important factors. To bridge these concerns, incentives can be implemented in order to make sustainable urban development more attractive. In order to stimulate developers to invest, their drivers and barriers need to be understood. Subsequently, incentives can be introduced to stimulate them to invest in sustainable urban development.
The leads to the following problem statement:

There is a gap between the sustainable ambitions from public parties and the realization of these by private developers in practice. This is caused due to mismatch of interests between the two parties. The gap can be bridged by acquiring knowledge about how incentives can be used to stimulate developers to sustainable urban development projects.

Different types of barriers towards sustainable urban development projects are identified by private developers. Mainly the institutional and economic aspects appear to be causing barriers. Municipalities have to seek better understanding of the drivers and barriers of developers in order to identify how to steer towards more sustainable urban developments. With a better understanding of the both drivers and barriers can be explored in what ways private parties can be incentivized. Therefore the main purpose of this research is:

By exploring how to bridge the gap between sustainable ambitions and realization with a better understanding of how incentives can stimulate developers to sustainable developments, the research can lead to insights and recommendations to get one step closer to bridging this gap.
Incentives go beyond drivers; for example legislative and regulation can be a driver, pushing developers to take action, but it is not an incentive. It does not motivate one to take additional measures. It is important for this research to make this distinction clear. Incentives can be used to enhance drivers, to make their effects more powerful, or to reduce or remove barriers (Rademaekers et al., 2012). This function of incentives is illustrated in the following figure.

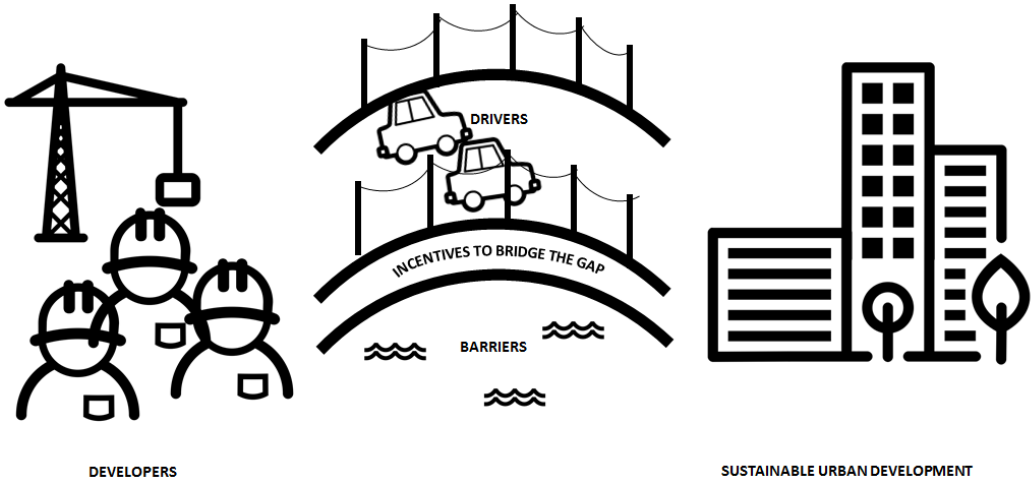

Figure S.1- Incentives to bridge the gap; to empower drivers or removing barriers (adapted from: World Resources Institute, 2016)

In order to limit the research the sustainable performance certificate BREEAM is used as a measure to define a sustainable urban development. Furthermore, the research will focus on mixed-use urban developments as it fits with the sustainability guidelines the best. Mixed-use developments to a sustainable society as they produce vibrant, adaptable and pleasant environment (Wheeler, Forsyth, & Fraser, 2009). In addition, it seems like this development type needs more stimulation as there are less certified sustainable urban developments than business parks in the Netherlands.

For these reasons the report seeks to answer how incentives can be used to stimulate developers to invest in sustainable mixed-use urban developments projects by addressing drivers and barriers of developers as well.
The following main research and sub questions have been formulated:

How can private developers be incentivized by local planning authorities to invest in sustainable mixed-use urban development projects?

1. How are the stakeholders' roles and partnerships structured within the development process?
    a. What are the drivers of the main actors involved?
    b. How is the partnership and collaboration in the development process?
    c. What is the role of BREEAM during the development process?
2. What barriers are encountered during the process of sustainable urban development?
3. What incentives are applied during the process of sustainable urban development?

Both literature and empirical studies will be conducted to answer the research questions. The literature review is done to build a theoretical framework to make it possible to conceptualize the findings by processing, structuring and interpreting them. Combined with the empirical studies consisting of case-study interviews, the findings of the cases can be compared to each other.
The conceptual framework illustrates how the research elements are related to each other. How the research problem, goals and questions have come about and are related to each other is shown in the next figure.

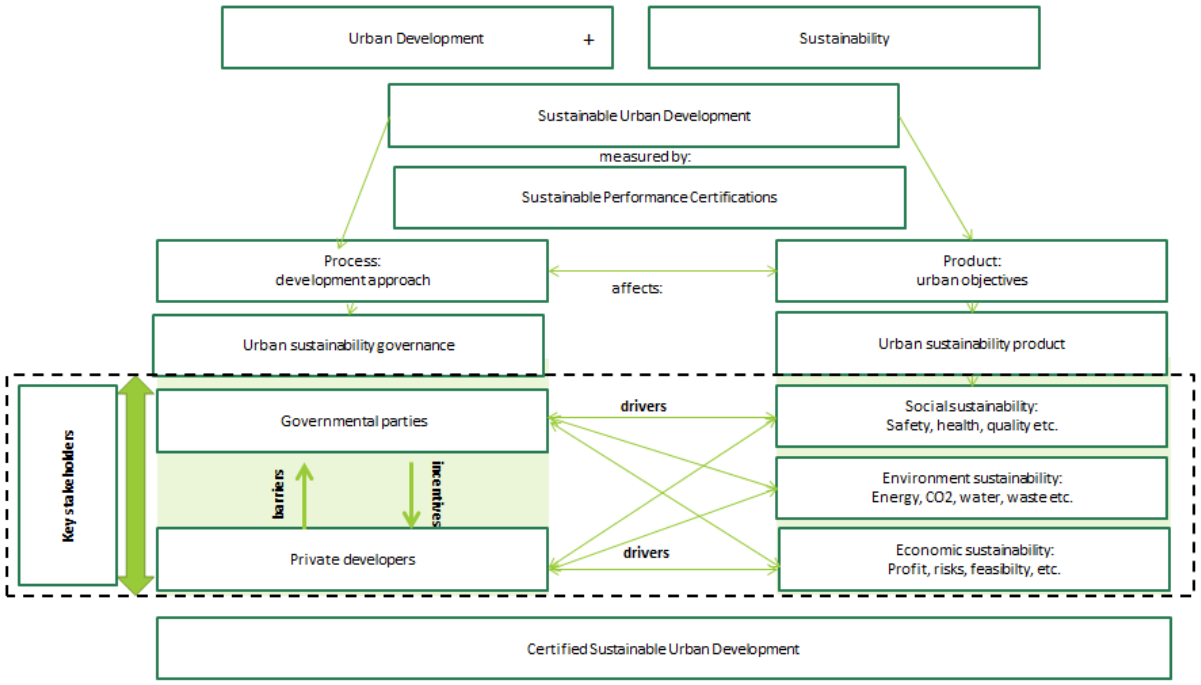

Figure S.2- Conceptual model (own ill.)

Research Design and Methodology

Qualitative methods of analysis have been applied for this research due to the explorative character of its research goals and questions. A qualitative research design can be described by the following three aspects: an induction approach which is based on the generation of theories, explores ways in which individuals make interpretations and a view of social reality as a constantly shifting emergent aspect of individuals' creation (Bryman, 2012). Furthermore, this approach reflects an interpretive research paradigm, where the perception from actors in practice form the grounds for reality (De Lange, Schuman, & Montesano Montessori, 2011).

Research designs which are applicable in this category include qualitative interviews, both semi-structured and open, and qualitative analysis of texts and documents. With regards to the case-studies a cross-cultural multiple-case study fit well into the qualitative strategy and is suitable for gaining insights and making comparisons for theoretical reflections (Bryman, 2012).

Theoretical framework

Sustainable urban development projects

Sustainability is gaining attention, but that seems to happen more on the building scale instead of urban scale. But, with more than half of the world's population now living in urban areas and with the continuation of urbanization and climate-change, urban developments are becoming increasingly important to address. Urban problems can be effectively addressed if communities and cities become more sustainable (U.S. Green Building Council, 2016). This challenge also applies to the Netherlands where about 500.000 new dwellings are expected to be needed in 2040 in the Randstad.

Cities are largely responsible for the energy consumption and gas emissions, however they also have the potential in ensuring that infrastructure, services and technology to reduce environmental impact could benefit from increased concentration and economies of scale (Dixon, 2011).

Therefore the goal is to combine living, working and leisure together on an urban scale which reduces environmental impact (environmental sustainability), allows businesses to establish and grow, increase job opportunities (economic sustainability) and offers high-quality environment for the community (social sustainability) (Angela Reid, 2013).

Mixed-use Urban Developments

This research is limited to mixed-use urban developments. Mixed-use urban developments have shown to have a positive effect on urban sustainability in social, economic and environmental sense. Mixed-use developments would not only be a model for a more efficient use of the city, but also lead to an increase in economic activity, healthier lifestyle and social interaction (Steen, 2016). Sustainable urban developments intend to create economic-viable, social-responsible and environment-friendly urban places. The focus on creating mixed-use urban places supports this as it can have broader social impacts than focusing only on the building scale as sustainable urban development is about local community involvement and economies of scale (Heurkens, 2016; Williams & Dair, 2007).

BREEAM

What makes an urban development sustainable is not always easy to answer. Therefore, a number of assessment tools have been introduced in order to measure and assess the level of sustainability of an urban development project. This report focuses on sustainable urban development projects which are certified with the assessment tool BREEAM. BREEAM is short for Building Research Establishment Environmental Assessment Method and is originally developed and introduced by the Building Research Establishment (BRE) in the United Kingdom (Van De Griendt, 2011). The system applies a qualitative tradeoff based on an extensive stakeholder analysis of which

tradeoff is done within the following nine categories: management (12%), health (15%), energy (19%), transport (8%), water (6%), materials (12,5%), waste (7,5%), land use and ecology (10%) and pollution (10%). As a final result a building or area can obtain the follow marks: pass, good, very good, excellent and outstanding. BREEAM-NL is an initiative from the Dutch Green Building Council (DGBC). The DGBC wanted to come up with a quality mark for the Dutch built environment. Both private market parties like developers as well as public parties make use of BREEAM for their projects and it is the most applied certificate for sustainability in the Netherlands (Van De Griendt, 2011).

BREEAM can be beneficial for:

- **Making the sustainable performance tangible and objective**
- **Analyzing and improving the sustainability level in an area**
- **Marketing and competitive edge**
- **Enhancing sustainable image**
- **Increase support from society and governmental authorities**
- **Creating international recognition**
- **Communicating in one universal language**
- **Benchmarking: comparing performance metrics to industry bests and best practices**

Stakeholders

Within an urban development process many stakeholders are present. Stakeholders play an important factor in the complexity of sustainable urban development. Different actors with different interests, goals and influence create challenges during the process.

Municipalities have shifted from an active to a facilitating role, creating more room for private-led developments to take place. Private-led urban developments have come forward as a potential strategy to develop sustainable areas (Heurkens & Hobma, 2014). In this regard private-led urban development can be defined as: “An urban development project in which private actors take a leading role and public actors adopt a facilitating role to manage the development of an urban area, based on formal public-private organizational role division.” Private-led urban developments symbolize the changing public and private roles and relations in urban planning, with shifts towards forms of private planning (Andersson & Moroni, 2014; Hackworth, 2007).

The focus on the research is limited to the key actors of local planning authorities and developers. While there are many other stakeholders involved in urban development processes, local planning authorities and developers are still considered to be the key stakeholders as they collaborate on the operational level of urban developments (Heurkens, 2012).

The following figure gives an overview of all the stakeholders in urban governance and on which parties the focus lies.

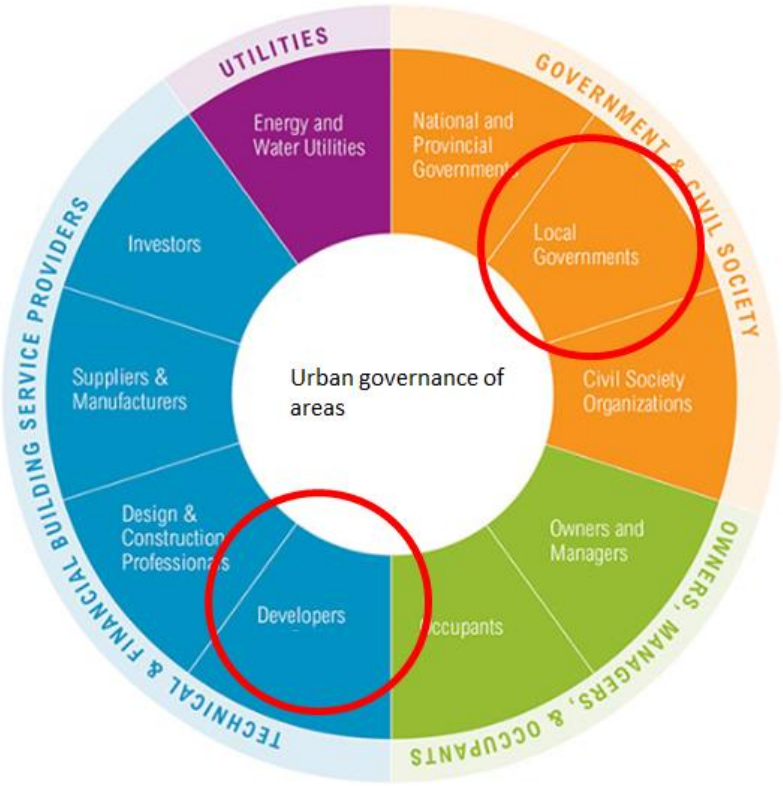

Figure S.3- The focus will be on the stakeholders developers and local governments (source: World Resources Institute, 2016)

Role of Governments

Urban governance is not only made complex due to its large number of stakeholders, but also because stakeholders can play different types of roles. The main roles of local authorities are briefly described below to give the reader some insight into the difference roles. The main three roles local governments have are (ARUP & C40, 2015):

- Owner/investor
- Convener/facilitator
- Regulator

Role of Developers

Just like municipalities can take on different roles, developers can do so as well. A traditional developer can be defined as: "Taking initiative, based on own account and risks, to realize one or multiple developments for the market. This takes place by integrating and coordinating the required professional knowledge and expertise, meeting the demands of the future user or buyer. The involvement continues until the operational phase or even shorter if the project is sold."(Zöld, 2011)

Aside from the general description, five main categories of developer types can be described based on Nozeman and Fokkema (2010):

- Developers linked to construction: these developers have a strong connection with the construction field as they are often part of construction firm.
- Independent developers: this is the largest group and the developers are often focusing on a targeted group, region or niche market.

- Developers linked to investment: these developers develop for their own real estate portfolio; they are seen as developer-investors.
- Developers linked to financial institutions: developers who are focused on short term sell to end-users; these developer groups are often parts of banks.
- Other; for example non-traditional developers like multinationals.

Drivers

Stakeholders in each urban development process have different motivations for participation: the so-called drivers. The Oxford dictionary defines a driver as: *a factor which causes a particular phenomenon to happen or develop (Oxford Dictionary, n.d.)*.

This research focuses on the following four main categories of types of drivers; financial, reputational, legislative and intrinsic. The categories with their corresponding drivers and examples are illustrated in the figure below. The categorization is done to create a framework for comparisons of the empirical findings.

Table S.1 – Types of drivers (own ill.)

Type of drivers	Examples
Financial	• Increase in market value • Risk reduction • Cost reduction /cost-efficiency • Increase in profit • Faster sale/lease of buildings
Reputational	• Company strategy • Corporate Social Responsibility • Competition • Innovation • Pressure from society • Marketing
Legislative	• Planning requirements / permits • Ahead of legislation changes • Procurement • Taxes and levies
Intrinsic	• Intrinsic value • Company culture • Staff/organization

Barriers

Barriers in sustainable urban development can be defined as: *phenomena which actively counteract and are in the way of a desirable change or inertia which results in the change progressing slowly in relation to challenges and targets* (Boverket, 2015).

Just like with drivers, four categories have been developed for types of barriers; financial, legislative, knowledge and organizational. These can be seen in the following table.

Table S.2 – Types of barriers (own ill.)

Type of barriers	Examples
Financial	• Sustainability measures are too costly • No access to financing • Lack of suitable business cases • Risks perception • Split-incentive • Short term view/involvement
Legislative	• Regulations • Lack of flexibility by law and regulations • Lack of ambition / vision for sustainability • Protests/objections from actors
Knowledge	• Lack of knowledge, awareness or expertise • Insufficient support for research, learning and pilot projects • Insufficient transfer of knowledge • Lack of knowledge concerning BREEAM
Organizational	• Lack of coordination within and between different organizational levels • Sectoral responsibility versus collective interest • Lack of leadership capacity and know-how for complex, cross-sectoral process • Lack of courage • Lack of support / direction

Incentives

Incentives are defined in this research as: *Additional measures tailored to the specific needs of someone in order to encourage or motivate them to do something*.

Financial, reputational, legislative and capacity-building make up the four categorizations of incentives applied in this report.

Table S.3 – Types of incentives (own ill.)

Type of incentives	Examples
Financial	• Reduced costs • Taxes • Subsidies • Public funding • Access to private funds • Total life cycle involvement • Risk reduction • Public investment
Legislative	• Strong vision/policies on sustainability • Reduction in legislative burdens like obtaining permits; more efficient and faster process • Integrating BREEAM within planning framework to make process more efficient and faster • Collaboration between public and private

Reputational	• Publicity • Awards and recognition • Marketing • Benchmarking • Improved profile / branding
Capacity-building	• Facilitate access to development finance • Public support for new ideas / cultures • Knowledge sharing / transferring • Bringing stakeholders together • Having the necessary skills and expertise

Incentives can affect the decision-making process for sustainable urban development projects. A development may start with high ambitions for sustainability- higher than the minimum which is required but due to lack of incentives and other barriers encountered, developers decide to lower these. Meeting just the minimum requirements leads to box-ticking phenome, with incentives you want to avoid this and stimulate actors to go beyond the required minimum.

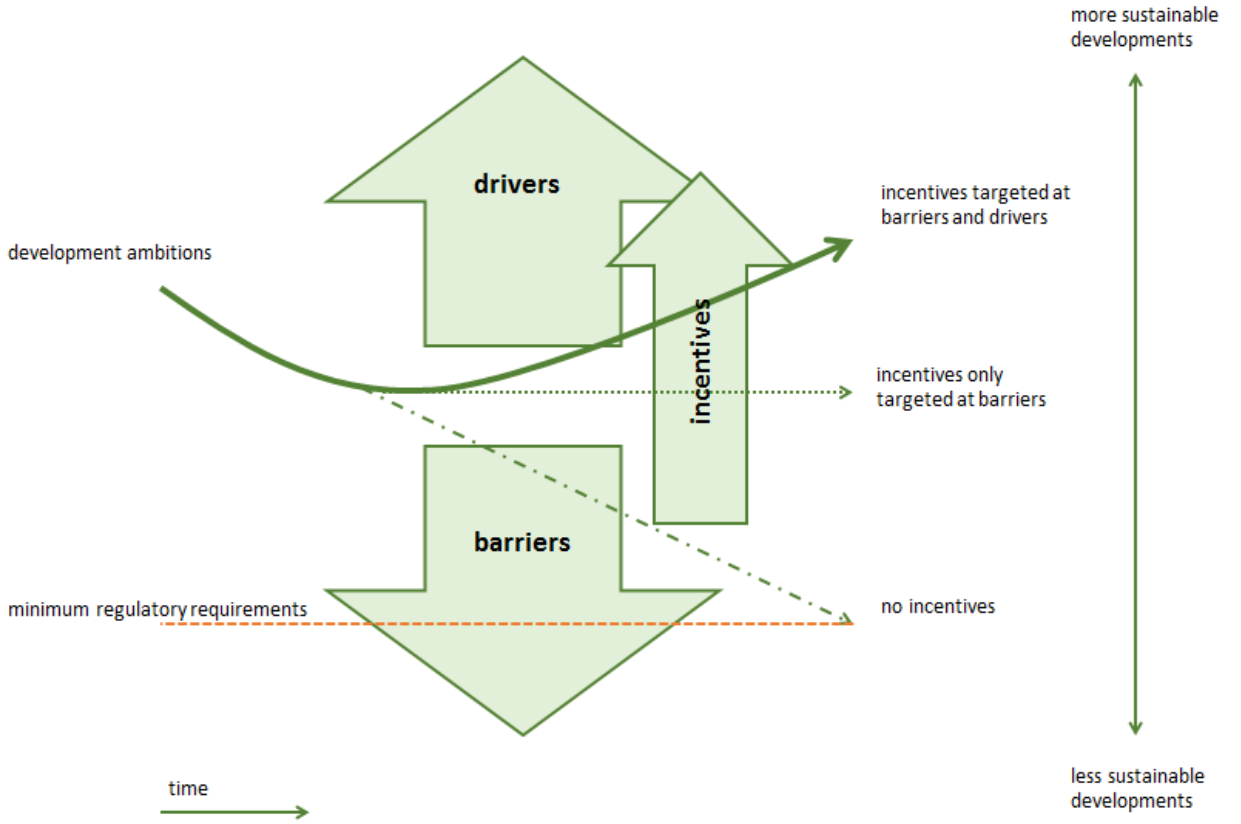

Figure S.4- Conceptual model of the relation between decision-making drivers, barriers and incentives (adapted from UNECE, 2009)

The figure above shows that incentives can be targeted at both drivers and barriers. Hence, their role is to change the weight of the drivers and barriers by either increasing the drivers or reducing the barriers. Companies can be incentivized to act more sustainable by making the drivers more powerful by for example improving the potential for financial gains, or offering more opportunities to present a positive company image; and/or by reducing the

barriers, for example by providing suitable information (Rademaekers et al., 2012). In this way, incentives can help developers make the decisions to invest in sustainable urban developments.

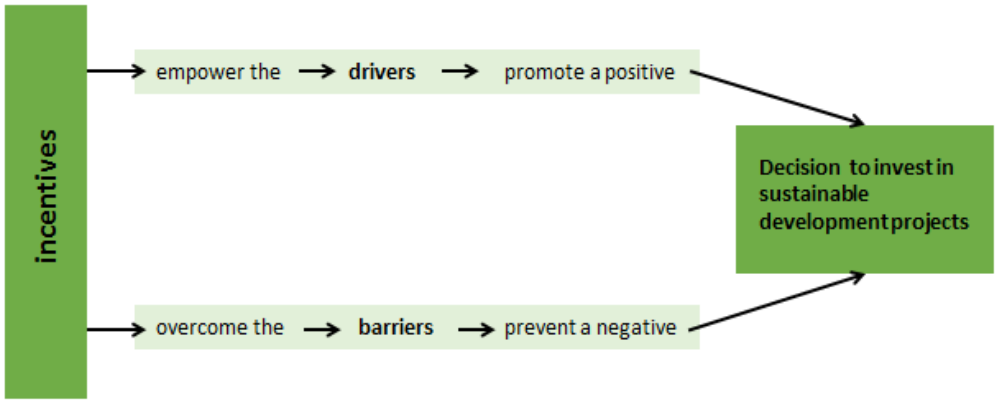

Figure S.5- How incentives influences drivers and barriers to sustainable development projects decisions (own ill.)

One should keep in mind that incentives can be perceived by stakeholders in different ways and that internal and external factors can play a role as well.

Empirical Study: Case-studies

The objective of the case-studies is to gain more insights into how developers can be stimulated to invest more in sustainable mixed-use urban development projects. As there is not much research done on this subject yet and because of its explorative character, case-studies were conducted to gather more data by using real time practices. The findings of the case-studies will be used to help answer the main research question. By conducting cross-case comparison, the findings can lead to useful insights.

Case-studies Selection

The basic information of the selected case-studies is set in the table below.

Table S.4 – Basic description of the selected case-studies (own ill.)

	Project	Developer	Location	Scale	Function	Space division
1	Ecomunitypark	Ecomunitypark	The Netherlands	17 ha	Business park	45% green and water, 55% built
2	Masthusen	Skandia Fastigheter	Sweden	11 ha	Mixed-use	70,000 m^2 offices 20,000 m^2 retail/services 700 residential units
3	MediaCityUK	Peel Group	UK	81 ha	Mixed-use	65,000 m^2 80,000 retail/leisure 2,300 parking units 200 beds hotel plaza for 4,000 people

The cases are analyzed based on the categorization of the drivers, barriers and incentives which were conceptualized in the theoretical framework. These categorizations of the variables barriers, drivers and incentives are to serve as a guide line to make the comparison of findings between the cases possible. The following table gives an overview of this categorization. The coding of the variables helps to compare, but since this is still an explorative study, there is also room for other interpretations.

Table S.5 – Variables for cross-case comparison (own ill.)

Type of developer	**Name**	**Single/multiple**	**Type**	**Duration involvement**		
Variables	[…]	Single or multiple	Traditional, developer/constructor, developer/investor, developer/financer, independent or other	Short term: until realization or long term: until operation		
Type of development	Type	Scale				
Variables	Single-use or mixed-use	[…] ha				
Stakeholders	Key stakeholders	Public or private-led	Role municipality	Collaboration	Use of BREEAM	Other key stakeholders
Variables	[…]	Public-led or private-led	investor, facilitator, regulator	[…]	[…]	Any in list of stakeholders
Drivers	[…]	[…]	[…]	[…]	[…]	[…]
Variables	Financial	Legislative	Reputational	Intrinsic		
Barriers	[…]	[…]	[…]	[…]	[…]	[…]
Variables	Financial	Legislative	Knowledge	Organizational		
Incentives	[…]	[…]	[…]	[…]	[…]	[…]
Variables	Financial	Reputational	Legislative	Capacity-building		

The following sections will give a brief description of the case-studies.

Description Ecomunitypark, Oosterwolde, The Netherlands

Ecomunitypark is situated in the north of the Netherlands in Oosterwolde, Friesland. The area of this business park exists of 17 hectare and is situated at the edge of the city center. The goal of the project was to develop the most sustainable business park in the Netherlands where businesses could establish in a park-like landscape (Jansen & De Graaff, 2014; Ministerie van Infrastructuur en Milieu, 2014). Business owners, research institutes, schools in the field of bio-based society and sustainability can be established in this park. The initiative was taken by Anne Jan Zwart, business owner of ECOStyle, he bought the land and wanted his company to also be established there (Dijkshoorn-Dekker, De Blaeij, Polman, Michels, & Ballemans, 2014). The development was done by Ecomunitypark B.V.. Ecomunitypark sets itself apart by how it is innovative in the way they focus on bio-based economy (Jansen &

De Graaff, 2014). This is especially interesting with regards to their relation with the local economy and educational institutes.

Ecomunitypark received a BREEAM-NL Gebiedsontwikkeling Outstanding performance certificate of 5 stars (Ministerie van Infrastructuur en Milieu, 2014).

Findings Masthusen, Malmö, Sweden

Masthusen is the first project to receive BREEAM Very Good certification, a score of 57, 5%, for a development outside of the UK. The area used to be known for its shipyard and car manufacturing, but is now evolving into a knowledge city (Malmö Stad, 2008). The area is located in the Western Harbour (Vastra Hammen) district of Malmö in Sweden and includes over 100,000 square meters consisting of 700 residential units, 70,000 square meter of offices and 20,000 square meters of retail and services divided over 18 neighborhoods (BREEAM, 2016). Construction started in 2010.

Currently, the development is now in its construction phase; however the certification has already been awarded for the master planning process. The project has been initiated by private developer Skandia Fastigheter. Together with the City of Malmö, the developer and other partners have worked extensively together under a main shared goal. This made agreements on design and planning, responsibilities and implementation possible (BREEAM, 2016).

MediaCityUK, Salford, England

MediaCityUK is a waterfront project at Salford Quays in Manchester, UK. The development is seen as an innovative and creative hub for the media world which incorporates offices, studies, residential, retail, leisure and more. The project is set to contribute 1,5 billion pound to the regional economy, create job opportunities for 15,500 people and provide space for about 1,1250 creative and related companies.

This project is an extensive regeneration development in the Salford Quays area. The public private partnership within the process is called exemplary based on the cooperation during the early stages (Urban Vision, 2016).

Phase 1 of the development was completed in 2011. The plan includes office spaces for BBC and other companies of about 65,000 square meter, two residential towers covering almost 400 apartments, TV studios, carpark with about 2,300 units, hotel with about 200 beds, 80,000 square meter of retail and leisure, a media department for the University of Salford, a site-wide energy center, a public piazza for about 4,000 people and a new Metrolink station- aiming to create an environment where creative and media industries can thrive (Arayici, 2014) .

Comparison Findings

The following table gives an overview of the main findings of the cases compared to each other. The comparisons are the framework for the conclusions and recommendations.

Variables	Ecomunitypark	Masthusen	MediaCityUK	Discussion
Stakeholders	Ecomunitypark B.V. and Municipality of Ooststellingwef	Skandia Fastigheter and City of Malmö	Peel Group and Salford City Council	Single developer, private-led developments with facilitating public role. Close collaboration between the two parties. Developer/investors have relation with end-user early on. BREEAM is used to guide process, to demonstrate sustainability or to meet requirements.
Type developer	Developer/investor	Traditional developer	Developer/investor	
Duration involvement	Long term	Short term	Long term	
Other key stakeholders	End-user ECOStyle	Other developers	End-user BBC	
Collaboration	Worked together on sustainable plans/vision	Worked together on sustainable plans/vision	Worked together on sustainable plans/vision	
Role of BREEAM	To demonstrate sustainability and guide	To meet local requirements and to guide	BREEAM to demonstrate sustainability	
Drivers				Financial and reputational drivers most addressed by both developers and municipalities- hence creating shared interests. Long-term developers share intrinsic values.
Financial	Commercial and job creation (M)	Reduce large-scale risks	Costs and value, job creation(M)	
Reputational	Reputation end-user, set example(M)	Publicity and CSR, profile of city(M)	Image and front-runner, profile(M)	
Legislative	-	-	Anticipation legislative changes	
Intrinsic	Personal, intrinsic drive	Municipality values	Company values	
Barriers				Financial barriers appear most common- often related to BREEAM too. Legislative, knowledge and organizational barriers often ultimately result in financial barriers due to time, costs and/or uncertainty. Legislative and knowledge barriers are close to municipal operations and thus could be solved there.
Financial	Use of land, split-incentive, BREEAM, unwillingness pay residential sector	BREEAM, time delays and unwillingness pay residential sector	Budget total life cycle phases, costs public realm	
Legislative	Zoning plan, NIMBY residents, integration BREEAM in planning	Contextual factors BREEAM, integration BREEAM, participation actors, unable to operate public realm	-	
Knowledge	Incorporating soft values, lack of knowledge and/or vision	Adoption BREEAM	Incorporating soft values, lack of knowledge and/or vision	
Organizational	Inefficient municipal division structure	Internal resistance within company	-	
Incentives				Financial incentives appear most common and are targeted both to empower drivers and reduce barriers. Reputational incentives are linked to BREEAM and to empower drivers related to reputation. Legislative and capacity-building incentives are close to municipal operations and the role they take on.
Financial	Scale economies, include soft values, subsidies, long-term value, public investment	Scale economies and risk reduction	Risk reduction, long term value, subsidies, public investment	
Reputational	BREEAM to profile and demonstrate	BREEAM to demonstrate, marketing	BREEAM to market, anchor end-user	
Legislative	Flexible zoning plan, BREEAM to guide process, fixed municipal contact, faster permit approval	BREEAM to guide process	BREEAM to guide process, faster permit approval, bid with clear requirements	
Capacity-building	Positive and supportive attitude from municipality with knowledgeable staff	Progressive municipality and exemplary projects nearby to learn	Supportive/partner-like municipality	

Conclusions

The conclusions are discussed based on the sub questions and main question.

Conclusions stakeholders' roles and partnerships within sustainable developments

The sub question: *How are the stakeholders' roles and partnerships structured within the development process?* is further divided into sub parts; the general partnership within the process, the role of BREEAM between the stakeholders and the drivers of the key stakeholders.

The conclusion for this sub question is:
Private-led urban developments are to be supported by facilitating yet active local planning authorities. With active is meant a close collaboration between private developers and local planning authorities on planning and visions for the area. BREEAM can serve many purposes during the process, with the most noticeable ones being a guiding tool for decision-making, to help meet requirements and the certificate to demonstrate the achieved levels of sustainability. Both developers and municipalities are motivated by financial and reputational drivers which can create a shared interest between the parties during the development process. Moreover, reputational drivers can possibly be affected by tenant type- indicating why businesses play a larger role in the development than residents- which can also explain why business parks are more common than mixed-use urban developments. At last, intrinsic drivers could be linked to developers whom are committed to a long term.

Conclusions Barriers

The sub question is: What barriers are encountered during the process of sustainable urban development?
The conclusion is:

Financial barriers appear to be the most encountered by developers. These vary from split-incentives, high costs and time delay. They could also be linked to unwillingness to pay from tenant types- with companies more willing to pay for sustainability than individuals- which in return can affect the type of development. Financial barriers related to the use of BREEAM contained high costs and time. Legislative, knowledge and organizational barriers can all result in financial barriers too due to time, costs and/or uncertainty. Thus it is important to address the legislative, knowledge and organizational barriers as well. Also in regards to legislative and knowledge BREEAM was identified as a barrier. Front-runner developers appear to experience less organizational barriers.

Conclusion Incentives

The conclusion for the sub question *What incentives are applied during the process of sustainable urban development?* is:

Not only one, but a combination of different types of incentives is applied to stimulate developers. In addition, incentives can be targeted to empower drivers and/or remove barriers. Financial gains can often be secondary to reputational, legislative and capacity-building incentives. The financial incentives target both empowering drivers and reducing barriers, while for long term developers it is often more about empowering existing drivers. Reputational incentives appear to only be targeted to enhance reputational drivers, and are increasingly becoming important for companies. Moreover, BREEAM can be used to create these reputational incentives and to create shared interests between parties. Legislative incentives are context sensitive and can be created by developing more efficient planning and permit procedures-including the integration of BREEAM in planning frameworks of municipalities. This can ultimately lead to saving time and money for developers. The exemplary role of the local planning authorities in how they support and projects in their area work stimulating for developers. Being able as municipality to provide the suitable knowledge, expertise, partnerships and funding works also helps to stimulate developers to invest in sustainable urban development projects.

Conclusion main research question

How can private developers be incentivized by local planning authorities to invest in sustainable mixed-use urban development projects?

Private developers can be stimulated to sustainable urban development projects based with a combination of financial, reputational, legislative and capacity-building incentives. These incentives can be used to either empower existing drivers and/or remove barriers.

The type of developer- short versus long term commitment- can affect the drivers in the development process. Furthermore, developers and local planning authorities having a shared interest in financial and reputational drivers can affect the collaboration positively. It is important to note that a facilitating public role still requires active participation in terms of both collaboration and finance. BREEAM certifications help guide the processes, meet requirements and prove sustainability achievements.

Financial barriers are to be taken into account and are often the result of the legislative, knowledge and organizational barriers as well. Barriers related to finance, knowledge and legislative are also often connected to the use of BREEAM during process.

A combination of different incentive types- targeting both to empower drivers and/or remove barriers- appear to be most effective. It is important to keep in mind that drivers, barriers and incentives can be perceived differently by developers and to take the internal and external factors also in account.

The figure below illustrates the use of incentives in their context.

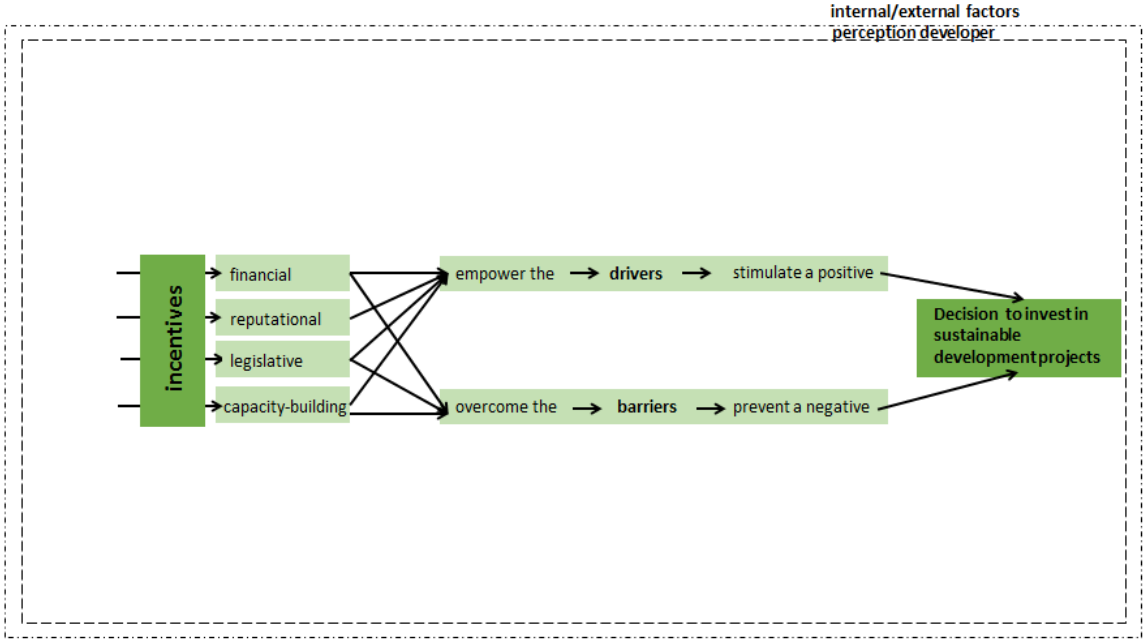

Figure S.6- How incentives influences drivers and barriers to sustainable development projects decisions (own ill.)

Recommendations

The recommendations are divided into the different sub questions and are split into recommendations for research and for practice.

Recommendations stakeholders

For research:

- Research the role and influence of other key stakeholders in realizing sustainable urban development projects
- New emerging partnership models within sustainable urban development
- Transferring lessons of sustainable urban development between different institutional landscapes
- Evaluation of BREEAM assessment tool
- Comparing different assessment tools
- Classifying types of drivers and their effectiveness
- Comparison of drivers of different stakeholders within the urban development process

For practice:

- Recommendation for local planning authorities: Be facilitating, yet active!
- Recommendation for developers: Focus on collaboration
- Recommendation for developers and local planning authorities: Gain and share more knowledge about BREEAM

Recommendations barriers

For research:

- Classifying types of barriers and their effectiveness
- Translating and including soft values into calculation models

For practice:

- Recommendation for developers and local planning authorities 1: Educate yourselves and share knowledge
- Recommendation for local planning authorities 2: Increase efficiency in planning procedures

Recommendations incentives

For research:

- Classifying types of incentives and their effectiveness
- Internal and external factors affecting incentives
- Internal/external provision of incentives

For practice:

- Recommendation for local planning authorities: Understand interests of developers and apply incentives accordingly
- Recommendation for developers: Communicate interests with municipalities and seek how to stimulate yourself and/or others in the industry

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1 INTRODUCTION

1.1 BACKGROUND

Discussions about sustainability started in the seventies when the oil and energy crisis made society realize that overconsumption of energy and other resources cannot continue. Yet, it has been only in the past years that sustainability became worldwide a hot topic. People are becoming more aware that their actions have a big effect on the future of the planet (Van Der Horst, 2010). The past period many campaigns promoting the green movement, documentaries and sustainable products like recyclable products, LED-lightning and electric cars, have contributed to making society more conscious about the environmental challenges of today's world.

Combined with rapid urbanization, changing economic markets and power shifts between public and private actors, sustainability within urban development is also entering the spotlight. Increasing sustainability in urban areas will not only help achieve the sustainability ambitions which have been set internationally, but also help create urban areas where people can continue living in a sustainable way.

The shift from focusing on sustainable buildings to focusing on sustainable areas is slowly gaining attention (Van Der Horst, 2010). There are few project initiatives, but interest in sustainable urban development projects has not taken off yet-even when the importance of sustainability on an urban scale is acknowledged by Dutch experts. For example, De Zeeuw argues that the discussions are still too focused on buildings instead of areas (Van Ratingen, 2008). The importance of sustainability on an urban scale can be noticed by understanding that true sustainability on a building level is caused by the quality of its surroundings (Van Der Leij, 2009). As opposed on a building level, scaling sustainability to an urban size creates room to make an entire area more livable and pleasant for the society. So not only does it have a larger environmental impact because of its scale, but also its impact on social and economic levels are significant. Commercially, sustainable urban development can increase the value of an area- including the buildings in that area- and contribute to a positive and sustainable image of a city, region or country (BREEAM-NL, 2013).

As opposed on a building level, scaling sustainability to an urban size creates room to make an entire area more livable and pleasant for the society (BREEAM-NL, 2013).

Real estate and the built environment consume globally up to 40 per cent of energy and are responsible for 30 per cent of greenhouse gas emissions (UNEP, 2009). Thus consequently, the built environment and the real estate industry have an important role in climate change and in delivering sustainable places (Oude Aarninkhof, 2015). With the massive increase of new constructions taking place in emerging economies, and the inefficiencies of the existing built environment worldwide, if nothing is done, the greenhouse gas emissions from buildings can become double in the following 20 years (UNEP, 2009). For these reason, if there is sustainability goals to be met, actors within the building sector have to take on the challenge of making the built environment more sustainable. In addition, building efficiency is one of the most affordable ways to curb climate change. It offers big impact reductions for less money (Becqué et al., 2016).

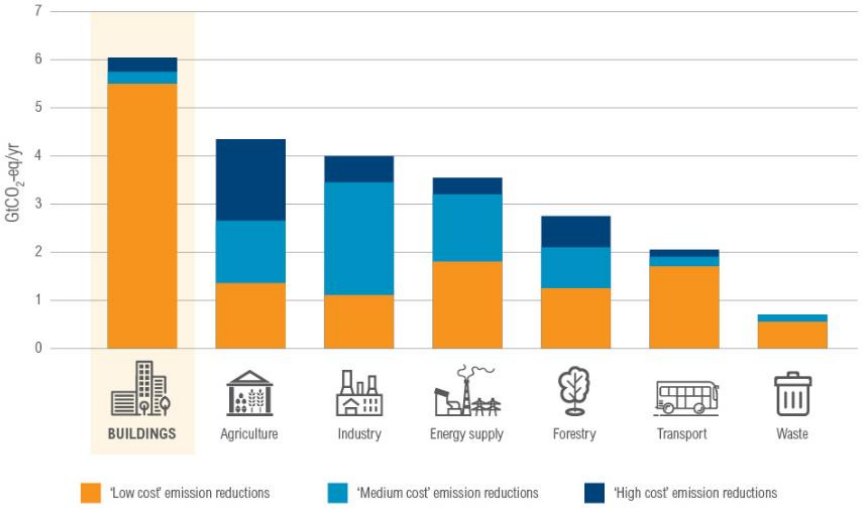

Figure 1 - Cost emission reductions per industry (source: World Resources Institute, 2016)

Especially with the Dutch government shifting towards becoming more facilitating, private actors like developers will have to take on a bigger responsibility regarding the sustainable built environment. Within the Dutch real estate market sustainable developments have also starting taking place. However, these are mostly on a building-level, while

little is being done about sustainability on an urban scale (Van Der Horst, 2010). This is mainly due to lack of incentives involved. Therefore, in order to stimulate more sustainable urban developments in the Netherlands, this research will explore how to make sustainable urban developments more attractive to developers by using incentives.

Thus, by gaining insights about the drivers and barriers of developers and how to cater to these interests, this research aims to offer recommendations about how developers can be stimulated to invest in sustainable urban development projects. From an academic perspective a lot of research has been carried out about governance strategies and stimulating tools to achieve certain goals. But these are not always translated to the market as they were intended. Firstly, the findings of the research can help private parties understand why sustainable urban development can be attractive and secondly it is intended to help public parties understand how to stimulate private parties in order to meet the sustainability ambitions in practice.

1.2 PROBLEM ANALYSIS

Based on literature findings and explorative interviews with professionals the following sections will analyze the research problem.

1.2.1 INTERESTS OF PUBLIC PARTIES

With the built environment alone contributing 40% to total global greenhouse gas emissions, policy-makers are increasingly considering buildings as the link to achieving more energy-efficient cities (Chegut, Eichholtz, & Kok, 2013; Wilkinson & Remoy, 2015). The current global climate change debate translates to political agendas of municipalities and provinces, which are filled with ambitions to realize climate neutral, CO2-neutral or energy neutral communities, neighborhoods and districts (Rijksdienst voor Ondernemend Nederland, 2014). But often these sustainability goals are lacking clear, specific descriptions on how they should be achieved.

The section above illustrated the goals governments have in order to make their cities more sustainable for the future. Interestingly though, at the same time, they are shifting their role as active market players towards a more facilitating role. This is partly due to the economic crisis; it made economic situations change drastically and recession, budget cuts, on-and-off investments and highly uncertain forecasts were all consequences (Puylaert & Werksma, 2011). Over the past years many municipalities have been taking steps down and leaving room for the private sector to do the tasks that they would previously engage in (Huismans & Vaan, 2011). This calls for a re-organization of common public goods to be provided by private parties (Webster & Le Goix, 2005).
This can come with its challenges as the goals and drivers between public and private vary.

Experience has shown that private parties will not finance and take risks if developments are not profit-generating. The private sector therefor is heavily relying on a strong commitment from the public side through special incentives and/or other mechanisms in order to provide attractive conditions for the private sector to invest in sustainable urban projects (Adair, Berry, & McGreal, 2002).

Moreover, it is important for the municipalities to have the adequate people and budget available to invest and stimulate sustainability. The energy agreements are not going to be reached. The ambitions that were set up were often done by people who have little understanding about sustainability and don't have good environmental backgrounds. This leads to the problem of unclear ambitions (Schild, 2016). Municipalities need to first define the sustainability ambitions better in order to be able to translate them to a project. Furthermore, they need to have the time and budget for this; something smaller municipalities often lack (Dansen, 2016).

Municipalities need to first define the sustainability ambitions better in order to be able to translate them to a project.

The future city is not one where sustainability is key, but one where all the social aspects are also included and one where all lifecycles are taken in consideration (Bruijn, 2016). Furthermore, other professionals point out the need to address sustainability in urban areas, as a building which is situated in an unsustainable environment, cannot be sustainable (Dansen, 2016). In line with other professionals as well, it was mentioned that sustainability is not just about energy, but also about the social factors; and these soft factors are present in urban areas whereas they are lacking on the building scale. Sustainability measures are still too focused solely on the environmental aspects (Van Rheenen, 2011).

In addition, a focus on the social values is in line with the interest of public parties to increase the quality of living for the people. This can also be translated to types of urban development projects. Single-use developments often lead to a decrease of life quality and sustainability while combining different functions in a mixed-use urban development project often increases the livability and makes an area more sustainable (Pols, Van Amsterdam, Harbers, Kronberger, & Buitelaar, 2009).

Different professionals addressed that sustainable urban re-development in existing urban fabric is not really occurring. Even if it is on an existing field, everything will be demolished and the development will start from scratch again. With enough challenges still facing sustainable urban developments in new areas, the focus is not yet much on re-development (Dansen, 2016; Schild, 2016).

While the government has set up their ambitions to increase sustainability and shifted their active role to a more facilitating one to make room for more private-led developments- developers are still identifying too many barriers with sustainable urban development projects.

1.2.2 INTERESTS OF PRIVATE PARTIES

Sustainability is often seen by private parties as an add-on attribute to their portfolio and is one of the first elements to be cut when times are getting difficult. The economic crisis which caused the role of the governments to shift also left behind an impact on the private parties with capital. These parties are still avoiding taking new risks. Trust is becoming an increasingly demanding factor for them and they feel that the government can and should offer more security. Decision-making about development projects is for the private sector eventually one based on economics and actual insights in the shares of costs, revenues and risks (Puylaert & Werksma, 2011).

Developers are expecting to achieve high returns with security of the investment and risk diversification as the next-most-important factors (Adair et al., 2002). Private parties have different interests when it comes to urban planning than public parties- so therefore they are incentivized in different manners-, private investment parties are incentivized by yields, cost reduction and risk sharing (Heurkens, 2016).

Besides finance, risk estimations are a major part of decision-making criteria. These estimations are often based on long-existing trends and proven techniques, however with new sustainable urban challenges it becomes much more difficult to forecast the associated risks (Buiter & Verschoor, 2014). With lack of information to prove that sustainable buildings are more cost-efficient, effective, profitable and marketable, it is difficult for private actors to take risks on these projects (Heurkens, 2016).

Moreover, traditional finance methods fail to capitalize the costs and revenues from sustainability in the built environment. The classic calculation models do not include the added-value of ‘soft’ elements (for example quality, livability, health, safety, job prosperity) in sustainable urban development projects as these are challenging to translate to the traditional models (Ministerie van Infrastructuur en Milieu, 2014). Quantifying the so-called ‘soft’ values of an area can offer a more attractive perspective for private actors as it becomes then more clear what they have to invest and what they will get back in return.

So even though the environmental and societal benefits of sustainable developments in the recent years have been clear and technologically it is feasible, the financial benefits for the developers remain less visible (Wilkinson & Remoy, 2015). The decision-making in sustainable projects are dependent on multiple drivers and barriers; both

Other researchers support the lack of information relating to the financial benefits and uneven distribution of costs and benefits between developers and occupiers form a barrier to investment in sustainable buildings (Falkenbach, Lindholm, & Schleich, 2010 2010).

internal and external (Oude Aarninkhof, 2015). Other researchers support the lack of information relating to the financial benefits and uneven distribution of costs and benefits between developers and occupiers form a barrier to in sustainable buildings (Falkenbach et al., 2010).

When it comes to developing sustainable mixed-use urban projects, developers identify other barriers too. Sustainable business parks appear to be more popular with developers than mixed-use urban developments-while it is the latter that can help reach the sustainable ambitions of public parties. Apparently business/industrial parks have higher financial and environmental benefits than mixed-use areas because of their lower land value, larger areas, better accessibility and tailored in particular for meeting companies' needs (Pols et al., 2009). Moreover, the mixed-use urban developments have a higher risk of resulting in conflicts of interests between the different parties.

So it seems that private parties are going about their usual ways, changing relatively little except the language of development. This false promise causes more reason for municipalities to stimulate private parties to act differently when it comes to sustainability (James, 2015). Financial benefits and risks continue to be major factors in whether or not a private investor will decide to invest in sustainable urban redevelopments. And if these interests of the private parties are not met, they are not stimulated to engage in sustainable projects.

All the interviewees confirm that it will remain important for the business case to be feasible and that profit can be made. In the end, that is the primary goal of private parties- regardless if it is a sustainable project or not.

Yet, private actors can also have an internal driver to invest more in sustainability. Going green has benefits to them like risk-reduction, transparency and corporate social responsibility (Van Teijlingen, 2016). But the challenge lies in having the right person with this ambition to be in a managing seat in order to actually be able to change the company behavior (Schild, 2016). When it comes to sustainable investments, behavior and change management are important, thus you need to invest too in the right employees and necessary knowledge.

Contributing to one of the problems mentioned earlier; the drive for sustainable buildings already exists but this drive is much less on the urban scale though. Challenges of developing a sustainable urban development project is that the scale is more abstract, thus more complex (Dansen, 2016; Schild, 2016). Split-incentive poses as a major challenge- especially the financial side of it; defining the Total Cost of Ownership needs to be clear.

1.2.3 INCENTIVES TO FILL THE GAP

In these new times, when governments are choosing to take on a more facilitating and stimulating role in urban development by giving space and direction, they are becoming more reliant on their institutional, financial and juridical instruments (Buiter & Verschoor, 2014). However, it seems that these instruments do not always lead to the expected results. Practice shows that the change towards green urban developments is taking place too slowly (Bogers, 2015). This can be seen as an indication of a crucial gap between policies and implementation.

It appears that the stimulation to go a step further to develop sustainable urban projects is often lacking with developers and is also not stimulated by Dutch municipalities (Buskens & Heurkens, 2016). So the next step is to implement the goals on public agendas into practice and this might need a change in the current governance styles and instruments (Gaaff, 2015). It will become important that municipalities stimulates with incentives which are directed at delivering a sustainable urban development projects by attracting long-term investment (Adair et al., 2002) in order to speed up the process towards more green urban developments.

Naturally, with the current ambitions for sustainable cities, many policies and instruments have already been set in motion. Yet, developers/investors often adopt a 'tick-box thinking' and just build the minimum level of sustainability which is required from the governmental authorities (Holzinger, Laughlin, & Grayson, 2015), indicating yet again that they are not incentivized to build high standards of sustainable urban developments.

Public parties expect real estate developers/investors to take on a leading role in realizing these economic-viable, socially responsible, environmentally-friendly urban areas (Heurkens, 2016). This sustainable private-led urban development strategy is usually combined with a facilitating governmental role. Yet, governments must be careful with not becoming too facilitating either. The need for a framework-setting government with clear visions and goals will always be important in order to lead urban development in a sustainable direction (Buiter & Verschoor, 2014). In this regard Adams and Tiesdell (2013) and Heurkens and Hobma (2014) emphasize the need to combine facilitating and regulatory roles and policy instruments with shaping (vision and plans) and stimulating (financial, fiscal, legal incentives) tools, in order to effectively steer private-led urban development.

With this move towards a more private-sector led involvement, the UK real estate market was the first to introduce a private third-party assessment tool to measure a building's environmental impact (BREEAM-NL, 2013) with the aim to reduce carbon emissions and to increase the level of sustainability within the city (Chegut et al., 2013). These types of certifications also appear in other countries and seem to work a way to incentivize developers to make a building sustainable. However, one problem with these green certificates is that these certificates are widely applied for buildings and much less for urban developments. The cause of the latter can be found in the municipalities not clearly steering towards larger scale implementations of sustainable measures and developers still experimenting with sustainability (Buskens, 2015).

It will become important that government stimulates with incentives which are directed at delivering a sustainable urban development projects by attracting long-term investment (Adair et al., 2002) in order to speed up the process towards more green urban developments.

With the new shift of roles between public and private parties, governing the developments in a city are increasingly becoming a matter of governance: an urban game in which different actors try to influence each other (Daamen, Franzen, & Van Der Vegt, 2012). In today's practice that translates to a form of stimulating which is inviting: parties trying to win over each other by combining their own interests with collective interest. So-called soft governance instruments like trust, commitment and expertise are taking a leading role in this type of stimulation (Daamen et al., 2012).

With regards to the use of incentives and the role of the public parties here in; professionals confirm that with governmental authorities becoming more facilitating, the necessity to set clear requirements for their ambitions and how they want to steer the market parties is becoming more important in order to achieve their goals. They do possess the strong, influential tools to stimulate the market in a certain direction, however public parties need to better understand how they can best do this. Private parties need incentives- whether monetary, tax or else-in order to be stimulated to any investment (Pereboom, 2016).

Sustainability performance certificates like BREEAM are confirmed by the professionals to be a strong tool to increase the value of real estate. But they warn too that the certificates are too stiff and inflexible and they can easily lead to a tick-the-box mentality (Pereboom, 2016).
Currently, it is working great on a building-scale, but on the urban-scale the demand is still too slow. The BREEAM-NL Gebiedsontwikkeling for urban developments can be used as a tool to manage the complex process and to make the ambitions clearer (Dansen, 2016). But at the rate of its demand, adaptation to the certificate might be needed to make it more attractive. The certificates need to become more approachable, simpler and clearer (Dansen, 2016). It is used by the private parties as an attractive tool to be transparent towards their clients. Furthermore, it was mentioned that there was a need for a tool which could properly give a clear overview about the costs, revenues and time-period of a green project. Without being able to give this information clearly, the risks involved will be too high for developers (Van Teijlingen, 2016).

Moreover, performance certifications are being used as a great tool for benchmarking (Van Teijlingen, 2016). Benchmarking is important for private parties and can also be a good way to stimulate them to sustainable investments. Also, these certifications are used as a marketing tool to deliver unique selling-

points for their projects (Interview 5, 2016). However, he does warn that if and when sustainability becomes a standard, certifications can lose their added-value and will no longer deliver a competitive edge.

To summarize, in order to stimulate developers to invest in sustainable urban development, their drivers and barriers need to be understood. When this is understood, complementary instruments can be introduced to incentivize them to invest in sustainable urban development.

1.3 KEY DEFINITIONS

In this section the context of the key definitions used throughout the research will be defined. With the term sustainability being widely used worldwide, it is important for the research to clarify its meaning.

- *Sustainability*: the popular definition of sustainability based on the three P's is also applied in the context of this research and is chosen because of national and international one of the most popular methods. People, Profit and Planet address the societal, economic and environmental factors concerning sustainability and to find a harmonious balance between these factors in which the earth can remain livable and functioning for the future generations. This last part reflects the Brundtland definition with regards to sustainable developments: "Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (Dutch Green Building Council, 2012).

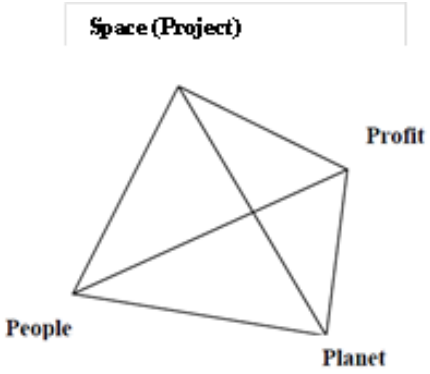

Figure 2 - The four Ps (adapted from: Duijvestein, 2009

  In order to talk about sustainability within the built environment, a fourth P has been added by Duijvestein (Van Der Horst, 2010). This fourth P stands for Projects, but to avoid confusion, the term Space will be used instead. Various themes can be attached to the 4 Ps. People can be for example: well-being, health, freedom/choice, social cohesion, employment and safety, Planet: energy, water, material and mobility, Profit: revenue, affordability and feasibility and Space: spatial quality, relation between scales and aesthetics.

- *Urban area*: an urban area can be defined as an area with buildings, public space and infrastructure. Within projects, physical boundaries can be set by market parties in order to define the size of the area.

- *Sustainable urban development*: the advice group Gebiedsontwikkeling (Dutch Green Building Council, 2012) gives the following definition of sustainable urban developments: "Sustainable urban development is a process-oriented urban development in the most favorable way for interested parties (social sustainability), the environment (ecological sustainability) and prosperity (economic sustainability), and in which the spatial and aesthetical qualities are an integral part of the process (Dutch Green Building Council, 2012). Combined with the definition of urban area, a sustainable area is as follow: a location, which is limited by physical boundaries, where a balance is sought between the economic, social and environmental aspects. During the sustainable development of this area, added-value is created by integrating functions with collaboration of different parties (Gorlee, 2014).

- *Incentive*: Additional measures tailored to the specific needs of someone in order to encourage or motivate them to do something.

- *Benchmarking*: the process of comparing one's business processes and performance metrics to

industry bests and best practices from other companies.

- *Governance*: a system's capacity to organize collective action toward specific goals (Hillier, 2002).

- *Stakeholders*: any group or individual who can affect or is affected by the achievement of the organization's objectives. Stakeholders—'internal stakeholders, who are those actively involved in project execution; and external stakeholders, who are those affected by the project (Freeman, 1984).

- *BREEAM (BRE Environmental Assessment Method):* is an environmental standard that rates the sustainability of the buildings and urban developments.

At last, some words will be used interchangeable within this research to reduce repetitive word use for the reader. Even though the author is aware that some of these words are not exact synonyms of each other, the choice has been made to use them as if they were- unless explained otherwise in the text.

- BREEAM, BREEAM-NL Gebiedsontwikkeling, BREEAM Communities
- Sustainable, green, environmental
- Profile, image, reputation

1.4 PROBLEM STATEMENT

The previous sections have shown that the current governance instruments have been slow in achieving the targeted sustainability goals for cities, facing both regulatory and market barriers (Van Der Heijden, Wilkinson, & Sayce, 2015). Both the public and private parties have different interests when it comes to developing sustainable urban development and this mismatch in interest is causing that developers are not attracted to sustainable urban development.

Based on the findings of the problem analysis, the following problem statement is defined:

There is a gap between the sustainable ambitions from public parties and the realization of these by private developers in practice. This is caused due to mismatch of interests between the two parties. The gap can be bridged by acquiring knowledge about how incentives can be used to stimulate developers to sustainable urban development projects.

Different types of barriers towards sustainable urban development projects have been mentioned from the private parties' side. The social, environmental and technological aspects of the investment are clear and well-known; however it is largely the political and economic aspects which are causing the barrier. Governmental parties have to seek better understanding of the drivers and barriers of developers in order to identify how to steer towards more sustainable urban developments. With a better understanding of the both drivers and barriers can be explored in what ways private parties can be incentivized to invest in sustainable urban development projects.

1.5 RESEARCH GOAL

The stimulating instruments are gaining more attention since the move away from traditional, active and state-led towards softer and facilitating governance in an increasing private-led market. With these instruments governmental authorities were planning to reach their goals of sustainable cities, but unfortunately, the current literature has found that these tools are not resulting in their expected outcomes (Van Der Heijden et al., 2015). Investment behaviors of private parties towards sustainable urban developments have not changed much.

Therefore the main purpose of this research will be:

By exploring how to bridge the gap between sustainable ambitions and realization with a better understanding of how incentives can stimulate developers to sustainable developments, the research can lead to insights and recommendations to get one step closer to bridging this gap.

With many types of incentives, it is important for this research to distinguish the difference between incentives and drivers. Incentives go beyond drivers; for example legislative and regulation can be a driver, pushing developers to take action, but it is not an incentive. It does not motivate one to take additional measures. It is important for this research to make this distinction clear. Pull characteristics of incentives can be used to enhance drivers, to make their effects more powerful, or to reduce or remove barriers (Rademaekers et al., 2012). The function of incentives is illustrated in the following figure.

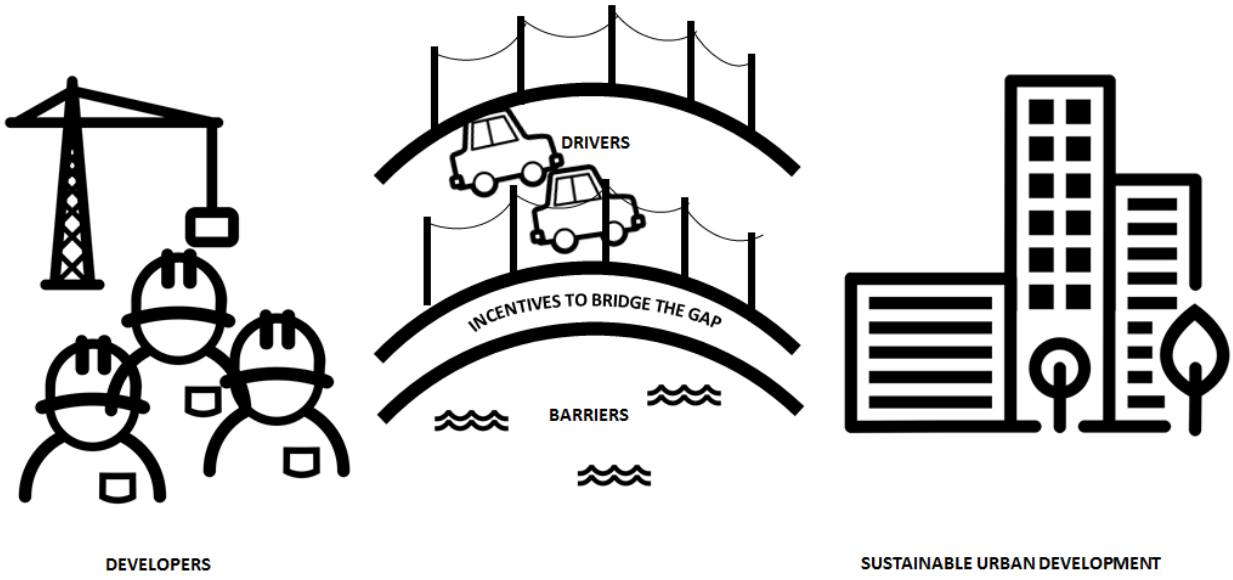

Figure 3 - Incentives to bridge the gap; to empower drivers or removing barriers (adapted from: World Resources Institute, 2016)

Sustainability is high on the political agendas and many Dutch municipalities have set up policies and ambitions to realize these goals of sustainable cities. Even though, the technology and knowledge seem to be available, developments of sustainable urban areas are not rapidly increasing in numbers. This research will look into the experiences from front-runner projects in this field. Based on scientific papers and interviews with experts and professionals, the different cases will be analyzed and compared to each other to gain insights into the different actors, drivers, barriers and incentives in these projects. The goal is to develop a better understanding of the complexity regarding sustainable urban development projects by analyzing the drivers and barriers of developers. Subsequently, the research will look into recommendations on how incentives can stimulate the development of sustainable urban areas.

In order to limit the research not all possible stimulating tools will be explored. By combining the outcome of both theoretical and practical research, the focus will be on the use of certificates like BREEAM on urban scale to help measure what sustainable urban developments are. In general, sustainability certificates are considered a great tool, and one which private parties are also interested in. And while on a building-level these certificates are widely used, recent developments of certificates for urban areas are trying to achieve another level of sustainability which cannot be reached by focusing on building-level solely. It is a relatively new type of

certificate and so far, has not gained much interest from private parties because of the challenges identified with certifications on an urban scale.

Furthermore, the research will be limited by focusing on mixed-use urban developments. Various literatures acknowledge the contribution of mixed-use developments to a sustainable society as they produce vibrant, adaptable and pleasant environment (Wheeler et al., 2009). In the past years the combinations of different functions in an urban area have shown a positive correlation between mixed-use urban developments and urban social, economic and environmental aspects as it leads to a more efficient use of the city with an increase in economic activities and better-quality lifestyles (Steen, 2016).

To meet the research goal, a better understanding about the drivers and barriers of developers needs to be gained. Performance certifications can be used as a tool to define cases for sustainable mixed-use urban developments. This is an international tool and therefore allows cases in the Netherlands to be compared with cases from abroad to gain additional insights for the recommendations.

1.6 RESEARCH QUESTIONS

This research is set to investigate how incentives can be used to stimulate developers to invest in sustainable mixed-use urban developments by addressing drivers and barriers of developers as well.

Based on the problem statement and research goals, the following main research question has been formulated:

How can private developers be incentivized by local planning authorities to invest in sustainable mixed-use urban development projects?

1. How are the stakeholders' roles and partnerships structured within the development process?
    a. What are the drivers of the key stakeholders involved?
    b. How is the partnership and collaboration in the development process?
    c. What is the role of BREEAM during the development process?

2. What barriers are encountered during the process of sustainable urban development?

3. What incentives are applied during the process of sustainable urban development?

The questions above will be answered through both literature study and case-studies interviews. The research approach will be illustrated below. First, a literature review is done to build a theoretical framework. The purpose of the theoretical framework is to make it possible to conceptualize the findings by processing, structuring and interpreting them. Combined with the findings of the case-study interviews this allows comparison of the findings between cases possible.

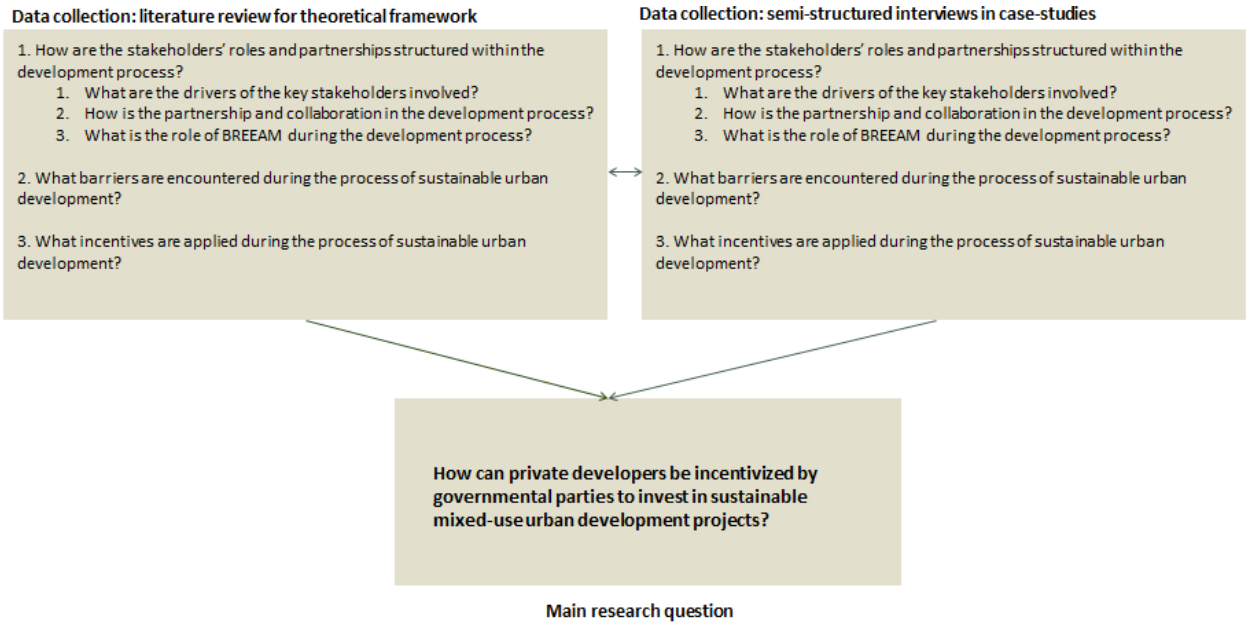

Figure 4- Data collection structure for answering questions (own ill.)

A detailed research design approach will follow in chapter two.

1.7 CONCEPTUAL FRAMEWORK

The conceptual framework below illustrates how the research elements are related to each other. How the research problem, goals and questions have come about and are related to each other is shown in the figure below. In the figure the relationship between process and product is divided. The process can have a big impact on the outcome (product) and therefore insights can be gained by starting with analyzing the stakeholders and their relation with each other- including the drivers, barriers and incentives occurring during the process. Both the public and private parties have tools and drivers to reach their main interests; social sustainability from public and economic sustainability from private.

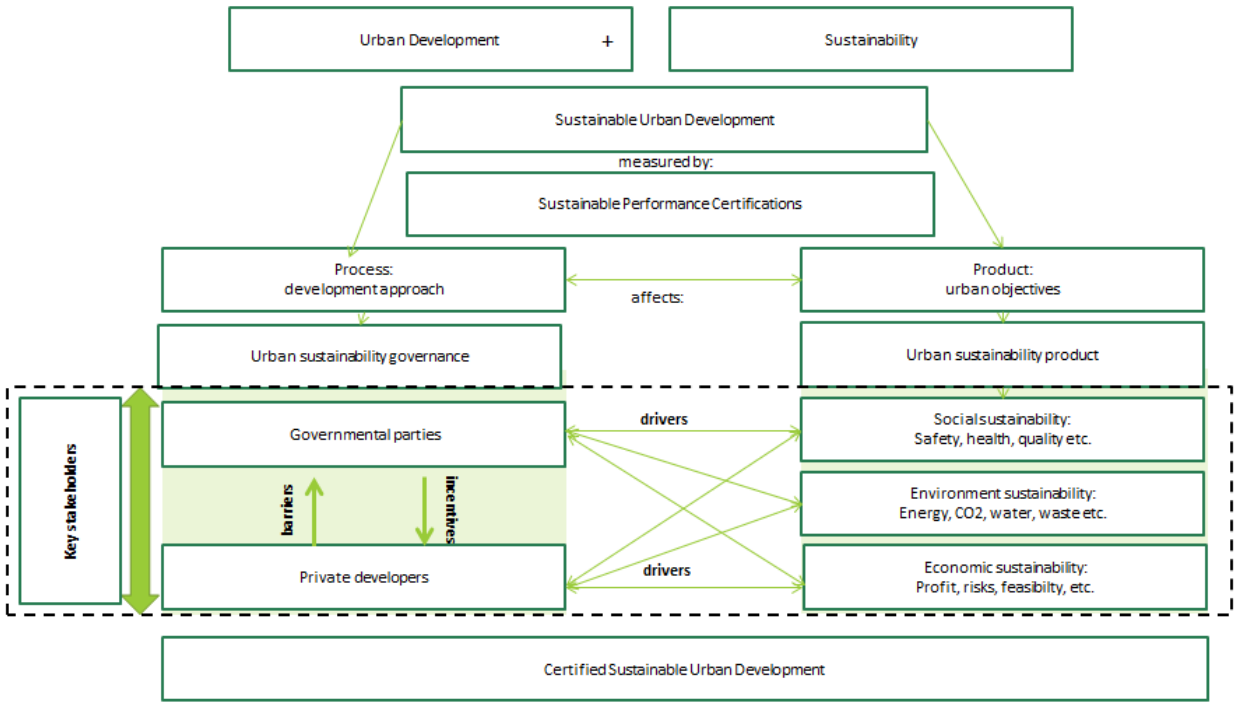

Figure 5 - Conceptual framework (own ill.)

1.8 READER'S GUIDE

This section will give a quick overview of what the reader can expect in the following chapters. The following chapter will for further into details about the adopted research design and methodology. Chapter three will elaborate on the theoretical framework of sustainable urban development in general, sustainable performance certification, stakeholders, drivers, barriers and incentives. The basis for the comparison will be generated from these chapters. Chapter four will include the empirical findings of the case-studies and the comparison between the cases will be done in chapter five. Chapter six, seven and eight finalize the research with conclusions, recommendations and reflection.

2 RESEARCH DESIGN AND METHODOLOGY

In this chapter different sections will describe the relation between the formulated problem definition and the research design and methodology which will be applied in order to answer the main research question. The following sections will include the research design and methods, the selection of the case-studies, the time schedule, and the validity and generalization.

2.1 RESEARCH DESIGN & METHODOLOGY

With the main research goal and question of qualitative and explorative character, mainly a qualitative approach will be used to design the research. Qualitative research can be described by the following three aspects: an induction approach which is based on the generation of theories, explores ways in which individuals make interpretations and a view of social reality as a constantly shifting emergent aspect of individuals' creation (Bryman, 2012). Furthermore, this approach reflects an interpretive research paradigm, where the perception from actors in practice form the grounds for reality (De Lange et al., 2011). Yet, distinguishing between quantitative and qualitative designs is highly criticized as a research is almost never completely the one or the other (Bryman, 2012). Therefore, even when the research is mainly carried out with qualitative methods, nonetheless it will also be influenced by quantitative elements. So as result, both quantitative and qualitative measures are necessary to formulate a proper answer to the main research question.

Research designs which are applicable in this category are qualitative interviews, both semi-structured and open, and collection of and qualitative analysis of texts and documents. With regards to the case-studies a cross-cultural multiple-case study fit well into the qualitative strategy and is suitable for gaining insights and making comparisons for theoretical reflections (Bryman, 2012). Of course proper case-study selection is important as well. With the research strategy being qualitative, the actors' perception, role and process will receive an important role in the research, which fits well with the character of the research goal and question as it explores the relation and behavior of actors within the development.

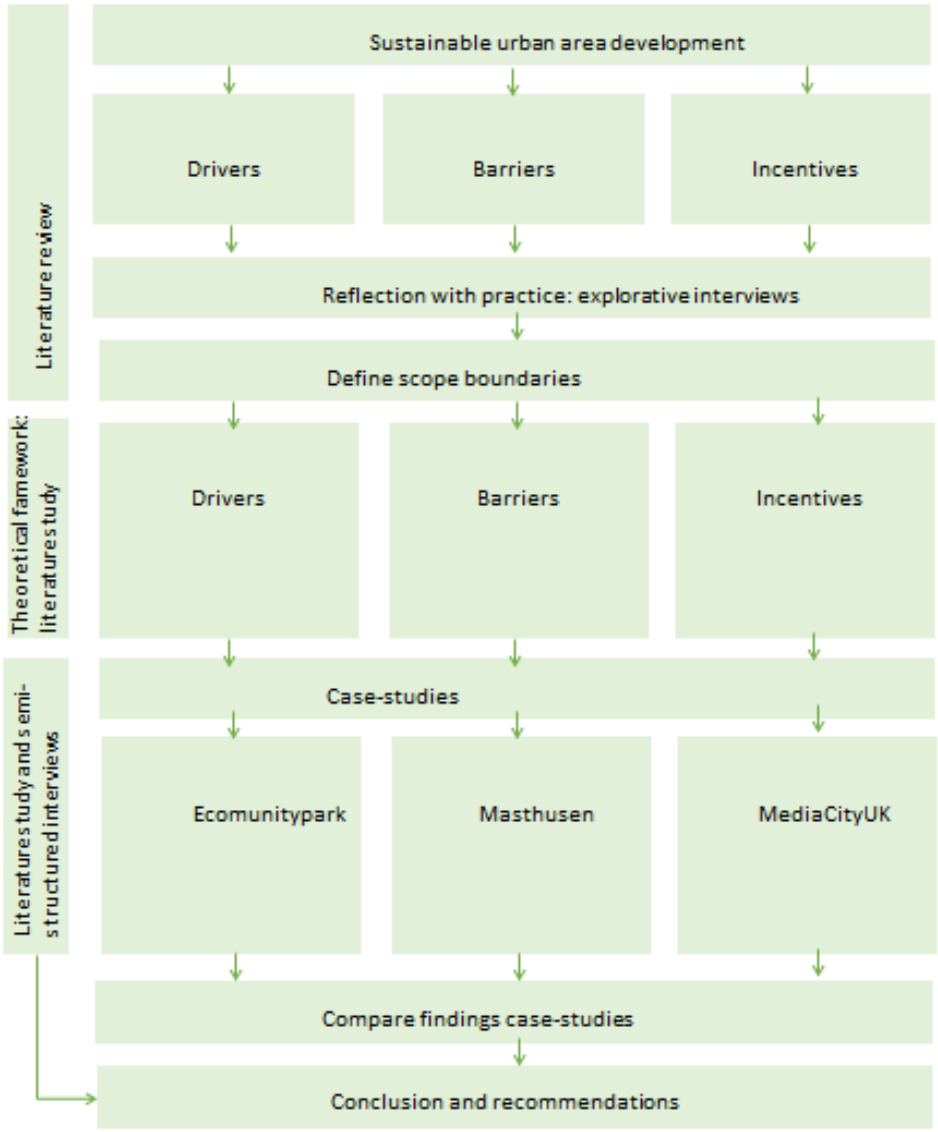

Figure 6 - Research design approach (own ill.)

In the following sections the methods for desk review, interviews and case-studies which are fitting to the qualitative strategy are discussed.

2.1.1 DESK RESEARCH

Studying and analyzing literature is an essential part of carrying out academic research. Reviewing literature is necessary in order to gain a better understanding of the theoretical background, concepts and scientific gaps relating to the research topic (Kumar, 2011). A proper literature review brings clarity and focus to the research problem, it enhances the use of research methods and enables contextualization of the findings (Bryman, 2012). So before the research goal and questions were defined, exploratory literature review was needed to help structure the problems and goals clearly. After these have been defined, a more extensive literature review has followed up to form a solid basis for the theoretical framework. Furthermore, the latter literature review is more specific and focused on the research goal in comparison to the exploratory one.

2.1.2 INTERVIEWS

The literature review can be a good starting point for defining the research problems. However, to obtain more in-depth and practical information about the problem, interviews with experts can be carried out. This research has opted for unstructured and semi-structured interviews. To support the literature findings for the research problem, unstructured interviews have been done. Unstructured interviews are to converse about a certain range of topics and barely include questions and are very similar to a conversation (Bryman, 2012). This type of interview fit will within the explorative and qualitative character of the research design, especially during the initial phase of the research in order to reflect the findings of the literature with information from experts. As the research goes on to become more definite, semi-structured interviews have been planned with experts and/or actors involved. The semi-structured interviews offer the possibility to keep the boundaries of the interview somewhat undefined and therefore allows rooms for theories to emerge out of the interview (Bryman, 2012). Suiting the theory-generating concept of this research, semi-structured are well-appropriate because these interviews can offer in-depth analysis while maintaining a sense of flexibility.

Also, according to Baarda (2006) interviews can be useful for qualitative research. Taking in mind that the sustainable urban development (especially certified) is a relatively new topic, the scientific literature on this topic is limited to a certain extent. Therefore, valuable insights can be gained from interviewing with experts and actors. Based on Kerpel (2016) these two can be categorized as follow:

- Experts: specialists and experts on the topic of sustainable urban development. These can be academics or professionals with experience within this field.
- Actors: There are many actors involved within sustainable urban development. Municipalities, developers, investors, companies, banks and corporations are amongst the most common actors to participate.

In preparation for the semi-structures interviews proper preparation in the form of documentations studies have been done in order to go in-depth and ask the appropriate questions.

2.1.3 CASE-STUDIES

As part of the research methodology case-studies are used. A case-study can be described as the examination of an example of real practice phenomenon (Van Thiel, 2010). Case-studies are used as a method to gain a deeper understanding of a real practice project. The comparative nature of case-studies also fit within the qualitative research design. Comparing case-studies can be defined as: “studying two or more contrasting cases, using more or less identical methods” (Bryman, 2012). Within the framework of this research the findings of the case projects will be contrasted based on the different governmental role and stimulating tools used within sustainable urban developments. Comparing case-studies are appropriate for both quantitative and qualitative research designs.

2.2 CASE-STUDIES SELECTION

In this research, case-studies are investigated in order to gain more insights about urban developments which have been certified by BREEAM as a sustainable urban project. By studying international cases, additional findings can be collected in about the role of the government, private parties and stimulating tools within sustainable urban developments abroad. Analyzing the case-studies will include documentation about the case projects, semi-structured interviews with experts and other actors involved.

With limited amount of existing certified sustainable urban development projects, the case-studies list includes all the possible projects found so far. Only one certified mixed-use development in the Netherlands could be found to date. Other projects in the Netherlands are single use; business parks or industrial park. Internationally, it is the opposite. Examples of certified mixed-use developments can be found, but not single use.

Moreover, the different performance assessment tools also differ per organization. Even within the same organization, for example BREEAM, the criteria and checklist are always adapted for the country in which it is used. A distinction is made between BREEAM-NL Gebiedsontwikkeling and BREEAM Communities. Therefore, to not bring even more differences between the case-studies, only BREEAM certifications are qualified for the selections and no others like LEED or CASBEE. The choice for BREEAM is due to the fact that it is the most applied within the Netherlands- making comparison and transferability more likely. The figure below shows how the three majors differ.

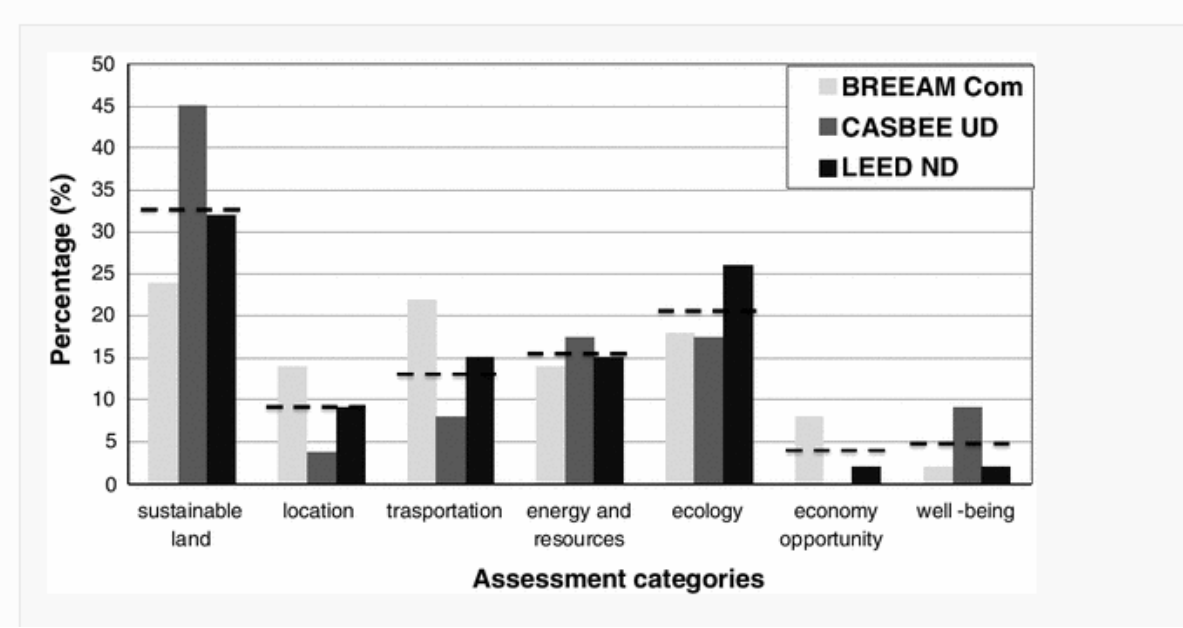

Figure 7 - Percentages of points given by the three sustainability assessment systems for urban communities grouped in seven categories, and average values among the systems (Source: Berardi, 2013)

The figure shows that BREEAM Communities does not necessarily score the highest on all aspects. However it does seem the most balanced throughout the seven categories compared to CASBEE UD and LEED ND. The figure also shows the importance of sustainable use of land, ecological measures and sustainable transportations during the assessment. BREEAM scores particularly higher than LEED and CASBEE on transportation criteria. For example, LEED ND is more focused on the promotion of a compact design of the community, favoring walkable streets. This is reminder of the different status and kinds of public transportation in the UK and USA. Consequently, accommodating walkable streets is preferred before considering the (often inefficient) public transportation (Berardi, 2013). In UK, and also in the Netherlands, public transportation plays in an important role in urban areas- thus relating better to BREEAM Communities. In addition, a study from the Delft University of Technology for the Dutch Green Building Council has shown that BREEAM is more suitable for the Netherlands because it fits best in the Dutch market- partly due to accompanied procedures (Van Den Dobbelsteen, 2008).

2.3 LITERATURE REVIEW

The literature review is mainly carried out by desk research. As the research consists of the following three domains; interests of public parties, interests of private parties and the stimulating incentives, the key authors and domain scopes will also be divided within these three groups. Below the figure illustrates a model of the literature review. Naturally, during the course of the research more authors have been added.

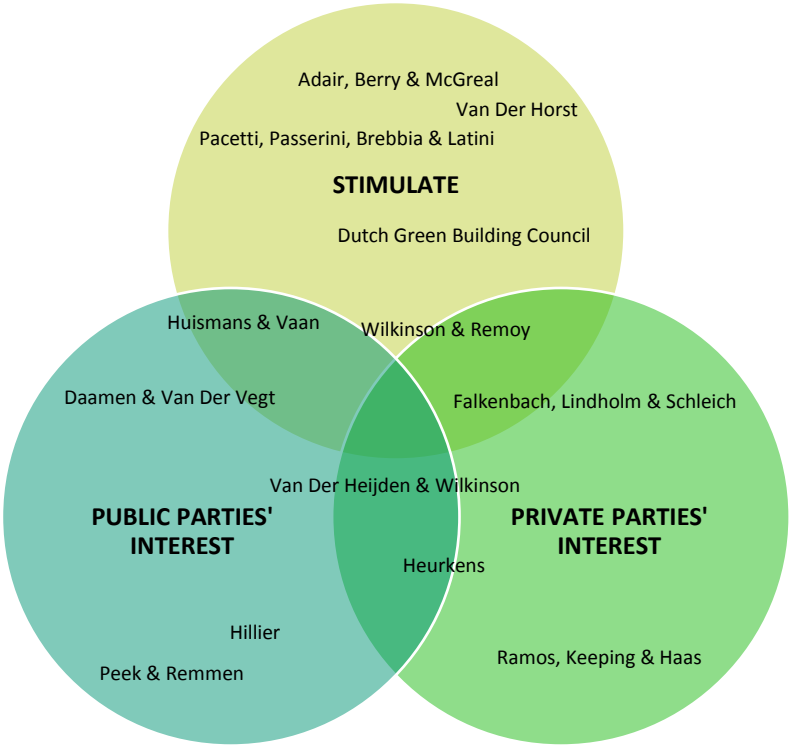

Figure 8 - Literature review (own ill.)

2.4 PLANNING

The following section about time will give a global outline of the framework in which the research was carried out.

The research was initiated in February 2016 and is planned to be carried out until February 2017. During the first five months the focus was on defining the topic and problem and translating these into a research proposal. In the five months after, the research was carried out and findings were collected in order to answer the main research goal. The figures below illustrate the initial global planning and a second more precise planning for the second half of the graduation year.

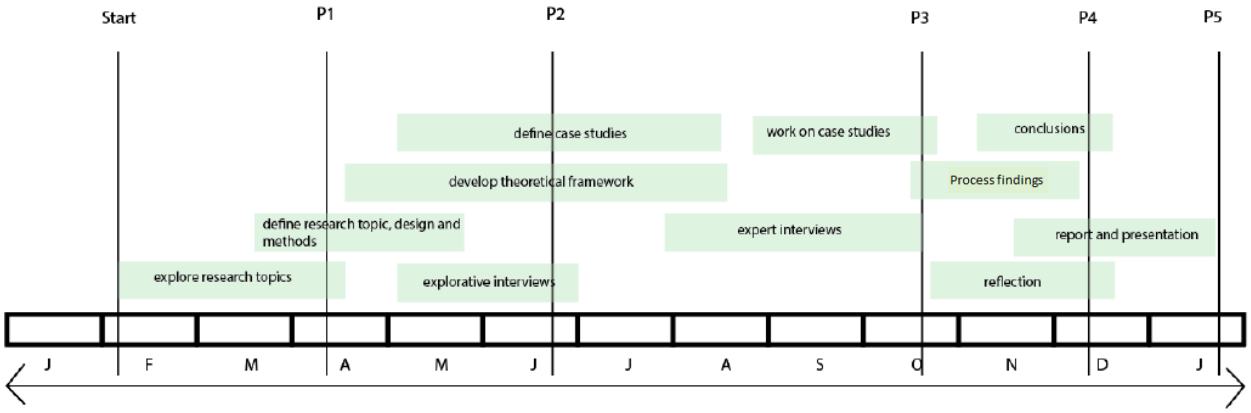

Figure 9 - Global time schedule first academic graduation semester (own ill.)

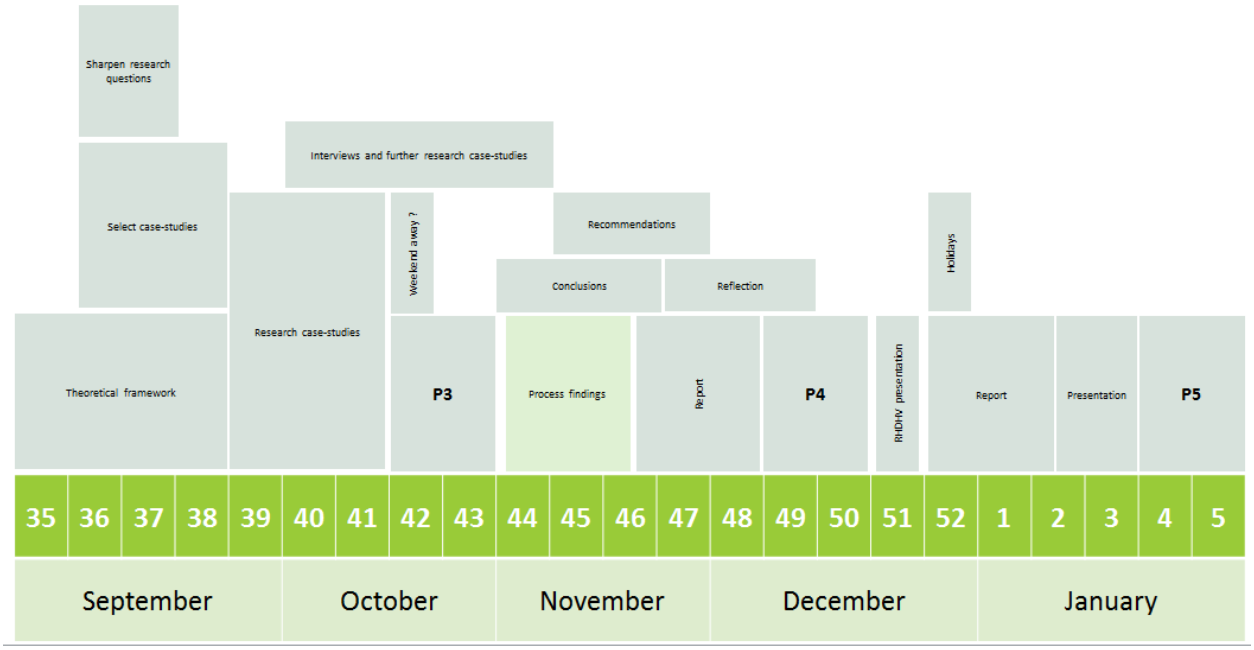

Figure 10 - Research scheme second graduation semester- more detailed (own ill.)

2.5 VALIDITY AND GENERALIZATION

This section focuses on the scope and expected recommendations for further research which fall outside of the scope of this research. This will help to maintain focus on the main scope of the research and can also be guideline for the conclusion, reflection and further recommendations.

- With many existing stimulating tools, the research is constraint to focus on one main tool; in this case the performance certification BREEAM. By focusing on the role of BREEAM, the scope of the research becomes narrower. However, literature and interviews about assessing the level of sustainability within a project have their critics. For one, sustainable certificates might not always mean that an area is sustainable. So questions and concerns can be brought up about how to truly assess if an area is sustainable and whether certificates are the best way to measure this. This leads to the second point which can result in a recommendation for further research; which is to optimize current assessment tools in order to make sustainable urban developments more attractive based on the findings of this research. Other critics can also be related to the comparison between BREEAM and LEED (and others) and the relative new introduction of certificates for the urban scale- which means that findings are limited.

- Relating to assessing sustainability levels; a trend which arose mainly from the explorative interviews with some of the market leaders is a shift from sustainability towards health and well-being. With ambitions and demand to make sustainability a norm, it will lose its added-value to a project. Whereas before sustainability certifications for projects were used by these market leaders to distinguish themselves from competition and to give their project a unique selling-point, the increasing adoption of sustainability certificates forces them to start looking for the new competitive-edge; health and well-being. Some have even mentioned that a certain point will reach where

sustainability becomes so integrated in all a projects and matter-of-fact, that the need to apply for certifications like BREEAM become unnecessary. And interestingly, assessment tools for well-being have already been developed in the USA and are entering the Dutch market as well. Which is how the International WELL Building Institute initiated with the goal to assess, certify and monitor the features of the built environment that impact human health and well-being- ranging from quality of food to quality of air (Grauerholz, 2016). Noteworthy is to mention that in Tampa, Florida the first WELL-certified city district has been announced. Thus with the introduction of this next theme, a further research recommendation could be explicitly focused on exploring whether certificates like BREEAM run the risk of becoming outdated or if they have to extend / collaborate with WELL Building Institute in order to remain relevant.

- Other criticism might be regarding the generalization of the findings as one of the hurdles highlighted is that urban areas vary greatly from size, shape and functions. So far, most sustainable urban developments are business parks and not mixed-use or residential. Thus it can be difficult to validate the findings and/or make comparisons.

- As real practice projects for sustainable developments are still rare and certifications for specifically re-development are still in process, the focus on re-development cases will fall outside the scope of this research. Not to mention that attracting investment to new sustainable urban already face enough challenges without the added layer of complexity of re-development. Yet, findings of this research might serve as a good starting point for further research about sustainable re-developments.

3 THEORETICAL FRAMEWORK

3.1 THE NEED FOR SUSTAINABLE URBAN DEVELOPMENTS

Sustainable urban development is a relatively new term which has started to trend in the past year (Dammers, 2011). Themes like energy-efficiency, health and livability are becoming are gaining a leading role.

One of the first questions which can be asked is why there is specifically a need for sustainable urban developments. One of the first arguments which can be given is that more than half of the world's population now lives in urban areas and with the continuation of urbanization and climate-change, urban development can be significantly shaped in the decades ahead. These problems can be effectively addressed if communities and cities become more sustainable (U.S. Green Building Council, 2016). This challenge also applies to the Netherlands where about 500.000 new dwellings are expected to be needed in 2040 in the Randstad. To give a sense of impact the Structuurvisie Randstad 2040 says that we need to build 10 to 20 times the size of Amersfoort to accommodate the growing population (VROM, 2008).

Furthermore, the reason sustainable urban development is high on political agendas is due to the variety of challenges it imposes on policy-makers. Climate change, energy, waste, eco-system, criminality, aging population, technology and the demands of citizens are some examples. Also in regards to value, the urban area plays a significant role. Function, public space and quality buildings will lead to overall benefits for the surroundings. Solely focusing to green buildings is insufficient to guarantee the sustainability of the built environment (Venou, 2014).

So with cities growing to become bigger than ever, sustainable urban development is considered one of the critical issues for the 21st century (United Nations, 2002). By the year 2030 it is expected that 60% of the population will live in cities. This means that cities and their residents will get an increasing role to play in the transition to a more sustainable world. Cities only occupy 3% of the total earth's land, but they also consume 75% of the global energy and they are responsible for 80% of global greenhouse gases. Still, cities can be sustainable and by pursuing more sustainable urban developments, cities have a good potential to affect the global level of sustainability (Taylor, 2012).

Now put in the perspective of sustainable urban developments; sustainable urban developments can have direct and indirect effects on the value of the buildings. Unlike with the building scale, it is not just solely about the hardware, but also about the software; the facilities and services in the surroundings, the long-term perspective, the mix of different functions, the aesthetic quality, social security and many more (Zachariasse, 2015). Because of this holistic approach on the urban level and the integration of the entire surroundings, many benefits can be found in sustainable urban development.

Contributing to the benefits of scale is that even though cities are largely responsible for the energy consumption and gas emissions, they also have the potential benefits in ensuring that infrastructure, services and technology to reduce environmental impact could benefit from increased concentration and economies of scale (Dixon, 2011).

So cities are both the cause and victims of the environmental impact they make and dealing with this challenge together with socio-economic pressures, a solution can be found in the urban scale itself. Sustainable development not only applies to buildings, but also neighborhood, city, regional, national and global scale. Too frequently society's thinking has failed to treat the built environment as spatially connected and complex (Pinnegar, Marceau, & Randolph, 2008). Here the complexity of infrastructure, spaces, places and communities are combined with the urban form and function in order to be connected. Based on this perspective, a focus solely on buildings lacks strategic focus (Pinnegar et al., 2008).
Despite the challenges, urban areas can and should address the sustainability issues because of the collective benefits this generates for the residents and area as whole through direct economic impacts (Bai, 2007).

The Dutch Green Building Council has set up how sustainable development can be of added-value to both public and private parties. This is illustrated in the table.

Table 1 - Benefits for public and private parties when using BREEAM-NL Gebiedsontwikkeling (source: Dutch Green Building Council)

Public parties	Private parties
Contributes to achieving the sustainability ambitions	Qualitative improvement of the area; which further leads to higher productivity, less illness and increase livability
Sustainable urban development increases the life span of the built environment	Increase in the economic value
Attention is paid to creating a livable and pleasant work and living area	Contributing to the sustainable image
The livability level increases	Opportunities for new markets
Improvement of the business climate	Reduction of energy and material costs

At last Dutch Green Building Council states 'green' as business climate factor. Countries and regions are competing with each other to attract foreign investment and companies as these can increase production, job employment and new knowledge. A green area can distinguish areas from each other and appear attractive for business.

Now that the need for sustainable urban development has been addressed, the following section will highlight the why mixed-use developments are important for sustainable urban development.

3.1.1 THE NEED FOR SUSTAINABLE MIXED-USE URBAN DEVELOPMENTS

Locations of urban developments can be distinguished between inner-city urban areas or expansion areas (Kersten, Wolting, Ter Bekke, & Bregman, 2011). The former often includes infill and redevelopment projects while the latter is often further divided into greenfield and brownfield. The development process between redevelopments and expansion areas can vary a lot in their stakeholders' involvement and existing or non-existing environment. The focus on this research is on expansion areas.

A further categorization can be made based on functions. Urban developments can be functionally divided into two main types: single-use urban development and mixed-use development (Keeping & Shiers, 2004). The former refers to an urban development with solely one main function; for example industrial or business parks.

Mixed-use developments entail the development of a mixture of uses of buildings and land. This could mean that different single-use buildings are built on one site or that buildings are occupied by different types of tenants. There have been many discussions about this type of development. In these discussions it often used as a contributor to sustainable urban development for various reasons like mixed tenure development, dynamic community, high quality urban design and less need for car transport due to density and/or public transportation (Cadman, 2000).

The famous triangle used within sustainable urban developments is the people, planet and profit which was previously mentioned. The integration of these three elements fit well with the social, environmental and economic factors which occur at the level of sustainable mixed-use developments.

Mixed-use can be further categorized as 'domestic' and 'non-domestic' (office, retail, community, health etc.) within a typically large-scale urban development (Angela Reid, 2013). The principal idea is to create communities or urban areas which reduce need to travel and which are also attractive for non-residents to visit. The goal is to combine living, working and leisure together in one area which reduces environmental impact (environmental sustainability), allows businesses to establish and grow, increase job opportunities (economic sustainability) and

offers high-quality environment for the community (social sustainability). Now the challenge lies into how to translate these elements into a set of comprehensive benchmarks that can deliver the desired outcome and which can be successfully adopted by actors like developers, municipalities, designers and tenants (Angela Reid, 2013).

> The goal is to combine living, working and leisure together in one area which reduces environmental impact (environmental sustainability), allows businesses to establish and grow, increase job opportunities (economic sustainability) and offers high-quality environment for the community (social sustainability) (Angela Reid, 2013).

During the 1960s diversity was already seen as a key component of sustainable urban development, and in the recent years the mixing of different function types in urban areas has shown to have a positive effect on urban sustainability in social, economic and environmental sense. Mixed-use developments would not only be a model for a more efficient use of the city, but also lead to an increase in economic activity, healthier lifestyle and social interaction (Steen, 2016).

Different than business, industrial and logistics parks, mixed-use urban development projects are about combining all three P's as opposed to focusing mostly on the profit and planet which is the case in business parks. Thus it is the social factor which makes mixed-use interesting and yet more complex. Soft values like safety, quality, job opportunities, health and well-being are hard to make tangible. But it is also here where the challenge lies.

However, there are also some critics on mixed-use developments having: higher costs per square meter development, developers traditionally are specialist in one type of function, costs of managing mix of leases in operational phase can be challenging and certain tenants might not want to be associated with other types of tenants (Keeping & Shiers, 2004). Furthermore there is a higher risk of conflicting interest between the various parties and often the parks are better accessible. These could potentially explain why certified business parks appear to be more popular in the Netherlands than mixed-use urban developments.

> Thus perhaps business parks are more popular than mixed-use due to lower land costs, tailored to one particular function, better accessible and less conflict of interest between end-users.

Sustainable urban developments intend to create economic-viable, social-responsible and environment-friendly urban places. The focus on creating mixed-use urban places supports this as it can have broader social impacts than focusing only on the building scale as sustainable urban development is about local community involvement and economies of scale (Heurkens, 2016; Williams & Dair, 2007).

3.2 THE NEED FOR SUSTAINABLE URBAN CERTIFICATIONS

As sustainability is not always apparent different assessment tools have been introduced in order to measure and to assess the level of sustainability within an area.

As BREEAM is the most applied certificate for sustainability in the Netherlands a short description of BREEAM certificate is given. BREEAM is short for Building Research Establishment Environmental Assessment Method and is originally developed and introduced by the Building Research Establishment (BRE) in the United Kingdom (Van De Griendt, 2011). BRE is a research institute which is comparable to TNO in the Netherlands. The system applies a qualitative tradeoff based on an extensive stakeholder analysis of which tradeoff is done within the following nine categories: management (12%), health (15%), energy (19%), transport (8%), water (6%), materials (12,5%), waste (7,5%), land use and ecology (10%) and pollution (10%). As a final result a building or area can obtain the follow marks: pass, good, very good, excellent and outstanding. BREEAM-NL is an initiative from the Dutch Green Building Council (DGBC). The DGBC wanted to come up with a quality mark for the Dutch built environment. Both private market parties like developers as well as public parties make use of BREEAM for their projects (Van De

Griendt, 2011).

However BREEAM is not the only sustainability label which can be used for urban areas. Other international certificates include; the LEED for Neighborhood Development which is especially popular in USA, the CASBEE for Urban Development in Japan, the HQE in France and the DGNB in Germany.

Now that the performance certification BREEAM has been introduced, its importance for assessing the sustainability levels of urban areas will now be discussed. Tools for certification and assessment of buildings have increased over the last years, but assessment of individual buildings is not enough. A combination of assessments including all the elements of urban area like neighborhood, public transportation, services, built environment and public space must be done using just one tool (Venou, 2014). So a growing awareness of this demand has led to the development of assessment tools for sustainable urban areas (Kouloumpi, 2012). The purpose is to look beyond the scale of buildings and to consider entire communities or cities. Assessment tools and certifications address the problems cities face in regards to climate change.

Certifications for sustainable urban projects have been developed in response to demand from the market. Municipalities, developers, investors, designers, advisors, utility companies and others had a clear need for a uniform definition of sustainable urban area (Dutch Green Building Council, 2012). By using one tool during the development process, the parties can speak the same language, thus reducing the risks of miscommunication and thereby increasing the success rate of the project. Moreover, the certification itself can be used as an instrument to generate publicity and to stimulate benchmarking by asking who is the most sustainable. The certification allows the parties involved to get a better insight into the sustainability performance of an area.

The added-value of such a certificate for urban areas can vary. For governmental authorities like municipalities, provinces and government it can serve as a confirmation for having realized the set green ambitions, or it can serve as a social responsibility towards the community. For private parties on the other hand, such a certification can be a nudge to investors, end-users and clients- or it can contribute to an intrinsic need to develop more sustainable (Dutch Green Building Council, 2012). Moreover, these certifications can put a face on sustainability, because it is about people and places and building better places to live (Dalzell, 2016).
The main target groups which can benefit of these certifications are municipalities, developers and investors and ultimately the end-users (Dutch Green Building Council, 2012). Moreover, before certifications of urban areas it was difficult for all parties involved to understand the benefits of a sustainable community, but with the tool it become clearer (Dalzell, 2016). Now it can be measured and evaluated. Thus, certifications serve as a quantitative tool to measure the concept of sustainable urban developments. And what makes the certificates differ from buildings codes, is that the building codes show minimum achievements for sustainability whereas the certificates rate the developments according the maximum level of quality achieved (Pacetti, Passerini, Brebbia, & Latini, 2012 & Latini, 2012).

Another reason to certify sustainable urban development is marketing (Zachariasse, 2015). It is a great instrument to stand out from the competition and increase the market value of the project. However, Zachariasse (2015) mentions that it needs to be used properly and not just like a recipe book where parties are trying to get a maximum amount of points for as little costs as possible, reducing the room for innovation. Naturally, there are parties like institutional investors which want to dedicate minimum time and effort in getting their project certified for their clients; in that case such an objective checklist for sustainability facilitates the process for the investor.

On the social side, Zachariasse mentions that you get more recognition from the social and institutional landscape. With a certified project, the value increases to added-value and that truly works. This added-value makes not only your clients enthusiastic, but also support from the government can be gained. Especially for developers and investors certifications are becoming a standard; the project will not be taken seriously anymore if it is not assessed to be sustainable.

Thus, certificates like BREEAM can be beneficial for:

- **Making the sustainable performance tangible and objective**
- **Analyzing and improving the sustainability level in an area**
- **Marketing and competitive edge**
- **Enhancing sustainable image**
- **Increase support from society and governmental authorities**
- **Creating international recognition**
- **Communicating in one universal language**
- **Benchmarking: comparing performance metrics to industry bests and best practices**

With sustainability already being a complex term, assessment tools can clarify what it means for a project and how to translate it to measurable elements in order to create added-value for the area. Another noteworthy benefit of certifications is that the ambitions for a project can be set clear when the aimed degree of sustainability is known (Baarda, 2006).

Moreover, also for the involved actors certifications can be a good way to make clear to others that the ambitions for the development are high and that thought will be put into the quality of the urban area (Gorlee, 2014).

At last, the use of BREEAM for urban areas is always adapted to the local context of the country in which it operates. This causes some variances in the criteria and assessment of BREEAM. In this research both BREEAM-NL Gebiedsontwikkeling and BREEAM Communities are used interchangeable, but the differences between the different contexts are taken into account.

3.3 STAKEHOLDERS' ANALYSIS

Stakeholders play an important factor in the complexity of sustainable urban development projects. Different actors with different interests, goals and influence create challenges during the process. Previously it was mentioned that the municipality's role has shifted towards being more facilitating and steering and sustainable urban development is about creating a future vision which can be supported by all. Therefore, it is important that not only one party-the municipality- set up the ambitions and goals, but that also the different interests of relevant actors is taken into account as well (Agentschap NL, 2012). This can be quite demanding for the participating actors as it requires networking skills to form partnerships or coalitions, creativity to come up with innovative solutions and integrative thinking in order to work in an interdisciplinary environment. Another important factor for municipalities to keep in mind is that facilitating does not necessarily mean not being involved. Especially the front-runner municipalities understand this well. They understand that personal commitment plays a major role in each development; it's the enthusiasm of the initiator, but also the importance of supporting a developer (Agentschap NL, 2012). So it is not only important for municipalities to realize their power position, but also that they are aware of the ways they can steer to certain goals. Nowadays, in many developments the municipality is not the primary developing party, but instead she decides on the direction and preconditions. At the end of the day, the municipal parties can set up beautiful ambitions, but if these are not formulated correctly with the necessary support, they will not be taken up by developing parties.

While the municipalities are taking in a more facilitative position, more room is left for the private market to step in realize sustainable urban developments.

Yet, there appears to be little research on how developers, as one of the key actors and stakeholders in urban development, are responding to sustainable developments through local-area-based initiatives (Dixon, 2007).

Based on this, private sector-led urban developments have come forward as a potential strategy to develop sustainable areas (Heurkens & Hobma, 2014).

In this regard private-led urban development can be defined as: “An urban development project in which private actors take a leading role and public actors adopt a facilitating role to manage the development of an urban area, based on formal public-private organizational role division.” Private-led urban developments symbolize the changing public and private roles and relations in urban planning, with shifts towards forms of private planning (Andersson & Moroni, 2014; Hackworth, 2007).

In this research the public actors are referred to local planning authorities while private actors are generally used to refer to developers. And while there are many other stakeholders involved in urban development processes, local planning authorities and developers are still considered to be the key stakeholders as they collaborate on the operational level of urban developments (Heurkens, 2012).

Public and private actors can take up different division of roles within urban development processes. Heurkens and Hobma (2014) make a distinction between the different managerial roles of these two parties within urban models. These can be seen in the figure below. With the shift towards private-led developments and local authorities becoming more facilitating, the focus on this research is also on the private-sector led. The figure illustrates that this means that the private actor is the leading while the governmental authorities are facilitating. The interaction between the two is described as being informal. What is meant with informal and facilitating will become clearer based on the empirical findings.

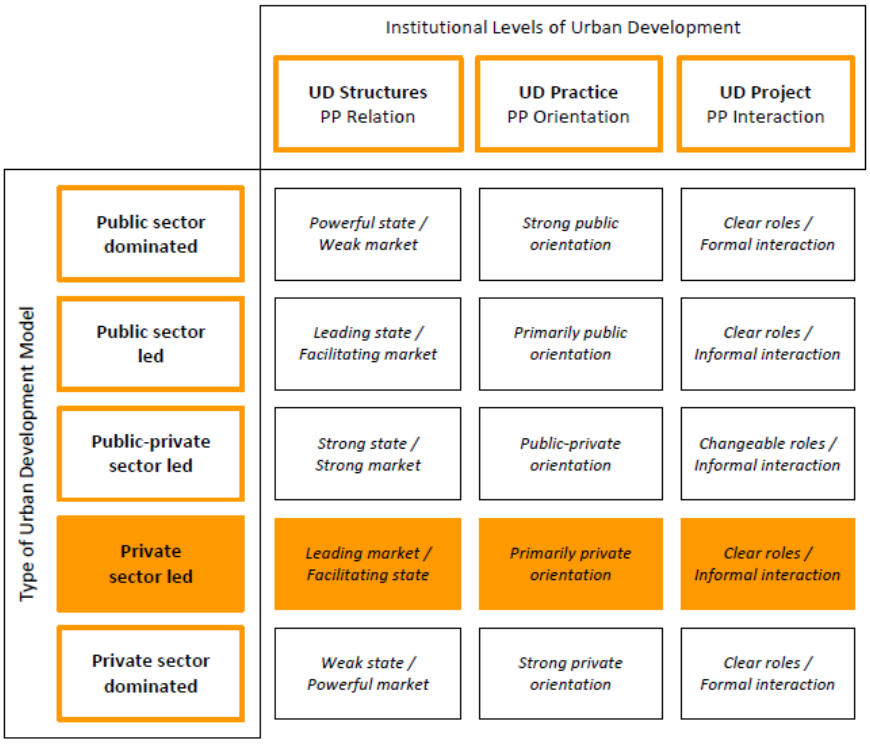

Figure 11 - Comparative institutional model (source: Heurkens, 2015)

But except the local planning authorities and developers, there are also other actors involved in the development process. A quick scan of the different stakeholders in development process will be discussed. To create a holistic understanding of other parties and their interests, the actors are systematically put in place and how relevant they are in the context of sustainable urban development. With this analysis it becomes apparent which actors are involved and which have a direct interest, can be influenced or can offer innovative input (Agentschap NL, 2012). Hereby it is important to apply a wide scope and also think about actors who are not in the area, but can somehow still influence or actors who are present now but not active or actors who are neither present or active now but can be in the future. Based on the report of Agentschap NL (2012) the results of the analysis can give more insights in the following questions:

- Who are the direct stakeholders?
- Who are being influenced?
- Who have external influence?
- Who bring new, innovative input?

When starting off with the stakeholder analysis it is best to start by identifying actors which have been named in literature and which are dominant figures during development processes (Agentschap NL, 2012). After this initial analysis other relevant actors can be detected by for example interviews. The analysis can be categorized based on interest, background or power.

Haring (2010) also states that identifying stakeholders is important for the process because of their different goals, ambitions, capital, influence and interests. Yet, he mentions that the combination of stakeholders is difficult to generalize and can be project and location specific. Furthermore, the report also continues about the role of the municipalities in the process. Because of the varying difference of opinions and ideas of actors like investors, home-owners, shop owners and renters, their reason or time of investing can differ largely. Also, these parties mention that often there is not a dominant initiator while it should be the role of the municipality to take initiative and to create a common vision for the area together with all the stakeholders (Haring, 2010), even if the municipality is not the dominant land owner. A public party is always involved because of its relation with public space. An integral approach can lead to qualitative area in which all stakeholders recognize a win-win situation. Thus, the role of the municipality can be important for the process and can be of different forms; ranging in the level of risks and say.

On the other hand Fikken and Van Timmeren (2016) say that a thorough stakeholder analysis is crucial in order to gain insights into the most important stakeholders and what their motives might be *not* to invest in sustainable urban areas. They make a general categorization of the main actors in public actors, private actors, societal organizations and individuals:

- Public actors: The state, provinces, utilities and municipalities have a primary interest in reaching their ambitions and goals within their preconditions and budget. These ambitions can range of size and purpose and counter goals may also appear within the different departments.
- Private actors: this group can be divided into actors who are actively part of the urban development process and actors which are more passively involved. The first groups include the developers, investors, constructors and suppliers. For these parties growing their business and making profit are important reasons to invest in sustainability. Besides direct yield it also gives them a *ticket to the game*, which is becoming important because without focusing on sustainability in 2016 you cannot compete. Another

reason named by the actors for why they are involved is due to corporate social responsibility- mostly to meet the demands of shareholders.

- The societal organizations: the societal and communal interests and motives from these actors can be understood from their mission and ambitions. Often these are ideological motives which include these organizations in the planning and decision-making process.
- Individuals: besides ideological motives this group also has personal interests.

A bit more specific, Haring (2010) and Becqué et al. (2016) give a more detailed overview of the possible actors who are involved in the process of sustainable urban development. See figure 10 and 11 for overviews of main actors in urban governance.

Table 2 - Overview of actors in urban development (adapted from: Haring, 2010)

Actors	Description
Land owners	Traditional, industrial, financial, non-profit, private use
Building owners	Owner-user, owner-renter, own use
Current users	Owners, users
Neighbors	Neighborhood residents; important for public support
Municipalities	Planning and other regulating functions, facilitating, subsidy provider, soil sanitation, infrastructure, land issue
Developer	Partnered with a construction company, finance institution, housing association or independent
Housing association	Private, but not-for-profit and regulated by government
Urban planners and designers	Designers, involved in conceptual phase
Other advisors	Economic consultants, market research, construction and mechanical expert, project managers, lawyers and accountants
Financers	Banks, short-term and long-term financing
Protestors	Amateurs or professionals
Contractors	Different tender forms, sub-contractors
Realtors	Acquisition, market research and taxation, buy and rent
New end-users	Buyers or renters,

Figure 12- Main stakeholders in urban governance (source: World Resources Institute, 2016)

To conclude, in general market parties in sustainable urban development have a commercial interest whereby it is important to receive enough yield in short or long term. And literature based on studies from Flier and Van Der Gruis (2004), Stichting Bouwresearch (2001) and NEPROM (2001) point out that having market parties involved in the process adds value to the project in the following ways:

- Content: knowledge and understanding of the real estate market and developments of houses, offices and retail.
- Organization: an organizational structure which is focused on creativity, entrepreneurship, feasibility, execution and business models.
- Finances: input of risk-bearing capital which can finance (partially) the project and risk management.
- Communication: marketing skills and better area profile.

The enumeration above shows that private parties do play an important role in urban development and can contribute positively. Yet, the presence of the municipality maintains important as well because of its governmental-legal characteristics and as representative of public interest and space quality (Haring, 2010). Based on this it seems that no matter to what extent, collaboration between public and private parties is necessary in

order to realize urban developments. The following sections will discuss more specifically what the roles of local municipalities and developer entail.

3.3.1 ROLE OF LOCAL AUTHORITIES

Thus decisions about urban developments are governed by a combination of public and private actors and are subject to formal and informal forms of authority. In general, local governments have authority to adopt and/or implement policies influencing sustainability- but their approach is often heavily influenced by guidance or requirements from provincial and national governments. So even if local authorities seem the most relevant when it comes to urban governance, their influence may be limited, and this can vary from place to place (Becqué et al., 2016). To understand their role better, a thorough analysis of the institutional landscape is to be researched.

But aside of the different levels of governments, the role of the public sector is also affected as a result of interactions between the policies and practices of public authorities from different departments and levels within a municipality. These interactions between different divisions within one level of government are just as important. How well goals are aligned between and within the municipality and how effectively the employees communicate with each other can influence the decision-making environment of the stakeholders (Becqué et al., 2016).

Urban governance systems can be complex with their many layers and actors. Yet, local governments in particular have different mechanisms to apply to influence their communities (ACEEE, 2012). The previous sections have already explained that within a private-led development local authorities usually take a facilitating role and that there is an increasing shift towards this combination of public and private. But even though, the research is already based on this theory, the other main roles of local authorities are also briefly described below to give the reader some insight into the difference roles. The main three roles local governments have are (ARUP & C40, 2015):

- Owner/investor
- Convener/facilitator
- Regulator

Owner/investor: the local governments invest in, own, and manage physical infrastructure used to provide services. In many cases, local governments also provide some investment in assets they do not directly own- like social housing or transportation. These physical assets offer a chance for the local authorities to lead by example through taking actions themselves. Such actions can demonstrate the value of sustainability to private market actors and motivate them to also act.

Convener/facilitator: the leadership role of local governments can also be used to enable voluntary private action through convening and planning partnerships with private sector actors. As local institutions, local authorities have a permanent stake in the community and are in charge of planning for the best interest of the community over the long term. Within this role they can motivate stakeholders to develop a shared vision regarding sustainability, identify win-win situations, and stimulate action (Mendle & Horn, 2015).

Regulator: local governments have the authority to set or enforce regulations and other policies through a combination of mandates. Land-use planning and zoning, business and building permitting, and urban codes are some of the main regulatory mechanisms in their toolbox (C40 Cities, 2014).

3.3.2 ROLE OF DEVELOPERS

This following section will go deeper into the relation of developer in sustainable urban development and the different types of developer.

The urban scale is considered a suitable scale to reach the sustainable policy ambitions set out by governmental authorities. This in combination with the shift towards more private sector involvement in urban developments, illustrates the importance of understanding how real estate developers can be stimulated with incentives by planning authorities to develop sustainable urban developments (Heurkens, 2016).

There is criticism of whether or not private actors with traditional profit-oriented decision-making principles can deliver sustainable urban developments (Heurkens, 2016). Yet, practices around the world also show that there is an increase in private companies adopting social and environmental concerns into their practice, investment, partnership and strategies (Potters & Heurkens, 2015; Sturm, Heurkens, & Bol, 2014). This translates itself to for example corporate social responsibility and environmental assessment tools like BREEAM. But more on the drivers will follow later on.

So real estate developers in the urban development process are important. They are considered to play a crucial role in the production of the built environment. Their expertise involves recognizing development opportunities (location), knowing the target market (product) and resolving constraints to make things happen (timing) (Adams & Tiesdell, 2013).

Different types of real estate developers exist. One study defines the traditional developer in broad sense to: "Taking initiative, based on own account and risks, to realize one or multiple developments for the market. This takes place by integrating and coordinating the required professional knowledge and expertise, meeting the demands of the future user or buyer. The involvement continues until the operational phase or even shorter if the project is sold."(Zöld, 2011)

Putman (2010) describes the main characteristics of the traditional developer as follow: Risk bearing in land ownership, risk bearing in planning, concept development, development, project management, knowledge of the demand, market knowledge, contracting and organizing, and network of relationships with other actors. These traits can also be found in other actors; however the developer distinguishes himself by bearing the financial risks in the development.

Aside from the general description, five main categories of developer types can be described based on Nozeman and Fokkema (2010):

- Developers linked to construction: these developers have a strong connection with the construction field as they are often part of construction firm.
- Independent developers: this is the largest group and the developers are often focusing on a targeted group, region or niche market.
- Developers linked to investment: these developers develop for their own real estate portfolio; they are seen as developer-investors.
- Developers linked to financial institutions: developers who are focused on short term sell to end-users; these developer groups are often parts of banks.
- Other; for example non-traditional developers like multinationals.

The traditional and developer-investor often get confused. The biggest difference between a traditional developer and developer-investor is that the traditional developer is mainly focused on taking the initiative, realization and selling of the real estate. Their involvement is short-term and of speculative nature. On the other hand the developer-investor is more focused on the long term and yield on investment and is more focused on meeting the demands of the market (Buskens, 2015).

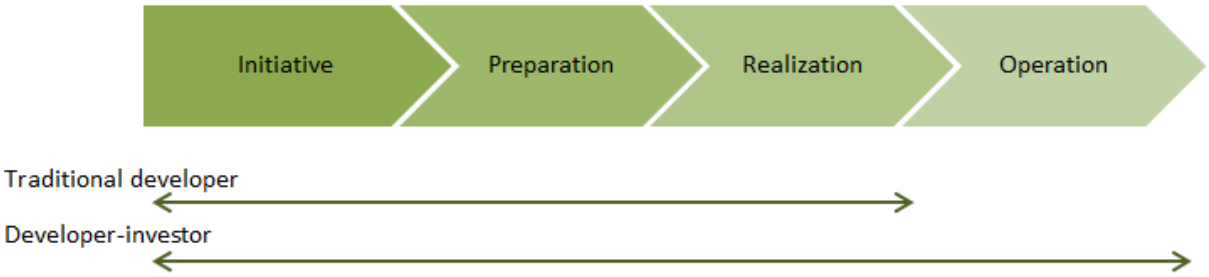

Figure 13 - Involvement of developer in different phases (adapted from Buskens, 2015)

3.4 DRIVERS

Stakeholders in each urban development process have different motivations for participation: the so-called *drivers*. The Oxford dictionary defines a driver as: *a factor which causes a particular phenomenon to happen or develop (Oxford Dictionary, n.d.)*. A further extension of the definition driver how it causes value is given as: *a value driver is a factor which has an important effect on the value for the company. These value drivers can be both of financial as non-financial nature* (Value Drivers, n.d.). Some examples are given in the figure below.

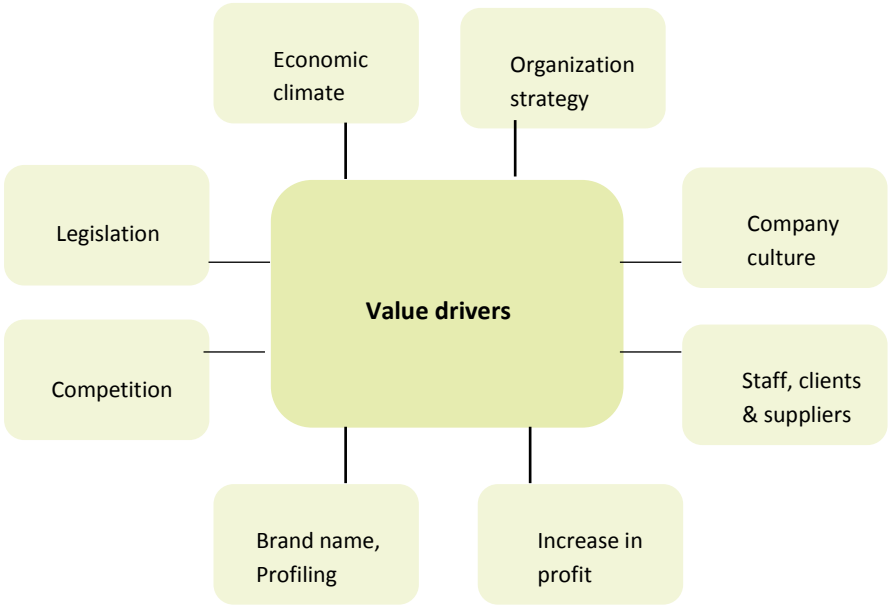

Figure 14- Drivers for developers (source: http://www.value-drivers.nl/achtergrond-2/wat-is-een-value-driver/)

Similar to this study, other studies have also indicated that the rate of sustainable development is still too slow to achieve the sustainability ambitions set out by governmental parties. Various studies have sought out to analyze what motivates private developer to develop sustainable urban projects with BREEAM certifications and had drawn conclusions on the drivers for developers. In the following sections the findings of some of these studies are shown.

One of the studies starts off by indicating the main driving forces behind BREEAM as an assessment tool being brand recognition, a desire of international standard, proof of sustainability goals, energy costs reduction, increase in productivity, possible higher rental incomes, more attractive buildings, predictable planning process and improving the image of developers, authorities and consumers (Aspinall, Sertyesilisik, Sourani, & Tunstall, 2012). One of the main drivers of BREEAM's worldwide development is the need for a shared international standard in order to make projects comparable to one another. Another driver mentioned is the use of an international standard like BREEAM to get international recognition on the achieved sustainability requirements (Fredriksen, 2015).

Normative research discussing how sustainability "should" affect market value has been a focus in literature for quite some years, yet without any conclusive answer (Warren-Myers, 2012).

The normative research indicates the claimed benefits of sustainability in an economic, social and environmental manner in order to encourage the stakeholders to adopt sustainability. The key drivers for sustainable urban development by developers are shown in the next figure. The complete list included drivers of other stakeholders as well. With careful consideration the list was filtered to the ones relevant to developers.

Key drivers for sustainable development	
Market drivers	• Achieve higher rent/sale prices • Reduce cost • Show global responsibility • Higher net revenue return • Be ahead of the legislative changes • Reduced operating expenditure • Promote innovation • Better reputation for own business • Tenant attraction (interested in sustainability) • Competitiveness • Achieve an increased marketing value • Efficient planning process • More predictable planning process • Risk mitigation and good governance • Demand of quality of space • Pressure from stakeholders and shareholders

Figure 15 - Key drivers for sustainable development (adapted from Frederiksen, 2015)

The survey done in the same study as the figure above specified the higher rent/sale price into dwellings and business offices and/or halls. The results have shown that higher prices for dwellings-private individuals- are seen as less of a driver, whilst developer see a bigger market for higher prices for companies. One reason for this is that

there are indicatations that sustainable certified developments are easier to sell to businesses, than to private individuals as companies are more likely to pay additional costs in order to be in a sustainable certified location (Fredriksen, 2015). This is because their business-oriented background shares similar ambitions as the developer; branding purpose and image profiling. Therefore, there might be a higher chance of successfully renting and selling to companies than to private individuals (Fredriksen, 2015). These findings indicate that the type of end-user also plays a role.

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In a study performed by BREEAM itself, their clients have also been asked to identify their drivers for developing a BREEAM certified project. For the public bodies, the drivers were a mix of planning policies and central government procurement policies, which are often connected to funding.
In the developer sector the biggest drivers are linked to the demand of the market or client, which are linked to economic advantages. Furthermore, they also score high on their branding profile (Parker, 2012). The results can be seen in the figure below.

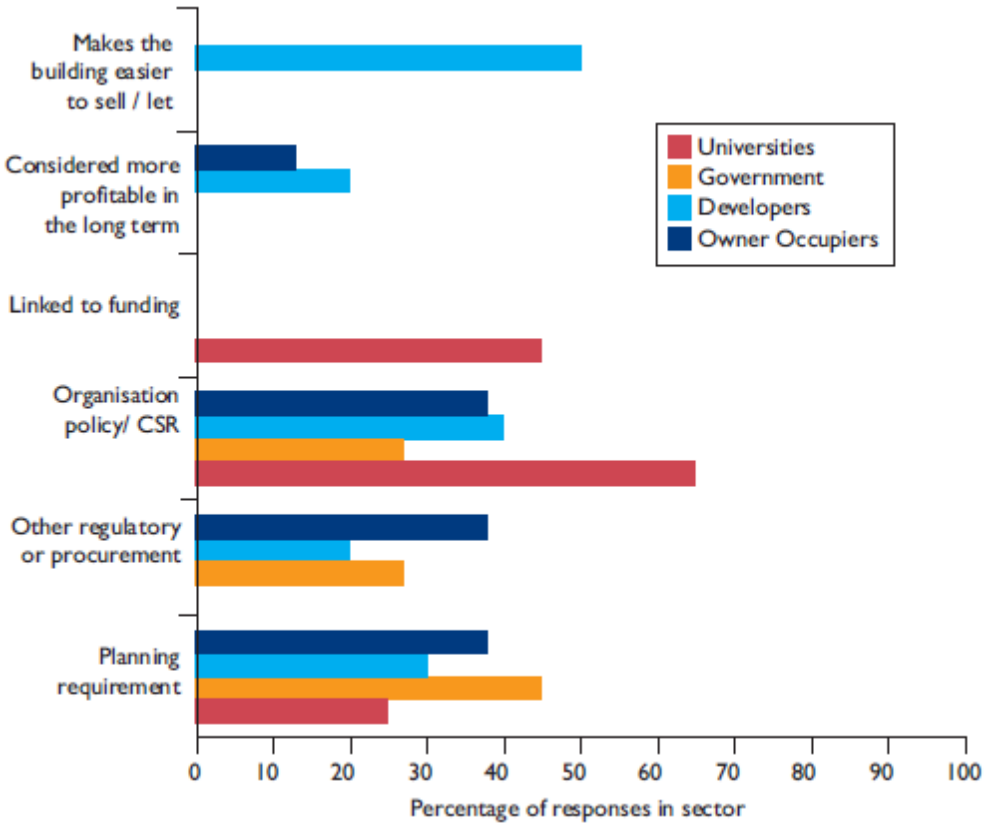

Figure 16- Reasons for BREEAM certification (source: BSRIA field research, 2012)

Developers can also be categorized based on their actions and activeness in sustainability. By using a classification system a greater understanding of the incorporation and investment in sustainable development can be gained (Warren-Myers, 2012). These categories include which drivers played a key role and consist of:

- Regulatory greening
- Competitive greening
- Holistic greening

The first category of regulatory greening refers to environmental and social improvements by compulsory requirements and compliance. A study done by ECORYS came to the conclusion that regulatory drivers are strong as they enhance companies' competitiveness and encourage technological advances (Rademaekers et al., 2012; Rennings & Rammer, 2009).

Competitive greening is a form of organizational greening or corporate social responsibility. This indicates that the organizations are actually investing in sustainability. The idea is to gain a competitive edge above others, as many normative research publications suggest that sustainability will have financial benefits (Jermier & Forbes, 2003). In this category developers often use sustainability as a selling point for their real estate. This driver which is also linked to the reputational image is becoming increasingly important as companies are finding it valuable to enhance and protect their image by demonstrating to be sustainable. This could be the consequence of increasing consumer pressure, increased awareness of environmental issues and pressure on performance transparency (Rademaekers et al., 2012).

At last, the holistic greening is one where an organization has a profound commitment- an intrinsic value- to environment and social improvements which are to be implemented on a system-wide basis (Jermier & Forbes, 2003). Thus this would involve organizational change including the organization's environmental, social and economic performance and operation. Compared with the others, the holistic greening is quite straightforward.

One of the outcomes of a research is that developers have a financial drive as they will do what is most economic attractive for them. Thus the motivation for sustainable development is in general linked to profit and branding. With a market demand for sustainability and people who are willing to pay more for these spaces, developers can increase their profits by raising the rent and selling prices. Fuerst and McAllister (2011) even identified that the higher the rate of the certification, the higher the renting and transaction prices. This economic concern often operates over a short time span in comparison with the social and environmental aspects which are usually over longer time span (Hillon, 2014). Yet, there is also evidence that financial drivers are not always as important as one may believe: they are definitely key drivers, but an interesting finding from the analysis of Community Innovation Survey (CIS) reveals that grants, subsidies and other financial incentives were the weakest motivation for increasing sustainability performance (Rademaekers et al., 2012). This suggests that financial incentives may only play a limited role.

Based on the literature findings and the overlaps found, four main categories can be set up for the types of possible drivers; financial, reputational, legislative and intrinsic. The categories with their corresponding drivers are illustrated in the figure below. This model can further on assist in comparing the empirical findings.

Table 3 - Types of drivers based on literature findings (own ill.)

Type of drivers	Examples
Financial	• Increase in market value • Risk reduction • Cost reduction /cost-efficiency • Increase in profit • Faster sale/lease of buildings
Reputational	• Company strategy • Corporate Social Responsibility • Competition • Innovation • Pressure from society • Marketing
Legislative	• Planning requirements / permits • Ahead of legislation changes • Procurement • Taxes and levies
Intrinsic	• Intrinsic value • Company culture • Staff/organization

3.5 BARRIERS

Barriers in sustainable urban development can be defined as *phenomena which actively counteract and are in the way of a desirable change or inertia which results in the change progressing slowly in relation to challenges and targets* (Boverket, 2015).

Different types of barriers include inadequate physical structures and technical systems, unclear or insufficient legislation, groups of actors with different targets and agendas, industry cultures with approaches which change slowing, time-consuming planning and work forms.

Cities have ambitions to deliver a sustainable built environment, however far too many new projects only include a few sustainability measures. One British research has identified twelve barriers by stakeholders to achieving sustainability in developments (Williams & Dair, 2007). The most popular barriers mentioned by developers included a lack of consideration of sustainability measures, real and perceived costs and inadequate expertise and powers. Based on considerably strong policy drives in Europe, how is it that many sustainable developments are not being realized in practice?

The twelve barriers to realizing sustainable developments which were identified are listed in the following table.

Table 4 - Barriers to achieving sustainable urban development (source: Williams & Dair, 2007)

	Barrier to acting sustainably	Incidence of barrier
1	Sustainability measure was not considered by stakeholders	By far the most commonly recorded barrier
2	Sustainability measure was not required by client (includes purchasers, tenants and end users)	Commonly recorded
3	Stakeholder had no power to enforce or require sustainable measure (in some cases it was the responsibility of the client or the contractor)	Commonly recorded
4	One sustainability measure was forgone in order to achieve another (traded)	Commonly recorded
5	Sustainable measure was restricted, or not allowed, by regulators	Commonly recorded
6	The sustainability measure cost too much (in some cases the investor would not fund)	Commonly recorded
7	Site conditions mitigated against the use of a sustainable measure	Commonly recorded
8	Inadequate, untested or unreliable sustainable materials, products or systems (including long term management problems)	Commonly recorded
9	Sustainable measure was not available	Commonly recorded
10	An unsustainable measure was allowed by the regulator or statutory undertaker (so no impetus for a sustainable alternative to be used)	Infrequently recorded
11	Stakeholder was not included, or was included too late, in the development process to implement sustainability measure	Infrequently recorded
12	Stakeholder lacked information, unawareness or expertise to achieve sustainable measure	Infrequently recorded

The barriers are listed in order of frequency by the stakeholders, but the results should be taken carefully as some barriers are more applicable to certain stakeholders and some barriers- even if they were not mentioned often- could result in a big impact on the development. The barriers which include large influences from developers are shortly described below and are based on the findings of Williams and Dair (2007).

The most common barrier mentioned in the case-studies was the lack of achievement of a sustainability ambition by the stakeholders. Simply said, sustainability was never on the agenda. Where certain sustainability measures were required in policies and regulations, they appeared on the agenda and were addressed. However, where these did not appear, sustainability objectives were often not even considered. Interestingly, this lack of consideration was experienced by both the governmental authorities as well as the developers, which is interesting as one would expect public authorities to be more interested in sustainability than developers.

The second and third barriers on the list have a linkage with the vicious circle of blame (Cadman, 2000). The following figure illustrates this vicious circle of blame. In this case sustainability ambitions were not achieved, because this was not required by the client- the market. Hence, the developers do not want to include sustainable measures if the client has no or little interest in these, especially if these measures are perceived to lead to an increase of price.

Figure 17 - The vicious circle of blame (Source: Cadman, 2000)

Another barrier which was largely affected by developers was number six; the high costs of sustainability. Developers mentioned that anything other than conventional building would result being more expensive. In some cases the developers based this experience where the sustainable options were indeed more costly, however other developers just based this as assumption because it was said that cost differentials have not yet been thoroughly investigated. Moreover, also here was mentioned that with higher costs, the project would be more expensive and the developers are not convinced that there is a widespread demand yet.

Even though listed as infrequently recorded, this last barrier affects developers. In some cases, the needed information to make a project more sustainable lacked and in others they were unaware or lacked the necessary expertise to realize these. And when not having enough information, developers opt for the 'safer' option. This knowledge related barrier for developers translates to lack of awareness of sustainability in general, lack of expertise and experience in sustainable developments- indicating an improvement of knowledge skills in this industry is necessary (Williams & Dair, 2007).

Especially values like livability, safety and well-being which are part of sustainable urban developments are hard to define based on lack of knowledge. The difficulties to put a price tag on for these softer values make it harder for the developer to make the business case sound. Yet, more tangible values like energy and CO2 reduction are increasingly appearing in business cases and are too often the only translations of sustainability within an urban development. In 2011 professor Friso de Zeeuw warned that for this reason the other themes often disappear in the background. In urban development it is about finding the balance, not just planet but also people and profit (De Zeeuw, 2011).

Yet, this shows that if values are not quantifiable it is much harder for the private parties to monetize them and to see the added-value. Moreover, it can also enhance the challenge of split-incentive because it remains unclear for which actors the value will be. But even though the challenges with defining added-value remain tough, many believe the solution is to be found there. In the past years the terminology of added-value creation has changed in the context of urban development. It is not anymore about realizing short term profits- in other words creating a good business case- but increasingly also about the long term societal added-values (Ministerie van Infrastructuur en Milieu, 2014).

At last is mentioned that the stakeholders who will actually use the development are important in achieving sustainable developments. This group of end-users, whether residents of new homes or occupants of commercial buildings, represent demand (Williams & Dair, 2007). So far, the research has shown that this group has little interest in a sustainable built environment and until developers perceive a demand from this group, developers are unlikely to change their practices.

Another study includes one of the Swedish National Board of Housing, Building and Planning. The delegation of this Swedish study has chosen to focus on fifteen barriers which can be divided into six categories: barriers related to the three dimensions of sustainability and the importance of expanding the approaches and including more values (1, 2, 4,5), barriers related to organizational culture (6,7,9), barriers related to driving forces and incentives (3, 8,10), barriers related to long term investments (11,12), barriers related to knowledge (13), and barriers related to public-private partnerships (14, 15). The first and second category are related to difficulties in attaining a holistic view in the planning, while the other barrier categories are more directly connected to economic priorities and financing (Boverket, 2015). Each barrier will be shortly described.

1. Visions of sustainability have not been integrated in different policy areas
2. Quality of life issues and the attractiveness of cities are given too little attention in the urbanization context
3. Unsustainable lifestyles and behavior leads to high CO2 emission
4. Increased social and spatial division in cities
5. Insufficient talks with citizens about development of the city
6. Sectorization impedes holistic vision
7. Lack of coordination within and between different levels
8. One-sided and short term project focus prevents a long term approach
9. Lack of leadership capacity and know-how for complex, cross-sectoral process
10. Lack of incentives for long term sustainable decisions:
11. Structural lock-ins that are hard and costly
12. Insufficient state investments in socially important infrastructure linked to the cities' development and needs
13. Insufficient support for research, learning and pilot projects
14. Lack of suitable business models
15. Conservative public procurement rules

Another study has looked into the barriers which are identified by municipalities and developers in sustainable urban development in the Netherlands. One of the biggest barriers stated is that companies are more focused on direct revenues streams on short term instead of long term value creation. The most important barriers discussed in this research are (Kerpel, 2016):

1. Lack of finance; including split-incentive
2. One-sided, sectoral approach
3. Lack of support
4. Lack of direction
5. Lack of ambition or vision
6. Lack of knowledge
7. Lack of flexibility by law and regulations
8. Lack of realism
9. Lack of courage

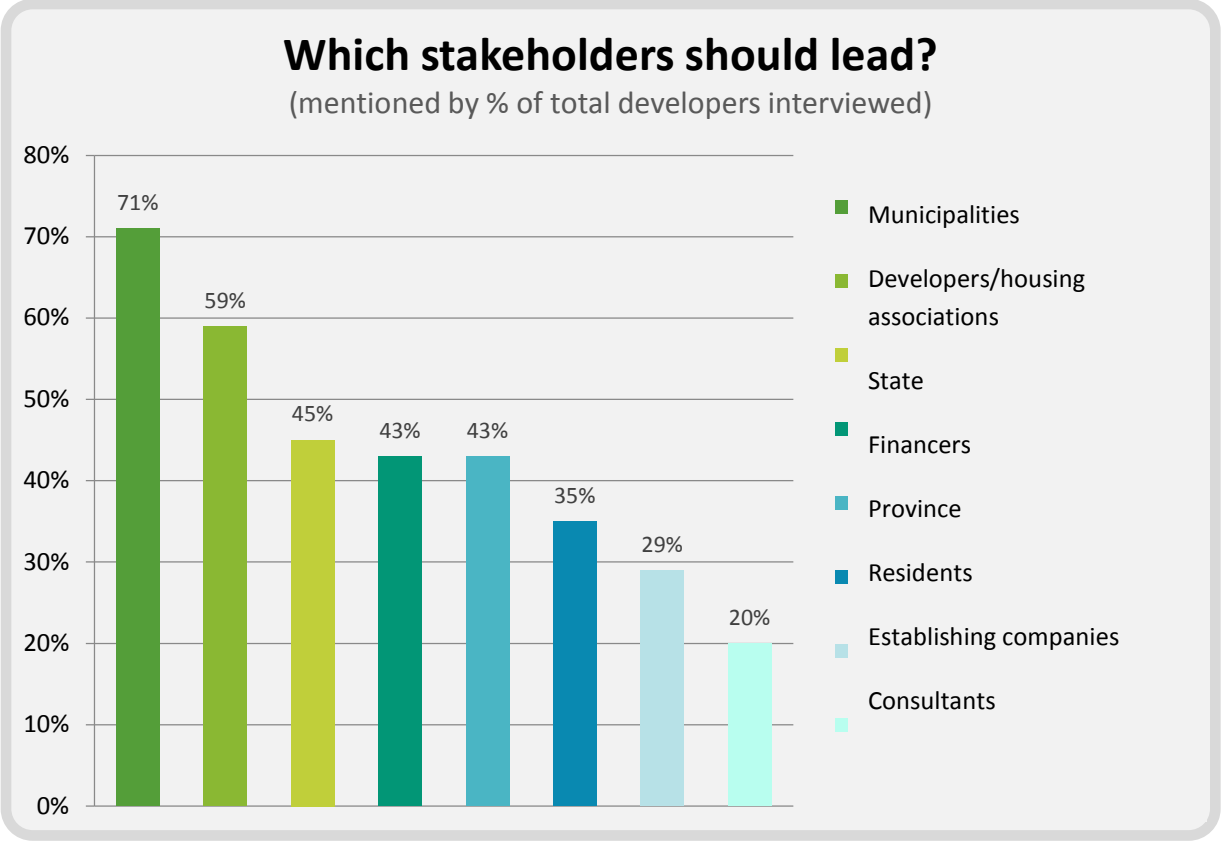

Figure 18 - Results from interviews based on which stakeholders should lead the way (Adapted from: Kerpel, 2016)

The results of the figure above shows developers feel that there is a lack of direction from municipalities. With a number of 71% developers stated that municipalities should take the first step and lead.

71% of developers stated that municipalities should take the first step and lead

Another study performed by the Dutch government highlights the top nine barriers in sustainable urban development. Their results are based on literature study, interview and expert panels with professionals in urban development (Huismans & Vaan, 2011).

1. Sectoral responsibility versus collective interest
2. Too many different actors and who will take the lead
3. Lack of mental ownership for sustainable urban development
4. Annual budget cycle versus long term investment / exploitation
5. Division of land exploitation, real estate exploitation and maintenance exploitation:
6. Split-incentive
7. Risk perception
8. Insufficient transfer of knowledge
9. Limited instruments

Some studies related to barriers have already drawn some conclusions on the matter. One study from Alasdair Reid and Miedzinski (2008) concludes that financial barriers have been identified to affect the take up of level of sustainable environment, particularly with regard to access of financing and perceived high upfront costs, and pose

as main barriers. Market actors are often looking for short term profit maximization while decisions based on short term usually result at expense of long term investments.

The perception of high upfront costs results in many actors unwilling to pay. One area where it was particularly noted is in the costs of reporting environmental matters and costs associated with its registering, monitoring and verification (Rademaekers et al., 2012). Sustainable performance certifications like BREEAM can be an example of this. Yet, at the same time, these certifications also play a role to demonstrate sustainability and make benchmarking possible.

Furthermore, the consumer behavior and market expectation is also important in the decision-making. With sustainability products usually having a premium, it is uncertain if consumers- even if more awareness of environmental issues- are willing to pay more too (Rademaekers et al., 2012). This causes uncertainty for developers about market acceptance which could lead to hindering the sale. Having future end-users involved from the start can perhaps reduce this barrier.

At last, another finding confirms the lack of knowledge for how to invest in sustainability also to be an issue. Even though the costs of gaining the required expertise are significant, is benefits of action in the long term should be highlighted to communicate and reduce this barrier (Jaffe, Newell, & Stavins, 2002).

The findings of the different studies above highlight numerous barriers which developers have identified with sustainable urban developments. Taking the overlap in consideration, four main categories can be used for the barriers; financial, legislative, knowledge and organizational. These can be seen below.

Table 5 - Types of barriers based on literature findings (own ill.)

Type of barriers	Examples
Financial	• Sustainability measures are too costly • No access to financing • Lack of suitable business cases • Risks perception • Split-incentive • Short term view/involvement
Legislative	• Regulations • Lack of flexibility by law and regulations • Lack of ambition / vision for sustainability • Protests/objections from actors
Knowledge	• Lack of knowledge, awareness or expertise • Insufficient support for research, learning and pilot projects • Insufficient transfer of knowledge • Lack of knowledge concerning BREEAM
Organizational	• Lack of coordination within and between different organizational levels • Sectoral responsibility versus collective interest • Lack of leadership capacity and know-how for complex, cross-sectoral process • Lack of courage • Lack of support / direction

3.6 INCENTIVES

This section contains an analysis of the types of incentives which can occur in sustainable urban developments. Various types of incentives are described before categorizing these.

Many witness a gap between sustainable visions and real action. Other factors seem to be given priority over achieving sustainability targets. These factors often concern economic interest. Yet, as described in the section about barriers, many other factors can cause obstacles. Still, in order to bridge the gap between vision and action, it is important for the government to use policy instruments with incentives to steer the decisions in the preferred directed (Boverket, 2015). The purpose of the incentives is to encourage actors to surpass the minimal set of requirements and to take more risk and conduct innovations.

The value of incentives is their ability to affect the preference and perceptions of actors. Incentives should be seen as reasonable and effective tools for encouraging actors over the long term (Dorussen, 2001).

Many definitions of incentives are mentioned in literature. It could be defined as the granting of political or economic benefit (Cortright, 1997). Others restrict incentives to solely economic incentives (Dorussen, 2001). The term incentives can also be defined as additional measures tailored to the specific needs of one or more actors (Bernauer & Ruloff, 1999). Another definition is defines incentive as: a thing that motivates or encourages someone to do something (Rademaekers et al., 2012).

As this research is focused on exploring which incentives can best be used to stimulate developers based on their drivers and barriers, the definition of Bernauer and Ruloff (1999) and Rademaekers et al. (2012) seem most appropriate in this context as it does not immediately put the focus on only one type of barrier and thereby perhaps overlook other types. It is noted though, that with private developers financial-related incentives seem to be most relevant. Combining these two definitions leads to the following definition for incentive in this research: *Additional measures tailored to the specific needs of someone in order to encourage or motivate them to do something*.

Incentives: additional measures tailored to the specific needs of someone in order to encourage or motivate them to do something.

Better incentives are necessary to improve the uptake of the sustainability level in the urban environment. Different studies show the categorization of incentives in the following types: tambourines, carrots and sticks.

Tambourines are *soft* instruments whose purpose is to raise awareness among the actors on what is expected from one another. This type of instrument can therefore help by solving the lack of knowledge gap which was previously mentioned (Fernandes et al., 2011). It does so by using placing information centers, promoting best practices and networking.

Carrots go a step further than tambourines, because they are about enabling an actor to act. These instruments often tend to be of economic nature; loans, taxes, guarantees and subsidies (Bory & Schremmer, 2009). Another study defines carrots as positive drivers (Armstead, 2012). Moreover, carrots can also be described as positive incentives for motivating developers to a sustainable behavior (Schremmer & Stead, 2009). Another report also describes carrots as positive incentives to be more sustainable. They name examples for carrots to be to vary from direct incentives such as taxes, to indirect incentives like better yield due to high level of sustainability or reputational gains for companies for being responsible and sustainable (CIOB, 2008).

Sticks come after carrots because these instruments are for the purpose of regulating the performance of developments or sanctioning the lack of it. Sticks can help solve the behavioral issues in order to still reach the set targets (Bory & Schremmer, 2009). However, just simply adopting a stricter approach to meet the goals can fail to motivate developers to see the need for sustainable urban development in a positive way (Fennell, 2015).

Figure 19 - The use of sticks, carrots and tambourines to motivate an actor (source: https://participationdictionary.wordpress.com/2014/04/25/t-for-stick-carrot-and-tambourine/)

3.6.1 BOX-TICKING

Based on the purpose of this research, the instruments categorized as sticks are less relevant as they are about regulating and sanctioning through legislation. As this research is about stimulating, tambourines and carrots are more relevant to continue exploring. Yet, it is noted that a combination of the different types of instruments works most effectively to achieve the sustainable policies (Silva & Acheampong, 2015). But an approach which will largely be based on sticks has some downsides as well as it can lead to a box-ticking culture. This will briefly be described below.

Focusing on regulatory instruments-sticks- only to reach targets comes with a significant risk. Legislation only focused on compulsion risk the creation of a compliance culture- a box-ticking approach in which actors do as much as they need to do to meet the requirements, but no more (Dowden, 2009). This narrow-minded focus could lead to undesirable results. Responses of a survey strongly indicated that the development industry believes that a combination of carrots and sticks are necessary and that by working together, the parties can explore the benefits and incentives that will bring change.

Other studies further claim that delivering projects to minimum standards can come at the expense of longer-term sustainability goals and unseen impacts. Box-ticking in itself is a process-orientated procedure in which points are given to seemingly useful measures, but which puts little attention to the broader, holistic project impacts and conditions. This can result in a missed opportunity to obtain a higher level of sustainability in a project (Kulczak, Piroozfar, & Harder, 2015). Thus if planning gets reduced to an administrative tick-box exercise, then little value will be added to the projects (Clifford, 2016).

Box-ticking in itself is a process-orientated procedure in which points are given to seemingly useful measures, but which puts little attention to the broader, holistic project impacts and conditions. This can result in a missed opportunity to obtain a higher level of sustainability in a project (Kulczak et al., 2015)

A different study acknowledges regulation and legislatives to remain important drivers to more sustainable behavior for many companies. Regulations oblige companies to achieve a minimum standard of environmental performance. Hence, they have to tick the minimum boxes required. Even though companies claim to be against regulations, most also acknowledge that it plays an important role in affecting their behaviors and that it does have an important function (Rademaekers et al., 2012). However, alike the findings of other studies, many regulations do not help achieve continuous improvement and push companies to go beyond the minimum.

Even BREEAM certification itself should be careful not to promote a box-ticking approach. With the many documentation involved to demonstrate one's level of sustainability, many are apparently already cautious with its potential box-ticking nature (Wheal, 2012). This should also be kept in mind during this research.

So as we begin to consider a more sustainable future for our cities, it is imperative that we move away from a 'box ticking' approach to sustainable design and towards a wider long term focus on a whole realm of planning and design issues at the broader community level. After all, a huge number of socio-economic and cultural factors also have an impact on the long-term sustainability of communities and the environments in which the people will work, live and spend time (Moran, 2011).

Another important benefit of incentive- as positive carrot- in comparison to sanction- carrot versus sticks- is that there is in general less opposition to incentives than sanctions. Cortright (1997) elaborates on this point by stating: incentives foster cooperation and goodwill, while sanctions create hostility and separation. Thus incentives can play an important and constructive role in achieving policy targets (Dorussen, 2001).

3.6.2 CARROTS AND TAMBOURINES

Also particularly in the Netherlands there is a need to develop carrots in order to reach the planned ambitions regarding sustainability and energy neutrality. Many instruments are already in place, but the question is if these provide enough stimulation for the market actors to turn into reality (Krot & Smorenburg-van Middelkoop, 2009). Therefore this study calls to explore which carrots can work best.

The Paris-agreement means that also the Netherlands still has to cut down CO2 emissions with 80% by year 2050. For this to be realized changes, planning and implementation need to be set in motion quickly. These changes will not come about naturally and they demand support in the form of facility, legislative, public-private partnerships, subsidies and/or other financial stimulus (Planbureau voor de Leefomgeving, 2016).

Many carrots are used to encourage developers to do what they would otherwise be less inclined to do. Incentives can be developed to encourage development to a more sustainable direction (Lang, 2005). Aside from financial incentives, other types like design incentives also exist. Publicity can also function as an incentive for ambitious performance (Armstead, 2012).

The new reality asks for a different approach from governmental parties- one more focused on motivating. The role of the government should be to identify, create opportunities- business cases- based on the investment willingness of private parties. Per development they should facilitate, motivate and bring together when necessary (Bugge, 2016). Doing proper research and sharing knowledge with different parties can also steer developments in the desired direction. This can be seen as applying the tambourine measure.

One study suggests that a way to stimulate sustainable urban developments is to expand the role of the local government, without imposing centrally-defined, tick-box definitions of sustainability with a top-down approach.

Local planners in local contexts could then be able to tailor projects more closely to the needs of the key actors in order to reach a better urban sustainability (CL:AIRE, 2008).

Municipalities have an important role in managing the urban sustainability outcome. They are the level of government which shares the closest relationship to local industry actors. Because of this they can have an important part in stimulating and supporting the development sector in its contribution to fight climate change (Armstead, 2012). This key role is also supported by other academic theories on how municipal interventions can be a crucial element for the sustainable governance transition (Rotmans et al., 2000). By thinking outside the box municipalities can build capacity within their own organization and the industry in order to overcome barriers.

One interviewee from the Armstead (2012) study mentioned that the City of Malmo offers great support for sustainability as they understood the situation of interdependence 'we need them and they need us'. Another interviewee mentioned that the municipality needs to be more humble in its approach and promote mutual benefit instead of simply forcing developers to work towards the municipal goals through regulations.

Thus new forms of relationships are emerging. The power to shape the urban landscape is now more diffused, with a large number of private stakeholders involved in the decision-making process. Factors like division of responsibilities, role of private sector in policy implementation or mechanisms affect the sustainable urban outcome (Schremmer & Stead, 2009).

Another key factor becomes the importance of actors' behavior in order to achieve the sustainable goals. And for the policies to be implemented, they will need to be accepted by the key actors (Schremmer & Stead, 2009). Hence, the challenge is to identify how to increase this acceptability of policies through the right balance of incentives- carrots and tambourines.

3.6.3 STIMULATING AND CAPACITY-BUILDING

If governments wish to see more successful and sustainable places created, they must find ways to influence and change the behavior of the key actors in the development process. As the government is not wholly in control in democratic countries and cannot enforce its will on other actors, public actors have to use incentives in order to get the results they desire from private actors. Hence, the public-private relations are important to shape a sustainable urban environment. The government can seek out to achieve its sustainability policies by influencing the decision-making process of key development actors (Adams & Tiesdell, 2013). In order to do so, a wide array of policy instruments can be implemented.

It is difficult to understand why sustainable urban places are not created more consistently, especially taking into account that they are considered to be economically, socially and environmentally advantageous. And if the policies with sustainable targets are clear, how come these are not yet achieved- and actually quite behind? According to one study, the reason for this is that the tools used by governments are not effective and more suitable instruments need to be used in order to increase the level of implementation. Even though closely related to one another, this study does not seek to answer the effectiveness of policy instruments, but instead focuses on how instruments-and more specifically incentives- could make investment in sustainable urban developments more attractive for developers. This is more in line with a 'backward-mapping' approach suggested by Elmore (1987).

This approach chooses to first focus on the key actors in the so-called problematic situation and then seeking what instruments could best be used to influence their behavior, choices and actions. This is different than the more commonly known analysis 'front-mapping' approach- also known as the top-down approach- in which one first looks at the objectives and goals of the policies and then measure the outcome (Recesso, 1999). Supporters claim this approach leads to more effective support and implementation, but opponents claim that its fault lies in the fact that the top-down approach does not consider the actor as a key component in the policy analysis. Yet, it should still be mentioned that multiple factors affect the outcomes of policies.

In Elmore's backward-mapping approarch, the impact of instruments on the decision-making environment of the development actors become important, especially on the extent these can open up or close down opportunities for action. Therefore one might want to research whether an actor *wants* to develop higher-quality developments and calculate if that is *worth* doing. So while some instruments are targeted to change behavior by legislative forces, persuasive instruments can be effectively used to extend the array of instruments. In other words, the sticks may need to be completed by carrots and tambourines (Bemelmans-Videc, Rist, & Vedung, 2007). Similar to what is said in the previous sections.

Adams and Tiesdell (2013) have developed and tested an approach which categorizes policy instruments into four different types bases on how they affect the decision-making of development actors. These instruments can be used to shape, regulate, stimulate market behavior or build capacity in order to deliver more sustainable urban projects. But like previously said, in practice these types of instruments are often used together in order to achieve the objectives.

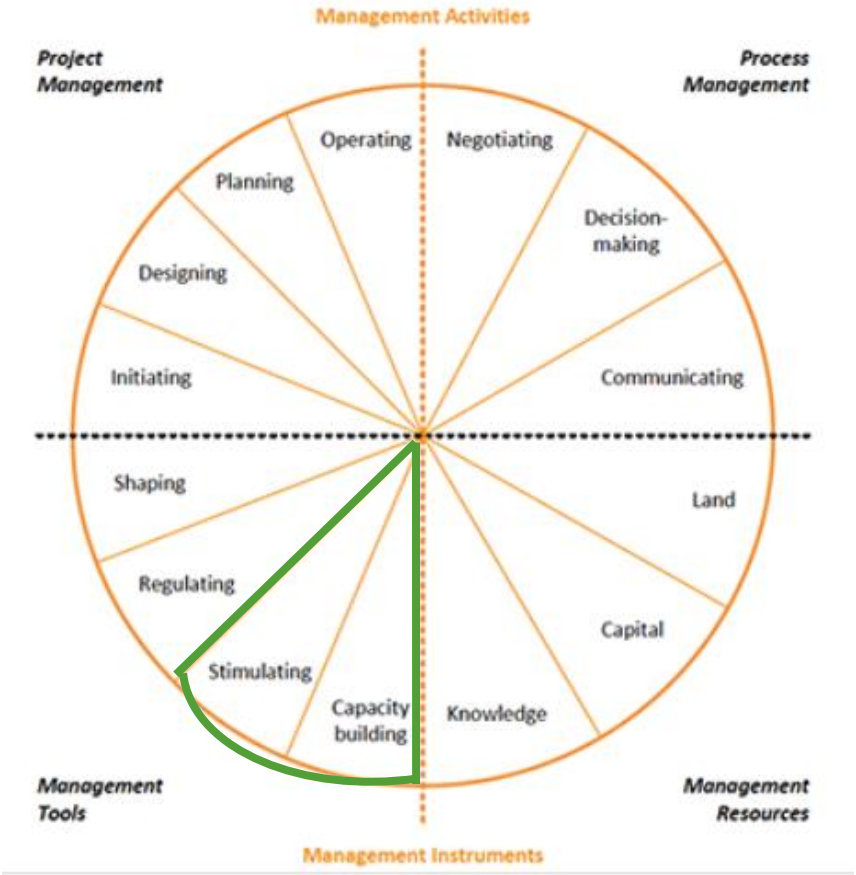

Figure 20 - Management tools (source: Heurkens, 2012)

The figure above illustrates the four types of management tools with the focus on the two tools which are most relevant for this research as they share similarities with the carrot and tambourines. But before a description of the four types will follow below (Adams & Tiesdell, 2013):

- Shaping instruments: To shape the decision environment of a developer by creating a broad context for market actions and transactions.
- Regulatory instruments: To limit the decision-making of actors by regulating or controlling market actions and transactions.
- Stimulus instruments: To expand the decision-making of the developer by facilitating market actions and transactions.
- Capacity-building instruments: To enable developers to operate more effectively within their decision environment.

As previously mentioned, this research focuses on the instruments which can make an investment more attractive for the developer. Hence, the stimulus and capacity-building instruments- the carrots and tambourines- are the most relevant for this study. Therefore some general aspects of these two types will be further elaborated.

Stimulus instruments:

- Direct state actions to stimulate new development in locations that would otherwise be avoided by market parties, such as reclamation, infrastructure provision, land acquisition and land disposal.
- Price-adjusting instruments impacting the estimated costs and revenues, such as development grants, tax incentives and project bonuses.
- Risk-reduction to overcome negative risk perceptions by ensuring accurate market information, stability, demonstration projects, environmental improvements, and holistic place management.

Capacity-building instruments:

- Capital-raising instruments to provide or facilitate access to development finance, including loan guarantees, revolving loan funds, and public-private partnerships.
- Market-shaping cultures, mindsets and ideas- looking afresh at cultural perspectives or ways of thinking.
- Market-rooted networks enhancing relations across the development spectrum.
- Market-rich information and knowledge about how quality can be influenced through market and development process
- Market-relevant skills and capabilities- developing human capital and enhancing the skills and abilities of key individuals and organizations.

Stimulus instruments increase the likelihood of the desired development being realized by making some actions rewarding to the particular development actors. They often tend to impact the financial appraisals. There are four main ways to encourage the developers. The first one is to directly involve the government to kick-start the development process, and the other three are more of indirect nature and seek to use the incentives that motivate the locations or type of developments in which the market actors are most interested in (Adams & Tiesdell, 2013). This can be done by price-adjusting, risk-reduction or capital-raising.

Capacity building instruments serve as a means of facilitating a better operation by focusing on the effectiveness of the people and organizations that are to deliver them (Adams & Tiesdell, 2013). Market-shaping cultures, mindsets and ideas, market-rich information and knowledge, market-rooted networks and market-relevant skills and capabilities are the focus here.

Thus in order to stimulate more sustainable urban developments, proper instruments should be available to incentivize the developers. To offer suitable incentives, the government must first understand the drivers and barriers affecting decisions of developers.

It is noted that in the studies used for this literature review there that carrots and tambourines are alike the stimulating and capacity-building tools mentioned by Adams and Tiesdell (2013). Both carrots and stimulating tools are mostly about the financial incentives, while the tambourines and capacity-building are more related to

information, people and knowledge. Furthermore, it was also noted that the stimulating and capacity-building tools-carrots and tambourines- are mostly to be applied by the governmental authorities.

3.6.4 CATEGORIZATION INCENTIVES

In the study of ECORYS, incentives have been categorized in three types; administrative, economic and reputational. The purpose of the classification makes it possible to analyze the different types of incentives and how they differ from each another.

The three main classifications of incentives are described below (Rademaekers et al., 2012).

Administrative: These incentives aim to stimulate companies by designing instruments that reduce burden of regulatory compliance. Some examples include:

- Reduced inspection frequency and permit extensions
- Favorable thresholds for administrative obligations

Economic: these incentives can influence the costs and benefits of developments. The most common ones are:

- Reduced charges
- Taxes (cost-covering, incentive and fiscal)
- Subsidies
- Public funding
- Access to private funds
- Lower insurance premiums

Reputational incentives: these motivate companies to change their behavior as a result of the value they put on their visible performance and perception among the outside world. Examples include:

- Publications, sustainability indices and benchmarking tools
- Awards and recognition

According to the study of ECORYS, administrative incentives are most effective when they are automatically applied and when the burden reduction is tangible. The benefits of these incentives must be clear to the actors and include examples like reduced operational time through reduced regulatory inspection or cost-reduction of regulation.

In general all private companies find economic incentives attractive. These incentives can offer many possibilities to enhance and reduce barriers to stimulate sustainability. The acquired revenues by economic incentives can have an important impact on its continuing effect.

Reputational incentives can be useful for improving poor performance and rewarding good ones. The importance of reputation has increased rapidly and this can be seen in the number of reputational incentives. Because of its increasing popularity, companies also start recognizing the financial risks associated with poor reputation. Criticizing unsustainable companies can prompt action, while sustainable companies can benefit from differentiating themselves with a positive image. The increasing use of sustainable certifications is one way to compare companies with each other and makes benchmarking possible.

Some general findings about the effectiveness of incentives based on the findings of ECORYS are listed below:

- **Not all incentives have the same effect**: Within an organization there are many factors- both internal and external- which can affect the behavior and decision-making.
- **Incentives affecting profitability and competitiveness are effective, with incentives whose benefits outweighs the costs likely to be most popular and effective**: Decisions to invest in sustainability are analyzed based on economic advantages versus costs of participation. That means that the relative level of benefits opposed to costs is of crucial importance. These do not necessarily have to be in monetary

terms, but can also be in how an incentive affects the companies' strategies and potential future earnings- especially relevant to reputational incentives.

- **Reputational incentives seem to be less of concern for smaller actors**: Feedback received during the interview suggested that SMEs lack interest to improve their green image thus indicating that company sizes can also affect the outcome of incentives. This could mean that bigger developers have more reputational incentives than smaller ones.
- **Mix of incentives**: can mutually underpin one another by enhancing the effectiveness and efficiency of each other. There is limited literature found in providing insights into incentives mixes. Nevertheless, it is good to keep this in mind.
- **Administrative incentives are less widely used** than economic and reputational ones- despite administrative burden being a major concern for most companies.
- They are **best applied to well-known schemes**; like for example certifications like BREEAM.
- Administrative incentives are **unlikely to lead to systemic large scale improvements** because of their complex legislative nature: large scale change is less likely to occur due to long standing legislative frameworks.
- **Economic incentives can be very effective element of an incentive mix**: these are often seen as the simplest and most logical and most common incentives. Simple and tangible short term benefits ingredients to its success.
- **Larger firms tend to be more proactive**: due to their investment and capital they have a higher need to manage their sustainability performance and reputation.
- **Reputational incentives have increased in recent years**: part of this is because they can be introduced at low cost and provide a way for companies to project positive internal and external image.
- **Reputation is among the most important and effective drivers**: findings of the study confirm companies take this very seriously and its importance has grown in the past years.
    - Power of reputational driver varies by company size: larger companies tend to be more responsive.
- Factors in the success of reputational incentives include **simplicity, comparability, transparency, inclusiveness and communication**: the incentives should be simple, with a **methodology** that is transparent; this enables understanding and comparison possible.
- **Reputational incentives are most effective when they are combined with economic incentives**: this combination provides a first step in stimulating sustainable development- first by reputational incentive- and then backing it up with economic justification.
- **Challenges revolve around trust and credibility**: green washing is an example of companies pretending to be green when the reality is different.
- **Impacts on profitability and competitiveness are important**: these will remain important factors companies take into account when making decisions.
    - **Being best-in-class or first can be a driver**, especially for larger companies: margins between success and failure are relatively small for larger companies and therefore they can be more strategic about remaining competitive- thus creating more room for incentives to work.
    - Important to focus on economic benefits to overcome **short term minded actors**: Focus on efficiency as a way to decrease costs and improve competitiveness.

Based on the findings of previous sections, one more category can be added to administrative, financial and reputational incentives. The capacity-building related incentives are missing in the study of ECORYS. Furthermore, as legislative have a wider context as opposed to only administrative incentives; the term legislative incentives will be used instead. This leads this research to distinguish roughly four main types of incentive categories: financial, reputational, legislative and capacity-building. The table below shows the four categories with examples.

Table 6 - Types of incentives based on literature findings (own ill.)

Type of incentives	Examples
Financial	• Reduced costs • Taxes • Subsidies • Public funding • Access to private funds • Total life cycle involvement • Risk reduction • Public investment
Legislative	• Strong vision/policies on sustainability • Reduction in legislative burdens like obtaining permits; more efficient and faster process • Integrating BREEAM within planning framework to make process more efficient and faster • Collaboration between public and private
Reputational	• Publicity • Awards and recognition • Marketing • Benchmarking • Improved profile / branding
Capacity-building	• Facilitate access to development finance • Public support for new ideas / cultures • Knowledge sharing / transferring • Bringing stakeholders together • Having the necessary skills and expertise

3.6.5 THE RELATION BETWEEN DRIVERS, BARRIERS AND INCENTIVES

The research has discussed the main drivers and barriers of developers. Subsequently, policy instruments which are used by governmental authorities in the form of stimulating and capacity-building have also been discussed. In the next section the role of incentives in relation to the drivers and barriers will be discussed.

3.6.5.1 INCENTIVES AND DECISION-MAKING

This section is focused on incentives as motivation for sustainable urban developments and to gain understanding on how developers can be incentivized to invest more sustainable urban developments.

In the past years companies have increasingly been taking measures to improve their sustainability performance, whether with strategies, reports or certifications. This shows that many companies accept the sustainable business case seeing that being sustainable results in benefits of cost savings, risk reduction, marketing opportunities and more (IEMA, 2016). Yet, it is also associated with high initial costs, which prevents companies as well from taking this step- causing barriers to becoming more sustainable.

This brings up the question of what makes companies decide to perform more sustainable and how far are they willing to go in these types of developments? Do they only want to achieve the required minimum or are they

willing to go more beyond? These questions help answer how incentives affect the decision-making and how they can make drivers more powerful to invest in sustainable areas or to overcome barriers.

In general developments continue to be unsustainable (Bonvoisin, 2009). Barriers are leading development decisions to be more unsustainable, but by applying incentives the barriers can be removed and thus lead to an increase in sustainable developments. But besides overcoming the barriers, incentives can also further empower the drivers. This can lead to even more sustainable developments than when incentives are only targeted to overcome barriers. The figure below gives an overview of how the ambitions can be influenced by incentives in favor of more sustainable development.

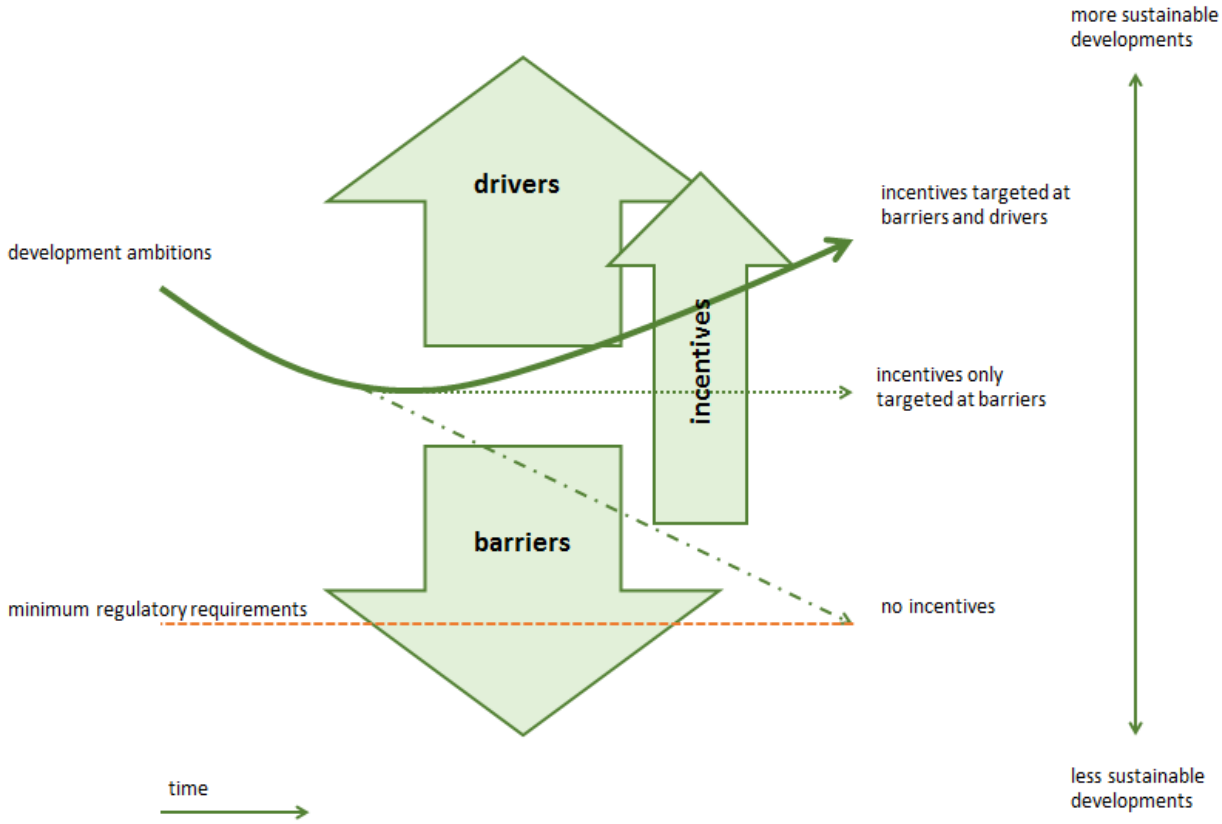

Figure 21 – Conceptual model of the relation between decision-making drivers, barriers and incentives (adapted from UNECE, 2009)

The figure above gives an indication of how incentives can affect the decision-making process for sustainable urban development projects. A development may start with high ambitions for sustainability- higher than the minimum which is required but due to lack of incentives and other barriers encountered, developers decide to lower these. Even though it is not the purpose of this research to investigate the decision-making process and criteria of developers, it is still relevant to keep some things in mind. One is that the decision-making is coming from a private developer's personal perspective. For example this means that a barrier will only be overcome if it low enough to be acceptable by the developer and the developer is convinced by this (Reddy, 2013). This is particularly important when it comes to risks as these are difficult to assess. Reddy (2013) explains that barriers could reduce the likelihood of a positive decision by developers and therefore reducing their willingness to invest in sustainable development projects or sometimes even flat out cause a negative investment decision. This indicates that some barriers are more influential than others- and the same can be said for drivers. He mentions that in practice there are usually several barriers and drivers contributing to profitability, feasibility or a combination of the two. The final outcome depends on whether the barriers are overall stronger than the drivers in the developer's mind in terms of making the decision (Reddy, 2013).

A development may start with high ambitions for sustainability- higher than the minimum which is required, but due to lack of incentives and other barriers encountered developers decide to lower these.

However, the impact of drivers and barriers depend on how these are perceived by the developers. For example, if a developer is not aware of a particular factor, or simply determined to proceed to invest, the particular barrier does not influence the decision (Reddy, 2013). This makes it apparent that barriers and drivers are associated with the perception of the decision-maker- in this case the developer- and the value that he or she attributes to this perception (Cagno, Worrell, Trianni, & Pugliese, 2012). Hence, a barrier and/or driver could be real, but still has no effect on the investment decision. Both Reddy (2013) and Cagno et al. (2012) appear to agree that the reality is only important as far as the developer considers it relevant, indicating that a difference in behavior of two different developers cannot depend on the real value of the barrier or driver, but rather on the different perceptions. This is interpreted in the figure below.

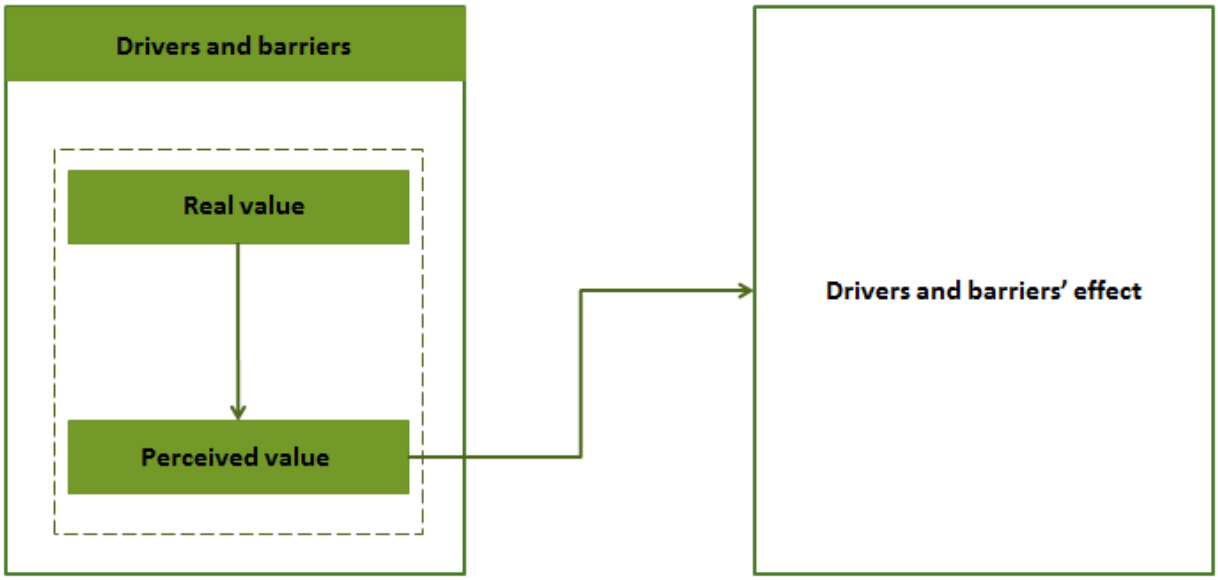

Figure 22 - The real and perceive value of drivers and barriers and their effect on decision-making (adapted from: Cagno, Worrell, Trianni & Pugliese, 2012)

3.6.5.2 HOW INCENTIVES INFLUENCE DRIVERS AND BARRIERS

In the past there was a focus on hard regulatory drivers-sticks. But nowadays, there is an increasing recognition that softer tools achieve results. This is also in line with moving the focus away from the stick and more towards the carrots where businesses can be incentivized to go beyond the minimum standards and see their own self-interest in improved sustainability (Global Environmental Management Initiative, 1999).. Yet, it is important to note that incentives are not intended to replace regulations, but rather complement it (Rademaekers et al., 2012).

In general, incentives empower drivers and reduce barriers. Their role is to change the weight of the drivers and barriers. Companies can be incentivized to act more sustainable by making the drivers more powerful by for example improving the potential for financial gains, or offering more opportunities to present a positive company image; and/or by reducing the barriers, for example by providing suitable information (Rademaekers et al., 2012). In this way, incentives can help developers with decision-making to invest in sustainable urban development.

Thus incentives complement both drivers and barriers, acting to both accentuate and empower drivers whilst minimizing or mitigating the influence of barriers. Therefore to understand the potential role of incentives, one must also understand the drivers and barriers as these are what the incentives are trying to influence. Moreover, external and internal factors can lead to numerous drivers and barriers affecting the decision-making or behavior (Rademaekers et al., 2012).

In general, incentives empower drivers and reduce barriers. Their role is to change the weight of the drivers and barriers (Rademaekers et al., 2012).

That incentives influence the decision-making by empowering drivers or eliminating barriers is also supported by Reddy (2013). He too makes a distinction between incentives which stimulate drivers of private developers and incentives which reduce, remove or overcome the barriers to sustainable development. Incentives usually have a primary objective to remove or reduce barriers which can be referred to as a targeted barrier removal effort. The second approach- empowering the drivers- has the primary objective to maximize the profit.

The following figure illustrates how incentives are related to drivers and barriers by showing how incentives can empower drivers to a positive outcome or overcome barriers to prevent a negative outcome for sustainable development projects.

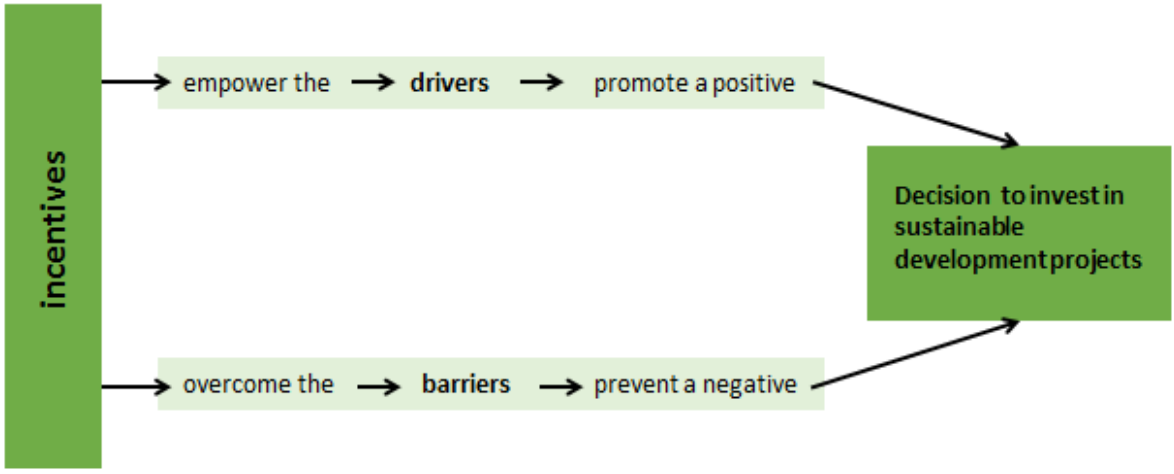

Figure 23 - How incentives influences drivers and barriers to sustainable development projects decisions (own ill.)

3.6.5.3 LINKAGE BETWEEN DRIVERS, BARRIERS AND INCENTIVE TYPES

This section combines the classification of the drivers, barriers and incentives in relation to each other and set in the wider context.

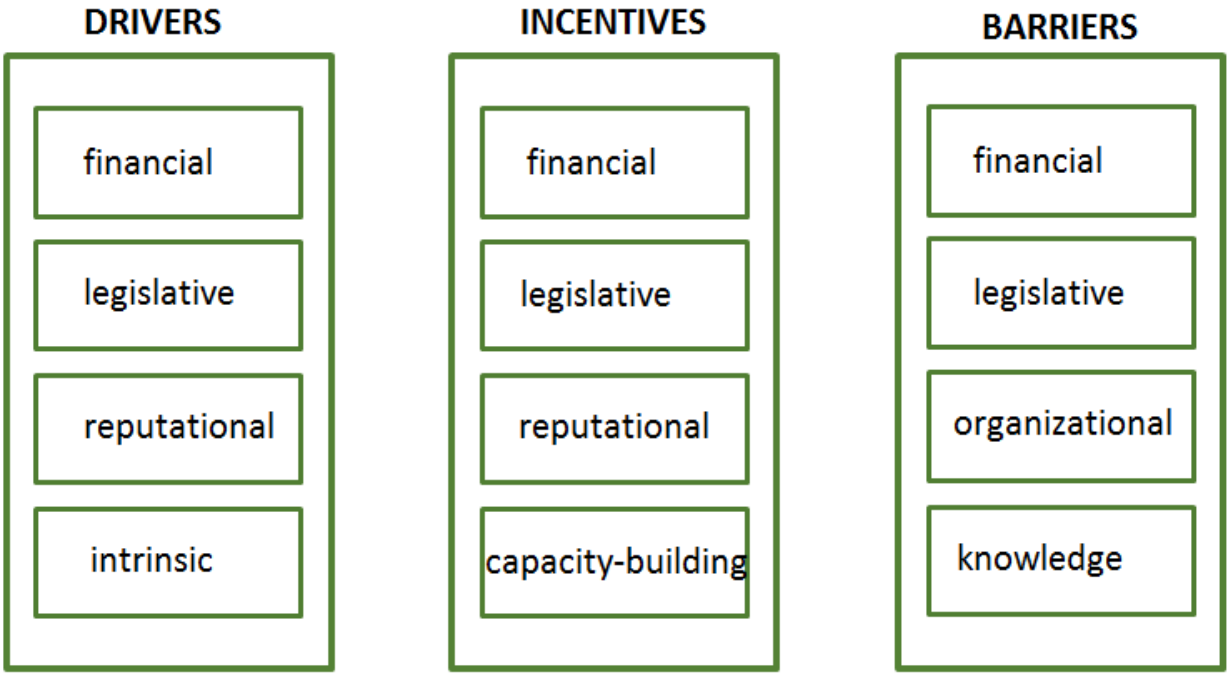

Figure 24 – Categorization drivers, incentives and barriers (own ill.)

The following figure shows a complete overview of the drivers, incentives and barriers in a wider context.

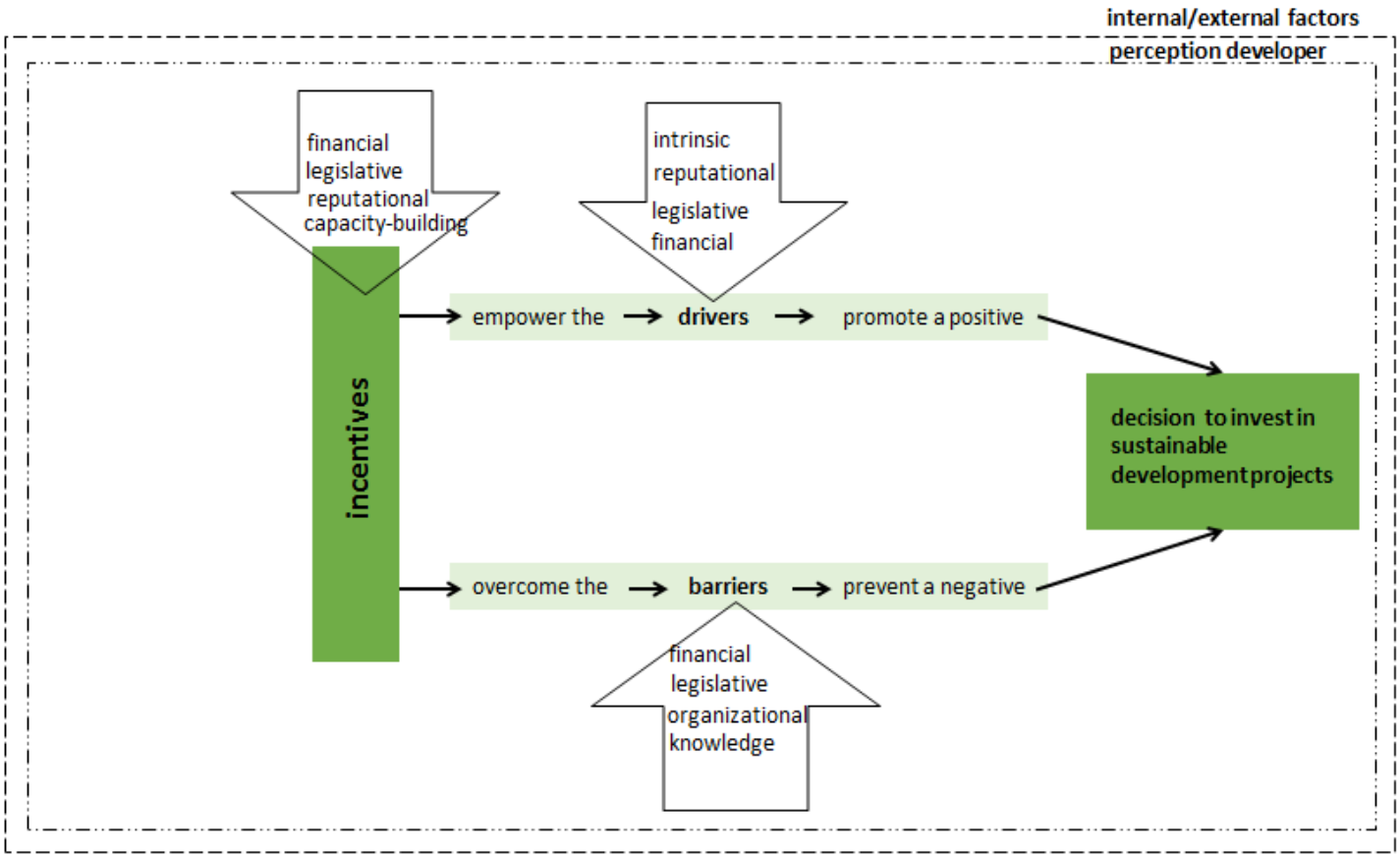

Figure 25 - Incentives, drivers and barriers in wider context (own ill.)

4 EMPIRICAL FINDINGS: CASE-STUDIES

In this research the case-studies are used in order to answer the research questions. This is done by analyzing the three selected case-studies. The chapter starts with a detailed description of the case-studies framework and approach, which is followed by the analysis of the cases. The comparison and conclusion of the case-studies are in chapters 5 and 6.

4.1 CASE-STUDIES FRAMEWORK

The selected case-studies are Ecomunitypark in the Netherlands, Masthusen in Sweden and MediaCityUK in England. All cases are compared based on stakeholders and partnerships, drivers, barriers and incentives. The findings are based on literature studies and semi-structured interviews with the relevant actors and experts within the field.

4.1.1 OBJECTIVES AND METHODOLOGY

The case-studies have an important role in this research as their findings are used to be able to answer the sub research questions, which in turn will help answer the main research question. Because multiple case-studies are chosen, the sub questions will be answered for each. Each sub question represents a domain and these domains reappear in the structure of the case-studies and the interview questions with professionals and experts.

The first sub question is: *How are the stakeholders' relationship and partnership structured within the development?*

This question represents the **stakeholders and partnership** domain which is derived from the public and private relation in the problem analysis and are key role of the urban governance. Sub elements which can help answer this sub question include:

- Interests of the actors involved
- Structure of the urban governance
- Use of BREEAM during the process

The second sub question is: *What barriers were encountered during the process of sustainable urban development?*

The domain **barrier is** the key theme this question. Also here barriers links back to the difference in interests of public and private parties mentioned in the problem analysis. As this research is more from the perspective of the private party, the focus on the barriers will be mainly from the developer's side. Naturally, barriers from the public side which affect private parties will be discussed. Any barrier- big or small- during the development can be analyzed for this question.

The third and last sub question is: *What incentives were applied during the process of sustainable urban development?*

This sub question is about the domain **incentives**. Similar to the previous two, this one also derives from the problem analysis and conceptual model.

The objective of the case-studies is to gain more insights into how developers can be stimulated to invest more in sustainable mixed-use urban development. As there is not many research done on this subject yet and because of its explorative character, case-studies are conducted to gather more data around this topic by using real time

practices. The findings of the case-studies are used to help answer the main research question. By comparing multiple case-studies with each other useful lessons and/or insights can be gained from other countries.

The case-studies will be conducted by performing literature studies based on available documentation about the case-studies. To test the documentation and be able to go more in-depth, semi-structured interviews will also be conducted with the developers. To gain additional information and to reflect upon the interview findings of the developers, semi-structured interviews will also be held with public authorities involved in the development process of the case-studies. Thus the findings of the case-studies are the result of documentation, interviews with private developers and interviews with governmental authorities.

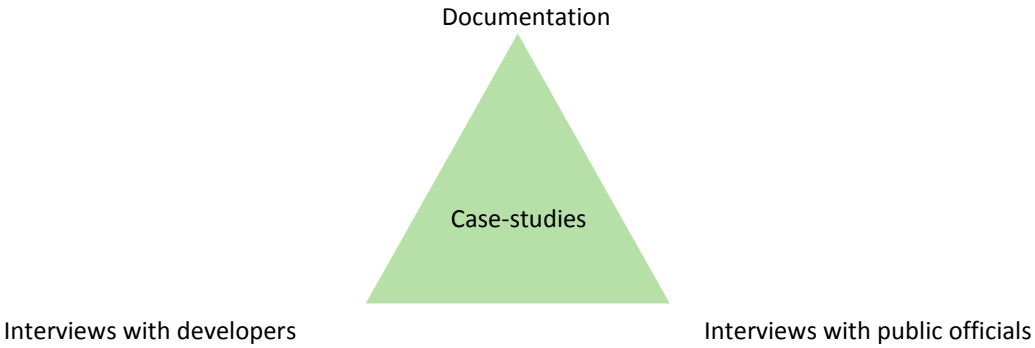

Figure 26 – Triangle of case-studies data collection approach (own ill.)

4.1.2 CASE-STUDIES SELECTION

Keeping the time frame of the research in mind, a total of three case-studies are selected; one in the Netherlands, one in Sweden and one in the UK. In order to facilitate and validate the definite case-study selection, a set of pre-defined criteria is made. The goal of the case projects is to analyze the drivers, barriers and incentives within the projects. In order to make comparisons it is best to select one Dutch project and at least one international project (Otgaar, 2016).

The reason for cross-cultural comparison is because all developed countries are facing similar challenges and they are seeking ways to gain the competitive edge above another. Analyzing and learning about other countries and their systems is part of this process. Moreover, the time to reach the ambitions is ticking by fast and other developments like population growth are also pressing cities to quickly adapt to the new set of demands. Therefore, it can be useful too if effective strategies can be shared between countries. Yet, even the best-practices cannot just simply be copied. Also they need to be adjusted to the specific needs of the area, city or country.

Based on the literature study findings in the theoretical framework, the following criteria have been applied for the selection of case-studies:

- The project is defined as a private-led sustainable urban development
- The project is in-process or has already received a BREEAM certification for its sustainability performance.
- The project includes participation of both public and private parties
- The project are on new/empty lands (no redevelopments)
- The project is a mixed-use development*

*Due to the lack of mixed-use certified urban developments in the Netherlands, a single-use case-study can also be selected in order to learn more about why these are more popular than mixed-use and how these two developments differ. The same holds for the lack of certified single-use developments abroad.

As research on this field is relatively new and urban developments greatly vary in shape and size, perhaps the case-studies selected will not be completely comparable based on the criteria above. The small selection pool of existing case-studies also makes it more challenging to find similar cases.

In total there are 25 projects which have been certified with BREEAM for urban development. From these 25, 5 projects are in the Netherlands. Out of these five, four are business parks and one is a mixed-use development. The remaining twenty projects are located in UK, Sweden and Iceland. The complete list of BREEAM projects which have been certified for urban developments can be found in the appendix. That BREEAM urban assessment varies by name, criteria and other details per country is taken in consideration, however for the ease of reading and as it is not the focus; BREEAM will be generally applied.

As mentioned before, there is only one development project of mixed-use which is BREEAM certified in the Netherlands; Locatie Valkenburg. But this case varies too much from the criteria as it is a public-led urban development and it is still in a too early state too- the developers have not even been selected / participating yet. So therefore, it is not selected and that leaves the pool of BREEAM urban certified cases in the Netherlands left with four business parks. As the research values the perspective of a Dutch case versus international cases, an exception has been made to include the single-use Ecomunitypark. This case does not meet the criteria of mixed-use as it is a business park, but as it meets all the other requirements in the list, it was analyzed. Furthermore, the core of the research is much more focused on the process itself than the actual urban product. So to still get a better grip on certified urban developments in the Netherlands, Ecomunitypark is chosen as the Dutch case-study because it also received the highest rating of BREEAM compared to the other single uses in the country. The Masthusen case in Sweden and MediaCityUK in England were the first of their kind in each country and can be justified as best-practices.

Even though these two cases differ with Ecomunitypark in function, comparing them could lead to insights into why certified business parks are more common than certified mixed-use in the Netherlands.

Ideally then, a mixed-use and a single use certified project would also be chosen per country of the international case-studies too. However, abroad the opposite is occurring- certified mixed-use projects are far more common than single use certified urban developments. Actually, not one single use meeting the criteria could be identified in other countries. This strengthens the necessity to compare single use and mixed-use case-studies.

Mathusen in Sweden is chosen as the second case-study because it is mentioned often as an exemplary case and also because it is the first of its kind to be applied elsewhere than UK. The third case-study is MediaCity UK; the first BREEAM certified urban development in the UK and also regarded as a successful development. Both of these case-studies also meet the list of criteria. The basic information of the case-studies is set in the table below.

Table 7 - Table with basic description of the selected case-studies (own ill.)

	Project	Developer	Location	Scale	Function	Space division
1	Ecomunitypark	Ecomunitypark	The Netherlands	17 ha	Business park	45% green and water, 55% built
2	Masthusen	Skandia Fastigheter**	Sweden	11 ha	Mixed-use	70,000 m^2 offices 20,000 m^2 retail/services 700 residential units
3	MediaCityUK	Peel Group	UK	81 ha	Mixed-use	65,000 m^2 80,000 retail/leisure 2,300 parking units 200 beds hotel plaza for 4,000 people

**During the development also known as Diligentia. Skandia Fastigheter will be further used.

4.1.3 CODING THE VARIABLES FOR COMPARISON

The cases are analyzed based on the categorization of the drivers, barriers and incentives which were conceptualized in the theoretical framework. These categorizations of the variables barriers, drivers and incentives are to serve as a guide line to make the comparison of findings between the cases possible. However, as it is still an explorative research, not all variables have been categorized and thus leaving room for interpretation. This is particularly the case with the domain regarding stakeholders and partnerships as these are often quite unique due to context. Moreover, there will also be room left for variables which appear during the empirical study. The flexibility and openness of semi-structure interviews fits well with this too and perhaps variables which were not considered initially also turn out to be relevant. This could lead to an overall better understanding of how incentives can be used to stimulate developers. The additional variables that are not mentioned in the table below but which appear to be relevant as well will be indicated with *italic* style in the comparison chapter tables.

The variables of the drivers, barriers and incentives will be determined by checking to which category of variables they fit best and by using the examples of these variables found in the literature review. The identified variables are coded in the text with page numbers and one of the following codes S1/S2…, D1/D2…, B1/B2…, I1/I2… and so on. The letter S stands for stakeholders, D stands for drivers, the B for barriers and I for incentives. The codes in the text can be later found in the comparison table in chapter 5. This allows for transparency and validity of the results for the reader.
The following table shows an overview of the variables. Some general variables like type of developer and development are also added.

Table 8 - Variables for comparison empirical findings (own ill.)

Type of developer	**Name**	**Single/multiple**	**Type**	**Duration involvement**		
Variables	[…]	Single or multiple	Traditional, developer/constructor, developer/investor, developer/financer, independent or other	Short term: until realization or long term: until operation		
Type of development	Type	Scale				
Variables	Single-use or mixed-use	[…] ha				
Stakeholders	Key stakeholders	Public or private-led	Role municipality	Collaboration	Use of BREEAM	Other key stakeholders
Variables	[…]	Public-led or private-led	investor, facilitator, regulator	[…]	[…]	Any in list of stakeholders
Drivers	[…]	[…]	[…]	[…]	[…]	[…]
Variables	Financial	Legislative	Reputational	Intrinsic		
Barriers	[…]	[…]	[…]	[…]	[…]	[…]
Variables	Financial	Legislative	Knowledge	Organizational		

Type of developer	Name	Single/multiple	Type	Duration involvement		
Incentives	[…]	[…]	[…]	[…]	[…]	[…]
Variables	Financial	Reputational	Legislative	Capacity-building		

The selected case-studies can also be classified as front-runners examples. Ecomunitypark has the highest rating for BREEAM Gebiedsontwikkeling, MediaCityUK was the first BREEAM Communities certified development ever and Masthusen was the first certified for BREEAM Communities outside of the UK. The developers of these projects are the early adopters of BREEAM certification for urban areas and therefore gain also a lot of publicity for doing so. They are developments considered best-practices.
The total list of interviews for the case-studies is:

Table 9 - Table of interviews (own ill.)

	Project	Title	Interviewee	Date
1	Ecomunitypark	Project manager Ecomunitypark	Bert Krikke	September 26 2016
2	Ecomunitypark	Gemeente Ooststellingwerf	Bart Sieben	October 18 2016
3	Ecomunitypark	Project manager ECOStyle	Deborah Goeree	October 18 2016
4	Masthusen	Project manager Skandia Fastigheter	Anna Barosen	October 21 2016
5	Masthusen	City Council of Malmö	Tor Fossum	October 14 2016
6	MediaCityUK	Project manager MediaCityUK (Peel Media)	Mark Robinson	October 24 2016
7	MediaCityUK	Salford City Council	Chris Findley	November 1 2016

It can be noticed that Ecomunitypark has three interviews and that is because of the importance of the initiator ECOStyle in this development.

In summary comparing cases from UK, the Netherlands and Sweden can deliver interesting insights as these countries are in certain fields comparable, but yet can differ greatly by their institutional landscape for urban governance. As it is not the main purpose of this research, comparing the institutional differences between the countries will not be a focus for the following sections. To still gain a better understanding of the institutional contexts, see the appendix.

4.2 ECOMUNITYPARK

This section will analyze the literature and interview findings for the case of Ecomunitypark. The stakeholders, drivers, barriers and incentives are identified by using the coding method described in the previous section. It exists of combination of page number and S1/S2…, D1/D2…, B1/B2…, I1/I2… and so on. The letter S stands for stakeholders, D stands for drivers, the B for barriers and I for incentives. The codes in the text can be later found in the comparison table in chapter 5.

4.2.1 CASE DESCRIPTION

Figure 27- Ecomunitypark (source: http://www.friesemilieufederatie.nl/wat-doen-wij/mens-en-natuur/ecomunitypark/)

Ecomunitypark is situated in the north of the Netherlands in Oosterwolde, Friesland. The area of this business park exists of 17 hectare and is situated at the edge of the city center. The goal of the project was to develop the most sustainable business park in the Netherlands where businesses could establish in a park-like landscape (Jansen & De Graaff, 2014; Ministerie van Infrastructuur en Milieu, 2014).Business owners, research institutes, schools in the field of bio-based society and sustainability are wanted in this park. The initiative was taken by Anne Jan Zwart, business owner of ECOStyle, he bought the land and wanted his company to also be established there (Dijkshoorn-Dekker et al., 2014). The development finances were done by Ecomunitypark B.V. and by traditional investors such as Rabobank. The Ecomunitypark B.V. had a leading role throughout the process. Ecomunitypark sets itself apart by how it is innovative in the way they focus on bio-based economy and the way knowledge and experience is shared between the parties (Jansen & De Graaff, 2014). This is especially interesting with regards to their relation with the local economy and educational institutes.

Ecomunitypark has set itself apart on both the Dutch and international level as it was the first in 2013 in Europe to obtain a BREEAM-NL Gebiedsontwikkeling Outstanding performance certificate of 5 stars (Ministerie van Infrastructuur en Milieu, 2014).

The program of the business park exists of three schools, an information center, restaurant, and a vegetable and herbs garden. In December 2015 about 10.000 square meters were in development for buildings and 43.000 square meters still remaining to start development (Tenkink, 2015). Sharing facilities and the sustainable profile were important components to the business model in Ecomunitpark (Jansen & De Graaff, 2014).

One of the interviewees for this case-study was project director Bert Krikke from 4THECITY who was in charge for leading the development process on behalf of Ecomunitypark B.V.. He worked on the development for three years and was responsible for the total concept for sustainabilty in the plan (Krikke, 2016).

The second interviewee was with Deborah Goeree, on behalf of Anne Jan Zwart as the owner of ECOStyle. She has worked closely with Anne Jan Zwart during the process and is since more than 1 year officially part of the team as a project employee.

The third interview was held with Bart Sieben from the local municipality of Ooststellingwerf. He was the project manager in this development process from the municipality side. He was seen as a central figure within the municipality and was responsible to collaborate with ECOStyle to see how the concept of Ecomunitypark could be further developed in a sustainable manner.

4.2.2 STAKEHOLDERS AND PARTNERSHIPS

For the case of Ecomunitypark the following actors were particularly important; Ecomunitypark B.V., ECOStyle, municipality of Ooststellingwerf and the province of Friesland. These parties work closely together in the development process.

An extended list of other stakeholders in the process include: Stenden Hogeschool, Nordwin College, Hogeschool Van Hall Larenstein, Ecomunitypark Owners' Association, Ecomunitypark Management, nearby neighbors and neighborhoods, established (or soon to be established) companies within the business park, design team, research institute, Ecomunity Center, Rabobank, Powerhouse Company, Movares, Interra, Ekwadraat, Deerns and 4THECITY.

The development process came about when Anne Jan Zwart, owner of ECOStyle, was looking for a new location to expand the business. In this case ECOStyle is a company within the Ecomunitpark. ECOStyle's business includes sustainable gardnening and products for animals **(S1-p.60)**. Deborah Goeree explained in the interview that ECOStyle and Ecomunitypark sound alike and both were initiated by Anne Jan Zwart, however they remain two separate entities (Goeree, 2016).

As the location of ECOStyle became too small, the owner bought 17 ha of land in Oosterwolde with the idea to create a sustainable business park. The land was bought in 2008 and is owned by Anne Jan Zwart. Before buying the land, Anne Jan Zwart was already in contact with the municipality and when he said that he was looking for land, the municipality suggested two adjacent plots from former farmers (Goeree, 2016).

According to Bart Sieben, it was the municipality who suggested the use of BREEAM for this urban development. They had to convince the initiator that such a certificate was necessary in order to demonstrate the level of sustainability in the area. Sieben mentioned that the certificate also helped setting the framework for the development, measure sustainability and provide guidelines **(S2-p.60).** When they started the process they had to work with the first version of the BREEAM-NL Gebiedsontwikkeling, so a close collaboration with the Dutch Green Building Council was also important. Sieben states though that he feels that such a suggestion is the job of the municipality; to inform the private parties (Sieben, 2016). Particulary since a lot is unknown about sustainability in this field. Municipalities can help a lot with their knowledge and expertise. Communication is therefore also important (Sieben, 2016).

Moreover, in this case it was a private-led development and private initiatieve- but not from a traditional developer . So therefore the municipality had to apply their knowledge concerncing landscape, legislative issues and other aspects which appear in a development process. With each in their own role of public and private, the municipality had helped by working on the concept and vision and offering their knowledgeable input when necessary (Sieben, 2016) **(S3-p.60)**. Together, the parties also worked on the public documents like structure, vision and zoning plan. These were linked to the master plan which was also set up together.

During the interview with Bert Krikke, this strong collaboration of public and private was also expressed as he mentioned that together with both the municipality and province, they came up with the concept and how to integrate this in the agricultural landscape with nearby business parks. He mentioned that working on the structure vision and zoning plan happened on a one-to-one level and they felt like they could contribute a lot to

the plans as well **(S3-p.60)**. It has been a triangle between the municipality of Ooststellingwerf, the province of Friesland and the Ecomunitypark (Krikke, 2016). Krikke also believes that this close partnership has resuledt into a smooth development process where all decisions were made together.

Another remarkable aspect in the case of Ecomunitypark is how the collaborating actors decided from the beginning to make sustainability an important aspect of the area and to agree to take a collective responsibility for this (Dijkshoorn-Dekker et al., 2014). Solely one design team was responsible for the buildings and landscape of the business park. The purpose of the design is to focus on the entire design of public space in order to enhance the experience in the area and give the park a uniformed look. Related to the physical appearance of the park, the structure vision of the had as precondition that the area be 50% green and water and the other 50% built (Dijkshoorn-Dekker et al., 2014). In the end the park has about 55% green and water, but more on this process will follow later in the section of barriers.

The business model applied is park management and works as follow; energy (in the form of ESCO), land development, shared facilities (including information center, reception, meeting rooms, restaurant and space for independent entrepreneurs and small office-users) are all included and integrated in the plan **(S4-p.61)**. The user chooses a land and pays based on the to-be realized square meters GFA. A building lease is given for the land and the half meter area around the building, the rest of the public space is from the Owners 'Association (VVE). This is done to manage the park collectively. Users of Ecomunitypark pay the Owners' Association a park-and facility management and services fee. The facility management is done under the supervision of Ecomunitypark Management. All companies situated in the park can make use of the shared facilities and in that way use their private space more efficiently. There is also an Ecomunity Center which has an educational purpose and is to inform clients and visitors about the park concept, sustainability and the bio-based society (Jansen & De Graaff, 2014). This way of unburdening the end-users and lowering the total cost of user ship by for example sharing facilities and applying benefits of scale is typical for park management. This type of area management is often applied to enhance and maintain the quality of the environment in a long time period (Ministerie van Infrastructuur en Milieu, 2014). Goeree mentions that the park management is done by Ecomunitypark B.V. while ECOStyle continues her core business. Ecomunitypark B.V. also remains owner of the public realm **(S5-p.61)**.

Moreover, there is control over aspects like form and materialization of buildings and a minimum standard for buildings to obtain BREEAM Very Good is set, otherwise one cannot establish itself in the park (Krikke, 2016).

At last, another interesting approach in the process was to focus strongly on the end-results. Together with the municipality and province, the parties decided upon a process approach which was steered towards the final product and not on organic urban development. One of the main reasons for this approach was because it made the project stand out during a time with difficulties in the business market in the north of the Netherlands. Other reasons included giving more meaning to the ambitions of investors, business owners and municipal parties by making the content of these ambitions more tangible and specific, and this way create value for the long term (Krikke, 2015). Sieben adds that a clear end product helps the parties to not stay too long stuck in the concept phase. Naturally though, some level of flexibility is to be maintained about for example the exact locations of buildings.

4.2.2.1 DRIVERS

This section will go deeper into understanding what factors drove the stakeholders in this development process.

As mentioned before Ecomunitypark is a private-led development. This entails that the private market party invests and is accountable for the risks and is responsible for the total business case (Ministerie van Infrastructuur en Milieu, 2014). The owner of ECOStyle bought the 17 ha land in the initial phase as the risk-bearing party, led the land development and is a future end-user. Altogether, this makes ECOStyle the most important actor in this development and interestingly as the initiator he personally values nature and green already and from this personal interest he wanted to invest in a green business park and include others in this project (Dijkshoorn-Dekker et al., 2014) **(S1-p.61)**. Findings from the interview with Krikke also revealed that Anne Jan Zwart wanted a

sustainable business park as he is someone who is always trying to be sustainable. He felt like the societal responsibility should play an equally important role as other factors (Tenkink, 2015) **(D1-p.61)**.

Thus the sentence above illustrates that Anne Jan Zwart as the initiator had a personal, intrinsic drive to establish his company ECOStyle in a sustainable environment. Yet, he also looked at the possible services and values that green can provide and which parties could benefit from this higher-quality experience. Not to forget, he would be himself established in this park with ECOStyle as an end-user and being able to settle in a sustainable environment had benefits for ECOStyle as a business. So, it was not only about sustainability, there was also a commercial side to it though (Krikke, 2016)**(D2-p.62)**. He also gives this as one of the reasons the project succeeded; because they were able to find the balance between sustainability and economy.

Furthermore, sustainability was also an important way to differentiate the project it as Ecomunitypark became a business park which is combined with education and focused on a bio-based economy.

The public parties also had an interest in this sustainable concept. The municipality of Ooststellingwerf found it valuable to use BREEAM-NL Gebiedsontwikkeling as the certificate also focuses on creating job opportunities in the area and can therefore contribute to give the area an economic vitality boost (Krikke, 2016)**(D3-p.62)** . In addition, Sieben stated that it promoted the municipality as an example for sustainable urban development and also this could attract more companies and/or individuals to the area **(D4-p.62)**. The province of Friesland saw the benefit for them in having a sustainable business park within their territory (Krikke, 2016). Hence, also the drive to improve the reputation **(D5-p.62)**.

Interestingly, at first the governmental parties were not too enthusiastic about the development plans of yet another business park (Jansen & De Graaff, 2014). But after searching together to integrate governmental interest, local economy, positive image, popularity, more visitors and education, a win-win situation was created for all parties (Dijkshoorn-Dekker et al., 2014; Ministerie van Infrastructuur en Milieu, 2014).

The table summarizes the key drivers for the key stakeholders.

Table 10 - Main stakeholders and their key drivers Ecomunitypark (source: own ill.)

Actor	Key driver	Type
Ecomunitypark (initiator and end-user ECOStyle)	Started with mainly intrinsic driver (D1-p.61). But the reputation of ECOStyle and the commercial drivers are also taken into account (D2-p.62).	Intrinsic, reputational and financial
Municipality of Ooststellingwerf	Job creation (D3-p.62) and setting an example (D4-p.62)	Reputational and financial
Province of Friesland	Improving image (D5-p.62)	Reputational

4.2.3 BARRIERS

Mainly because of the intrinsic driver for sustainability of the initiator and close collaboration between public and private, the process went smoothly. Yet, no process is hundred percent barriers free and in this section the relevant barriers found in Ecomunitypark development will be discussed.

One of the first barriers discovered was about the flexibility of the plan **(B1-p.62)**. Traditionally, a zoning plan and vision form the most important instruments to visualize the ambitions and potentials of an area (Jansen & De Graaff, 2014). At the same time these documents try to meet the demand for more flexibility and room in the plans to be able to adapt for future changes. Yet, there are also actors who want to have more security and specifics about the plans and this is how Ecomunitypark positioned itself in the process. From the initial phase a strong and clear end-vision was developed and a project-like approach was used. However, this approach did raise

concerns with companies. Because would companies be interested in a place where everything was already decided and there was little room for flexibility (Ministerie van Infrastructuur en Milieu, 2014)?

Still, it is important to note too that perhaps focusing on the final end-result is not necessarily the best solution for each urban development. Local factors can impact the projects and the development approach immensely and sometimes it is needed to first start with a small area in order to test the success or to start with temporary functions (Ministerie van Infrastructuur en Milieu, 2014). This is an on-going discussion with other future end-users of the business park, but it does not seem to be a major barrier specifically for Ecomunitypark as it was not mentioned during the interviews.

A bigger barrier in the process is related to the division of land and green/water on the site. When the local authorities mentioned that they wanted 50% of greenery and water on the area as this is best for the surrounding nature environment and increases the quality, Anne Jan Zwart did not agree **(B2-p.63)**. Initially, he wanted more building and less green as this allows more intensive use of land (Krikke, 2016). Krikke said that this was a particular difficult conflict in the process as Anne Jan Zwart had already bought the land at this point. Fortunately though, the conflict was resolved rather quickly when the design team was able to visualize the business park with 50% of greenery and water and how ECOStyle itself would be situated in this environment. “So we had to search for the right balance, but soon enough he could see that this was the best way to realize a sustainable business park”, said Krikke. In the end Zwart agreed with 55% greenery. Sieben mentioned that it was then when the municipality also realized that they are not working with a traditional developer as these types of conversations tend to be much more complex and longer because of the fact that green costs money (Sieben, 2016).

Yet, one has to look critically at the situation. Zwart agreed to use 55% of land for green, but Krikke states that this decision would have probably gone different though if the land bought was not agricultural (Krikke, 2016). He mentions that areas which are denser -around city centers – usually have a higher land price and therefore make more sense to build more concentrated to make the project feasible. So Krikke highlights the importance of the price and location of the land in the decision-making process and says that the situation would have been different had the area been located elsewhere. Moreover he adds that because not many investments occur in the area of Ecomunitypark, more room and attention could be created for this particular development.

Another challenge in the process concerns the public-private use of land **(B3-p.63)**. The land is owned by Zwart and is therefore private. Still, there is no fence around the property and the public is also able to make use of the area. But not all visitors act as Ecomunitypark B.V. would like. For example Goeree mentions that they have a sign saying to keep your dogs on the leash, but many dog owners still let their dogs loose and they go running around and poop in the park. “Now that is not something we want, but because it is private terrain we cannot call the police”, said Goeree. So the challenge is how to communicate to the visitors and having the desired effect (Goeree, 2016).

Goeree also mentioned that the nearby residents initially opposed the development of the park as they did not want another business park in their backyard **(B4-p.63)**. Eventually, with much communication, it was explained to the residents that Ecomunitypark is not just another business park, but a sustainable one. However, they still made one requirement and that was to convert the car road through their neighborhood to Ecomunitypark a cycling road so that they would not hindered by trucks passing through. Luckily, this could be arranged with the help of the municipality.

Issues regarding the maintenance of public realm after construction and which party will be responsible are yet to be discussed (Goeree, 2016). These are the discussions which could lead to split-incentive barriers, because when a public party maintains the public realm while the private party developed it, then the benefits of a high-quality development lie with the maintaining party **(B5-p.63)**.

During the interviews an array of other barriers were also mentioned, but these were often not specifically for the case of Ecomunitypark only and were elaborated to the same extent as the other barriers.

He also adds that often people forget the social aspect of sustainability and usually only think about energy. The hard components like value of land and energy are limited, but the softer values are harder to indicate (Krikke, 2016) **(B6-p.63)**. And with little research done on the topic, traditional developers do not choose to not get involved.

Furthermore, things become more complicated when the investing party is not always necessarily the one who benefits from the higher-quality, thus leading to split-incentive challenges too (Krikke, 2016)**(B5-p.64)**. Another is that investors usually only have interest for the building they are directly investing in and not the area and without being able to show the financial advantage, it is hard to prove. Krikke mentions that this drive is missing. Goeree also elaborates on this barrier as she finds it challenging at times to explain to companies what the concept of a sustainable business park can add in comparison to a traditional business park and how to find companies who not only enhance the vision of the park, but that the park also adds to their business model. That translation of added-value is tough (Goeree, 2016) **(B6-p.64)**. Goeree also mentions that just because the numbers are missing, does not mean that no one will be interested, but it could be an extra argument to make the concept stronger.

Sieben also agrees with Krikke and Goeree that soft values are hard to put into calculations model as these can only be measured after completion- something they are working on monitoring for future developments (Sieben, 2016) **(B6-p.64)**.

When it comes to the role of governmental parties in the process Krikke mentions that the land division of the municipality does not actively steer enough by setting standards of minimum sustainability levels. Again, he points to lack of knowledge and vision as the cause, meaning that not all municipalities have staff with suitable knowledge about this topic **(B7-p.64)**. Sieben warns though that being strict and setting standards is not always suitable as developers will then only perform the minimum required and/or if the municipality is too difficult, they can just move their plans to another municipality. So if strict standards had to be set, this would need to happen on a national level (Sieben, 2016). Furthermore, Krikke adds that municipalities can improve the way the various urban departments are organized within the municipality in order to make it more efficient and easier for developers to obtain the right information or person **(B8-p.64)**.

Barriers concerning the BREEAM certification included the high cost and time (Krikke, 2016)**(B9-p.64)**. You have to keep track of many documents, but then again it is not that much for it to be a reason not to choose the certificate (Sieben, 2016). Developers do not always realize this. Krikke mentions that a lot has to do with unknowns and developers not being properly informed **(B10-p.63).**

At last, with regards to why sustainable business parks are so far more popular in the Netherlands than mixed-use developments, Sieben answers that it is more interesting for companies as these cause larger footprints, have bigger surface to integrate sustainable technologies and corporate social responsibility- hence more willingness to pay. The same cannot be said for residential development **(B11-p.64)**.

4.2.4 INCENTIVES

Incentives can help make an investment more attractive for developers. These can come in various forms.

One incentive of establishing in a BREEAM certified area which is often overlooked according to Krikke is not necessarily improving the image for companies, but because the costs of certification are lower and more efficient when applying for a building which is already situated in a sustainable urban area and higher scores are easier to achieve. This results in economies of scale benefits as a cost-saving incentive (Krikke, 2016)**(I1-p.64)**. This does not only remove the barrier of high costs related to BREEAM, but also enhances the existing financial drivers to increase financial gain due to economies of scale (reducing costs and saving time). However though, Krikke mentions that many companies are still unaware about this.

Another instrument which helped achieve the economies of scale is the park management. Its synergy and scale offer advantages in shared energy, security, green maintenance and overall quality maintenance of the area. And

because all is arranged by a central party, cost-savings and unburdening of tasks can be achieved for the companies (Tenkink, 2015). Boundaries are set regarding material and design so that risks of bad design quality will not lower other buildings in the park. This does not only help create a coherent vision in the park and increase assurance that buildings will remain valuable after twenty years, but also obtaining permits of design can happen easier and faster (Tenkink, 2015)**(I2-p.64)**. Goeree adds that the design requirements are to have a unanimous look and to express what Ecomunitypark stands for and what companies we want to attract. Doing this without park management is almost impossible (Goeree, 2016).

Another incentive which is related to finance, value and cost-saving is the incorporation of soft values into the calculation model so that the costs and revenues can be known upfront **(I3-p.65)**. Krikke mentions that is has not been done yet, but could act as a great incentive to help developers and investors decide on the investments, risks and feasibility of the development.

When one hears the word incentive, subsidies and grants are often one of the first thoughts. In the case of Ecomunitypark, a subsidy worthy of 50.000 euro was granted from the Ministry of Economics, Agriculture and Innovation for further investments in sustainable energy measures **(I4-p.65)**. The municipality of Ooststellingwerf assisted in applying for the subsidy. Another interesting financial boost from the government was the maximum 200.000 euro subsidy from the Province of Friesland in order to help cover the costs of achieving a BREEAM-Excellent certificate for the area (Krikke, 2016; Provincie Fryslan, 2012). Goeree mentioned during the interview that this financial support helped the development a lot. Yet, Krikke warns that state support is not really the right way to incentivize because (1) only a maximum of two ton euros per company is allowed and (2) you can create market conflicts (Krikke, 2016).

Another financial-related incentive includes the low value of agricultural land, as this made it financially feasible to only build 45% of the total area **(I5-p.65)**. Krikke mentions that such a concentration would be unheard of at a development like Schiphol Trade Park where the land is more expensive. Krikke suggests using the higher investment value which can be attained in a sustainable business park in order to attract companies (Krikke, 2016).

Incentives which are more related to the application of BREEAM are acknowledged by all three interviewees. All three value the framework and guidelines BREEAM offers in the process and how it forces all the actors to think about different aspects **(I6-p.65)**. Furthermore, Goeree adds that this is especially useful when new to this type of development and decision-making. At last, Goeree and Krikke both agree that the certificate itself is a great way to profile yourself and make it tangible that you are being sustainable, and that creates value too **(I7-p.65)**.

When it comes to the role of the end-user, ECOStyle played a major role in this development. As the owner of ECOStyle is the same owner as Ecomunitypark B.V., it was in his own interest to establish his company in a high-quality environment where the story of ECOStyle could be expressed, so they could not only focus on the economics but also the long term value (Goeree, 2016; Krikke, 2016)**(I8-p.65)**. Thus, out of demand for a new location for ECOStyle, the concept of Ecomunitypark was developed (Goeree, 2016).The fact that the developer can benefit later from the investments as an end-user made decisions like the division of 55%-45% greenery and land easier than usual (Krikke, 2016). Yet, it should also be mentioned that the intrinsic drive of Anne Jan Zwart also contributed a lot for the overall smooth development and creation of a coherent vision together with other parties. Still, it was not only the personal motivation what drove all decision-making, but Zwart was aware that commercially such a development will also be beneficial as other like-wise minded companies would also want to establish there, and this balance is important for these types of developments (Krikke, 2016). In addition, Krikke mentions that because the development was of a single-led type, the level of complexity was reduced due to the amount of stakeholders and this also affected the development positively.

Except the developer and end-user, the governmental parties also affected the attractiveness of the development. During the interview with Goeree it was particularly noticeable how important their collaboration was with the local municipality of Ooststellingwerf. Goeree mentioned that working closely with the municipality can really be seen as a requirement to develop such projects. Within the municipality they had one official contact person, Bart Sieben, who assisted in various tasks and could link us to the right person or department as it can be hard to find

your way within the municipality (Goeree, 2016)**(I9-p.65)**. Goeree tells that this has definitely acted as a success factor- to have a facilitating municipality and good support **(I9-p.65)**, having a fixed central contact person, arranging that this was possible- that was crucial for the development. Moreover, it was nice that the municipality was very excited about the development and was also able to see the benefits.

Sieben himself offers some insights into how he thinks municipalities can steer more sustainable developments. First off, he mentions that attitude and culture within the organization is important **(I10-p.65)**. Therefore you need to have the right people and develop new ways to think and look at urban developments. But this costs money. For the case of Ecomunitypark we took financial risks in infrastructure development and we spent a lot of time on the project-which is also a financial post (Sieben, 2016). In legislative ways, the municipality also had to come up with creative solutions regarding the jurisdiction of sustainability. Moreover, the municipality also invested back in the business park by establishing an education center on the site. So a lot has happened in financial sense **(I11-p.66)**. Sieben thinks the government should even spend more to stimulate future developments by for example spending 100.000 euros to cover the initial costs of the certification. Also, he mentions that municipalities should have both an active and facilitating role; for public projects they will need to act sustainable too, and for private projects facilitate. Acting strict is not going to help achieve anything. At last, Sieben thinks that the higher governmental parties can also contribute the stimulation by developing shared visions and structure. In the end, the municipality also benefits from sustainable urban developments; it affects the image positively, sets examples, increase social values for users and attract companies (Sieben, 2016).

At last, some other beneficial factors for the development included the strong vision which steered the identity of the park and result of the park. Both Goeree and Krikke agree on this. Furthermore, Krikke also adds that because the area is new and scale is large, the use of BREEAM-NL Gebiedsontwikkeling makes sense as it can be used as a marketing tool too.

Figure 28 - Ecomunitypark (source: http://www.ecomunitypark.com/ecomunitypark/beeldmateriaal)

4.3 MASTHUSEN

This section will analyze the literature and interview findings for the case of Masthusen.

4.3.1 CASE-DESCRIPTION

Masthusen is the first project to receive BREEAM Very Good certification, a score of 57, 5%, for a development outside of the UK. The area used to be known for its shipyard and car manufacturing, but is now evolving into a knowledge city (Malmö Stad, 2008). The area is located in the Western Harbour (Vastra Hammen) district of Malmö in Sweden and includes over 100,000 square meters divided into; 700 residential units, 70,000 square meter of offices and 20,000 square meters of retail and services divided over 18 neighborhoods (BREEAM, 2016). Construction started in 2010.

Currently, the development is in its construction phase; however the certification has already been awarded for the master planning process. The project has been initiated by private developer Diligentia, currently known as Skandia Fastigheter. Together with the City of Malmö, the developer and other partners have worked extensively together under a main shared goal **(S8-p.67)**. This made agreements on design and planning, responsibilities and implementation possible (BREEAM, 2016).

The first interviewee for this case-study was Anna Barosen, sustainability coordinator at Skandia Fastigheter. The second interviewee was Tor Fossum from the Environmental Department at City of Malmö.

Figure 29- Masthusen (source: http://www.white.se/projects/masthusen/)

4.3.2 STAKEHOLDERS AND PARTNERSHIPS

Skandia Fastigheter is one of Sweden's largest real estate companies and they develop, manage and rent properties throughout Sweden's three biggest cities: Stockholm, Gothenburg and Malmö. The focus of this company is on four distinct business areas: office space, retail/commercial properties, residential buildings and public properties.

When the developer bought the land about 15 years ago, only one big building was on it. When making the land ready for development the building needed to be demolished and that left the area without any characteristics or historic buildings (Venou, 2014).

This development is the first of its kind outside of UK. After buying the land Skandia Fastigheter decided to use the BREEAM Communities certification system for the planning, construction and development of the area. Actually, this private-led development was quite untypical for Sweden (Venou, 2014).

In the Western Harbor area other developments are also focusing on achieving high environmental standards. Fossum explains that the city has an environmental program with quite high goals implemented and developers have to adapt to the program, so it was interesting for them that a developer chose to do this by applying for a BREEAM Communities certificate (Fossum, 2016)**(S6-p.68)**. Even though Fossum also agrees that a private-led development is not usual for Sweden, he explained that they were not worried though that the development would not lead to a desired effect. "The local municipalities have the planning monopoly in Sweden, so there are always local plans in place", Fossum said.

So even before Skandia Fastigheter applied for the BREEAM certificate, a *skeleton plan* (global plan before detailed plan) had to be set up by the City of Malmö and the developer (Venou, 2014)**(S7-p.68)**. This plan was a rough version of a more detailed plan which would later follow. The municipality did not own any roads or parks within the area. After the plan finished some changes were made for the development: the area was divided into 18 blocks in order to make the development feasible by being able to sell blocks to other developers. This change also led to the development becoming of a mixed-use type, which was a first for Skandia Fastigheter. Moreover, the municipality took ownership of two roads and a public square and the location for residential units were quite fixed (Venou, 2014)**(S8-p.68)**. The maintenance of the roads and square will be handed over to the Street and Parks department upon completion (Fossum, 2016). So as Barosen said in the interview: "in the end we don't do it alone- it is not allowed- we develop it together with the municipality, it is collaboration"**(S7-p.68)**. Furthermore, she mentioned that the municipality wanted to be in charge of the public squares; Skandia Fastigheter can only develop small pocket parks attached to the blocks.

Figure 31- A cooperative process between developer and municipality (source: BREEAM, 2016)

White Arkitekter was hired as assessors for the sustainability certificate on behalf of BRE and Skandia Fastigheter and developing the basis for the certification (Venou, 2014). As this was one of the first BREEAM Communities certified developments outside of the UK, the certification process also included adapting the English BREEAM to Swedish standards.

When decided to go for BREEAM, the process immediately started with the project specific requirements and more. Barosen explained they used the BREEAM requirements as a *bible* to meet all the demands **(S6-p.69)**.

Throughout the process, the municipality was involved as BREEAM Communities was new to them as well. The municipality was interested because of this and participated in the initial phase in all the workshops concerning the certification and the translation of it (Fossum, 2016).

There were lots of discussions during the process. Barosen, together with three other developers (who bought some of the blocks) **(S9-p.69)**, the municipality, the assessor, experts and consultants all gathered. Barosen explains that they started going through the *bible*-chapter by chapter- to discuss the vision together. As they realized that there were too many specific issues, the divided the workload into five categories: climate, *stadsmilieu* (urban environment/place-making), material resources, houses/flexible buildings and how one should behave when working or living in the area. These groups organized many workshops to discuss the ideas within their teams (Barosen, 2016). BREEAM served as a tool to guide these processes between stakeholders **(S6-p.69)**.

These workshops and discussions were necessary in order to develop a *value plan* for Masthusen. The purpose of the plan was to achieve a shared vision and efficient collaboration between the parties. This should help simplify the subsequent planning work (Venou, 2014). As mentioned this plan was developed according to the BREEAM Communities scheme in order to ensure quality and durability over time. The City of Malmö thought it is important to keep the content flexible in the plan in order to be able to adapt to change and other scenarios in the future. At last, the plan includes frequent monitory of the process during the detail planning phase and provides feedback on the sustainability throughout the process (Venou, 2014).

Barosen expects the development to be finished by 2022.

4.3.2.1 DRIVERS

Skandia Fastigheter is one of Sweden's largest real estate companies and they wanted to have the project certified in order to help maximize the project's sustainability benefits and to demonstrate the achievements to the municipality of the city and future developer partners and tenants **(D6-p.69)**. Masthusen was the first mixed-use development project of this kind for the developer and the sustainability drivers were important for the project. Besides being green, the developer wanted to make an appealing, high-quality and dynamic urban environment (BREEAM, 2016).
Thus Skandia Fastigheter wanted to be a front-runner and to market itself with a unique project in Sweden as this results in publicity- which is worth something too **(D7-p.69)**. Barosen explains that from the start they thought to do something with sustainability. She explained that they felt like they had to with such a chance and especially since it is a large area and they own all the blocks. So sustainability became a good way to secure the large-scale development for the upcoming years and to create value for the people working and living there (Barosen, 2016)**(D8-p.69)**. Besides the economic value, she also mentioned that as one of Sweden's biggest real estate companies there is also corporate social responsibility to take into consideration **(D9-p.69)**.

As for the City of Malmö, Fossum explains that they were intrigued in the approach of the developer to certify the area. This is because ten years ago they had the Bo01 development in the Western Harbor and the city took similar steps in the process as is written in the certification requirements **(D10-p.69)**. So it is interesting to learn if Skandia Fastigheter can reach the same goals as Bo01 tried achieving ten years ago (Fossum, 2016). In addition, based on the number of other sustainable developments going on in Malmö, stimulating this type of development is important to the municipality in order to keep enhancing that shift from an industrial city to a knowledgeable and sustainable one (Reepalu, 2013)**(D11-p.69)**. The table below gives an overview of the key stakeholders and their key drivers.

Table 11 - Main stakeholders and their key drivers Masthusen (source: own ill.)

Actor	Key driver	Type
Skandia Fastigheter	Demonstrating sustainability (D6-p.69), publicity (D7-p.69), securing large-scale development (D8-p.69) and corporate responsibility (D9-p.69)	Reputational, financial and Intrinsic
City of Malmö	Acquiring knowledge because of interest (D10-p.69) and continuing change shift of profile from industrial city to a sustainable city (D11-p.69).	Intrinsic and reputational

4.3.3 BARRIERS

The adoption of BREEAM Communities straight from the English context caused quite some barriers **(B12-p.70)** for the development process. Because the BREEAM Communities assessment was developed and made for the UK, the criteria needed to be adapted to also meet the local requirements and priorities of Sweden (BREEAM, 2016). However, soon it became obvious that a lot more work needed to be done for different aspects before all the requirements for the certification were met, a lot more than initially expected (Venou, 2014)**.**

As BREEAM Communities was at that time only developed for the British context, a pre-assessment of sustainability aspects of major concern to the developers had to be done in order to adapt the criteria to Swedish context. This was done by numerous workshops, property owners and local residents (White Arkitekter, 2014). Subsequently, these also had to be translated to the specific environmental objectives and requirements of Malmö City itself.

In her interview with Venou, Barosen mentions that there were also some large contextual differences to take into account. As examples she names the consultation and participation matters **(B12-p.70)**. Barosen explained that in Sweden there is this democratic process in which citizens can express their thoughts on certain projects and these will have to be dealt with by the developers- it is a law **(B13-p.70)**. But in England there is not something similar. So this had to be integrated as well.

Anders Nilson, an architect involved in the design, mentioned during an interview that a lot of extras were added to the master plan in comparison with developments without BREEAM. This resulted in the architects continuously changing the plans in order to meet the requirements (Venou, 2014). Compromises in terms of credits had to be made throughout the project.

The issue above is related to the fact that BREEAM was not integrated in the planning from the start and this caused change which needed to be made later or there was lack of time to properly incorporate them in design **(B14-p.70)**. Integrating BREEAM Communities at the right time is important to have better results and save time during the planning and design process later on. By integrating BREEAM from the start, the tool can lead and organize the entire process and avoid changes and delays (Barosen, 2016). Barosen further elaborates by saying that a need for a good match between BREEAM Communities and Swedish planning process is also important, because the two did not integrate well. Both issues lacked in the process of Masthusen and caused challenges. Jonny Hellman, a technical manager at BREEAM Swedish Green Building Council, highlights this barrier too by saying that Sweden can learn from the other countries in respect to integrating the certificate in planning documents and apply faster building permit processes as incentive (BREEAM, 2013)**(B15-p.70)**.

In another interview Barosen mentions that indeed it is not without problems to assess the area as the system was not yet complete for the Swedish context and confusions and difficulties are the result (Bratel, 2012). Sometimes,

language and translation become a barrier and you feel like instead you are discussing unnecessary things which do not even improve the area (Barosen, 2016). A lot is done just to the get the certification, mostly just formalities.
Fossum chimes in and mentions that actually because of the BREEAM certification process, a number of types of documents were added to the normal planning process. That would be the biggest difference; the amount of documents necessary to obtain the certificate. “Honestly, a lot of paper work”, said Fossum **(B16-p.71)**. And when we did previous sustainable urban developments some extra documents were added, but not so many- it was much simpler (Fossum, 2016). Barosen agrees: “If you ask me now, I would say it is very difficult to do all the administrative things. And I wonder if we could have the same physical results without the heavy administration”. However, she adds, the BREEAM manual changed much now and it is much easier now than it was then.

The last issue regarding BREEAM process is brought up by Fossum who said that one of the biggest problems with the certification is that it assesses a process and not project. So there is no certification on the follow-up to see what the actual result is. And Fossum argues that the product is important- what is actually there when it finishes. This illustrates that Fossum favors a strong project-oriented focus with end result similar to Ecomunitypark as this would be best for the development.
Another barrier mentioned is related to the costs- often related to the costs and time delay involving BREEAM **(B16-p.71)**.. Yet, the Skandia Fastigheter developer mentions that it could be an issue depending on the size of the project as one has to value everything he does. You will have to be able to show what the value will add in the long term (Barosen, 2016).

Barosen continues to tell that before starting there were a few at the company did not want to participate in sustainability as it costs money and time **(B17-p.71)**. Fortunately, they now see it is worth it. But still, it is true that is has been causing the company a lot of money. Also in time, Barosen mentioned that she spent three years working on this process- and that also costs money. “It was worth it, but it costs a lot and takes a long time”, said Barosen. Fossum supports this too stating the high costs and long timely process as barriers.
In addition Barosen also remarked that she does not believe private individuals are at a point yet where they are willing to pay more for sustainability. Companies however, are starting to do that; they will pay more for a good building if they have money (Barosen, 2016)**(B18-p.71)**. She notes that this was not the case seven years ago, so perhaps in another seven years private individuals will also behave differently.

The last barrier theme is related to the participation of actors in development processes in Sweden. Barosen names that that people have many chances to influence the project when they give their opinion and this is a democratic process which is common in Sweden **(B13-p.71)**. But the problem is that sometimes people do not have knowledge about the issue, they do not realize the consequences of their actions and if someone says no, then the development is in serious jeopardy (Barosen, 2016). It causes difficulties and many unnecessary additional meetings (Barosen, 2016; Fossum, 2016). Barosen further adds that this is especially a challenge in areas with existing or nearby residents.

Figure 32 - Actors involved in the Masthusen process in June 2011 (source: BREEAM)

The following image illustrates the numerous actors which were involved in 2011 and the many opinions which had to be taken into account. This results in time-consuming processes to reach a coherent vision together.

A last point that Barosen expresses during her interview is that if they were able to develop and maintain the public realm, they would have done it differently. The municipality does the job well though and keeps a high standard, but if the company had done it the area would include more art, interactive things and feel more vibrant (Barosen, 2016) **(B19-p.72)**. She mentions that there are many rules restricting you from doing so and it is complicated, so they could not maintain it.

4.3.4 INCENTIVES

The first type of incentive mentioned is connected to the role of the municipality and their vision for the area of Western Harbor **(I12-p.72)**. New neighborhoods like Dockan and Flagghusen in the Western Harbor are being developed with the same characteristic high environmental standards as the other developments around (Malmö Stad, 2008).

In recent years developers choose to build their sustainable projects in Western Harbor with the tendency to show off their green goals and efforts (Bratel, 2012). Having exemplary projects like the Bo01 around can help guide developers in their own projects and learn lessons from previous similar developments. Some of the lessons were even incorporated in the assessment criteria for Masthusen **(I12-p.72)** and included for example the provision of space for new and small businesses and ensuring that the new companies do not compete with the existing (BREEAM, 2016).

Thus the existing sustainable environment helps to attract developers with similar interest to the location area. Fossum explains that the local government has a role in this as they have been steering the area to be more sustainable in its developments for more than fifteen years already **(I12-p.72)**. There is a goal to develop Malmö as a leading city of knowledge for sustainability (Malmö City, 2008). The first sustainable development took place back in 2000/2001 and that was seen as a starting point to reutilize the city and shift it away from its former industrial profile (Fossum, 2016). A citation from Professor Ranhagen from the KTH Royal Institute of Technology goes: “Municipalities must be the drivers and inspirers and not leave urban development solely to private actors. Municipalities are fundamental actors when the threat from climate change is to be averted” (G. Andersson, Carlson, Larsson, & Ordbildarna AB, 2011). This seems to be in line with how the City of Malmö is approaching the development of Western Harbor and stimulating private developers. By using the municipal planning monopoly the city can create favorable conditions for a more holistic planning approach, which should have beneficial effects **(I13-p.72)**. The government can play an important role in climate change through development planning, as property owner, and in procuring goods and services (G. Andersson et al., 2011). Such a role can be translated to promoting safe and competitive energy supplies, investing in sustainable public transport systems, expanding renewable and efficient energy production, promoting energy efficiency, guiding the spatial planning and urban development, stipulating clear environmental and climate requirements and focusing on dialogues with citizens and public participation**(I13-p.72)**.

Barosen agrees and states that in her opinion Malmö is one of Sweden’s most progressive municipalities. “They are really brave and I am really proud of this municipality actually. The people working there really want to make a change **(I13-p.72)**. So we as developers were lucky. It would have been much harder to do this in Stockholm. There they are much more conservative”. This eagerness and progressiveness is also further highlighted by Fossum when he explained that BREEAM Communities was a great tool because it creates a shared vision between public and private and they thought it was interesting that Skandia Fastigheter could use the certificate to guide the sale of blocks to other developers. For the municipality this new approach and tool was new and interesting, so therefore they wanted to learn and participate (Fossum, 2016).

Another aspect related to the area and process in Sweden is the state of the area. Barosen mentions that they

perceived it as something positive to have the Western Harbour empty when they started developing. That means that people living in the area were not there too long ago and therefore do not have emotional attachments to the site- avoiding long discussion processes with citizens. “It is much easier to develop a new area than doing infill projects within the inner city, I think even in Malmö that would be difficult”, commented Barosen.

From a slightly different perspective than Krikke from Ecomunitypark, Barosen also mentions the importance of scale when choosing to certify an urban area. She mentions that when you as the company are the owner of such a big area, it is essential to find a way to secure it in order to reduce risks. Knowing that they would work there for many years, with various actors and affecting many people, the BREEAM Communities certification opted as a good tool to guide this process and because of the scale could offer value in return. Having a valuable agenda which could be followed for the development of the area was the main incentive (Barosen, 2016)**(I14-p.73)**. Furthermore, another study highlights that with a bigger area you can make a bigger impact or statement in the surroundings than if it were small (Bratel, 2012). At last, in an interview with Venou, Barosen commented that the certification for the area would also affect the development of individual buildings, making again a link with Krikke’s comment on scale of economies to be gained on individual buildings in a certified area **(I15-p.73)**.

The publicity that was generated with this development was also a strong, positive thing for Skandia Fastigheter. Barosen tells that she gets contacted a lot because of the project: “I mean why you contacted me now too? This is not just for the area, but is also worth something for the company”. You get a lot of attention in the media and it is something positive to use when in discussion cooperation with other developers and municipalities. Because you can prove that you mean serious business with the certification and that is worth something- that is one incentive too (Barosen, 2016) **(I16-p.73)**.
The BREEAM certification itself can also impact the development process positively. It is a good thing to use as a guide; you will know what you need to do and keep pushing to realize it (Barosen, 2016). Working to obtain the credits makes the decisions hard, because otherwise someone can easily start negotiating during the process and the demand on sustainability is gone. It takes the room for negotiation away (Barosen, 2016). The criteria for obtaining the certificate offered Barosen and her team with strong arguments to push sustainability and they were also able to use it to put demands on the developers they later sold the blocks to. So it was a good and strong communication tool according to Barosen. She also mentioned that after the shared visions were incorporated into the feasibility document, they printed the document and brought it to every meeting. Barosen explains that this helped ease the discussions and decision-making **(I17-p.73)** as the goals were written already in black and white and not just floating around.

At last, Barosen names the position of the company itself as an important and positive element. She explained that she was actually the first person in the company which was hired with sustainability competence. Sustainability was a new topic to them, but by getting someone with the knowledge on board, sustainability could be better communicated to other team members and departments. It can take time, but it helps to get support for a BREEAM certification when the right people are involved and engaged within the company (Barosen, 2016) **(I18-p.73)**.

Figure 33 - Masthusen (source: http://www.breeam.com/case-study-masthusen-malmo-sweden)

4.4 MEDIACITYUK

This section will analyze the literature and interview findings for the case of MediaCityUK.

4.4.1 CASE-DESCRIPTION

MediaCityUK is a waterfront project at Salford Quays in Manchester, UK. The development is seen as an innovative and creative hub for the media world which incorporates offices, studios, residential area, retail, leisure and more. The project is set to contribute 1,5 billion pound to the regional economy, create job opportunities for 15,500 people and provide space for about 1,1250 creative and related companies.

This project is an extensive regeneration development in the Salford Quays area. The public private partnership within the process is called exemplary based on the cooperation during the early stages (Urban Vision, 2016). The development recently became a joint venture between Peel Land and Property and Legal and General Capital, who share a long-term commitment to the further expansion of this creative and digital hub which currently already has 250 businesses established (MediaCityUK, 2016).

Phase 1 of the development was completed in 2011. The plan includes office spaces for BBC and other companies of about 65,000 square meter, two residential towers covering almost 400 apartments, TV studios, carpark with about 2,300 units, hotel with about 200 beds, 80,000 square meter of retail and leisure, a media department for the University of Salford, a site-wide energy center, a public piazza for about 4,000 people and a new Metrolink station- aiming to create an environment where creative and media industries can thrive (Arayici, 2014) . The project is one the biggest media developments in the UK and the biggest private sector building project in Europe (Chapman Taylor, 2016). The scale of 81 ha and location of the project made the project stand out.

Figure 34 - MediaCityUK (source: http://www.mediacitydaily.co.uk/)

The fact that it became the first development in the world to obtain BREEAM 'Sustainable Communities' also made it one of a kind. With a project of this value, the developers wanted to incorporate sustainability measures to enhance the quality of the design and development.

Mark Robinson, head of asset management at Peel Media, works together with the construction, operation and asset management team. He was interviewed for the case of MediaCityUK. Robinson has started working on the development back in 2010. His job was to guide the development from the construction to the operational phase.

The second interviewee was Chris Findley, assistant director planning at Salford City Council.

4.4.2 STAKEHOLDERS AND PARTNERSHIPS

The process started when the British Broadcasting Corporation (BBC) announced in 2006 that they wanted to relocate some of their divisions out of London. The new site would be chosen by a competitive tender. The developer Peel Holdings, together with the Central Salford Urban Regeneration and Salford City Council, joined each other as a bid team. Their proposal was to create a *media city* on the 81 hectare which was already in ownership of Peel. The proposal presented a vision for the development to create a new media industry cluster and BBC would be a significant tenant in this plan (Joroff, Frenchman, Rojas, & NCCs Massachusetts Institute of Technology, 2009) **(S10-p.75)**.

In June 2007 BBC selected the Salford bid as the winner and the site preparation began within weeks (Joroff et al., 2009). Findley explains that the other bid focused much more on the relocation of BBC itself while Salford really focused on achieving something bigger. The development had to move quickly as the BBC had a tight deadline of moving in 2011, right before the 2012 Olympic Games in London. The bid had to turn into reality-and quick (Findley, 2016).
Part of the bid was also to market the area as a place for the media sector and to start creating a buzz ahead of completion. To do so, an existing but empty pie factory on the site was renovated to help start branding the area and to attract the culture which was expected to appear in MediaCityUK (Joroff et al., 2009).

Another part of the bid- an important part- is that BBC demanded environmental excellence as well. So one must bear in mind that sustainability was incorporated as a sell to the BBC. This is where BREEAM Communities came in- to demonstrate the level of sustainability **(S11-p.75)**. The BREEAM certificate could also help develop the power plant- which was also another requirement of BBC as they had to be able to continue operating even if the systems in London were to shut down(Findley, 2016). The result was a trigeneration power plant which minimizes CO_2 emissions by 20,000 tons per year by centralizing heating and cooling equipment. The water utilized comes from the nearby Manchester Ship Canal (MediaCityUK, 2010).
And according to Findley it worked; BBC was impressed. To make sure that everything in the bid would be developed, the bid was turned into a contract between particular Peel and BBC (Findley, 2016). Moreover, it should also be mentioned that BBC did not want to own any buildings as they were heavily criticized for this in the past. This has led to Peel obtaining ownership of all the buildings and that is how Peel Media came about. Lastly, BBC also wanted other companies to join the location.

Peel, Salford City Council, Central Salford Urban Regeneration Company and the Northwest Regional Development have set up an innovative public-private partnership to ensure that the development of MediaCityUK will deliver high sustainable benefits for the local community and area (Joroff et al., 2009). The city wanted to profile Salford as location choice filled with creativity and knowledge-intensive activity. Investment in supportive infrastructure, development of businesses and research institutes, provision of amenities are all necessary in order to attract investment to the sector and generate this image (Central Salford, 2006).

As a result the local authorities also invested into expansion of the public transport. They received 20 million pounds funding from the Northwest Regional Development Agency an extension of the Metrolink line could be extended to link Salford Quays to Manchester. Furthermore, a new tram stop serving MediaCityUK was added with

a high frequency of only six minutes waiting time. Lastly, a new road is added to make the site more accessible by car, but car sharing is strongly promoted (Robinson, 2016; Salford City Council, 2008)! Robinson goes on to highlight that the new tram station in partnership with Transport for Greater Manchester (TFGM) has not only helped improved the public transport networks, but also to increase the sustainability in the area. Furthermore, Robinson tells that cycle routes have also been added and the residential units will need to provide a great live and work balance. Car sharing, public transportation and cycling routes are technological sides of sustainability which can be translated to financial savings (Robinson, 2016).

Robinson elaborates on this close collaboration saying that the Salford City Council has been massively involved and for a scheme of the size of MediaCityUK this public-private partnership was needed. Even though Peel is the main developer and owned the land, the development came about in partnership with public authorities (Robinson, 2016)**(S12-p.76)**.

MediaCityUK is a private estate. Peel Media effectively owns the estate including all the buildings and public realm as BBC only wanted to lease buildings. There is one common entity to manage everything which is happening. Each of the buildings contributes a proportion to maintain the estate, which is called estate service charge. Through the estate service charge the landscape, energy efficiency and new initiatives are managed (Robinson, 2016)**(S13-p.76)**.

To avoid criticism BBC did not care for iconic buildings, hence the architecture had to be reasonably modest. This has resulted for the MediaCityUK itself to be an iconic place and not the individual buildings (Findley, 2016). With these things BREEAM helps as well. The criteria and vision also assisted in securing other companies to the area, which was also another demand of BBC. Critical to make all this happen is that the entire site was and continuous to be owned by Peel (Findley, 2016).

Some of the other big tenants which joined the area shortly after BBC were ITV, University of Salford, Satellite Information Services (SIS) and Holiday Inn. Furthermore about forty small creative companies also established here.

According to Findley the anchoring of BBC as the future end-user had big impact on the development process **(S10-p.76)**. Other main players included the lead architect for the project was Chapman Taylor. SKM acted as the sustainability advisor to Peel (Ozturk, Arayici, Sharman, & Egbu, 2010). The BREEAM Communities certification came about in partnership with the contractor Bovis Landlease (Robinson, 2016).

Figure 35 - Tenants and buildings in MediaCityUK (source:MediaCityUK, 2010)

So the original development was under the single developer Peel was financed by Lloyds Banking Group. In 2015 Peel Media decided to do an equity raise and this resulted with 50% of MediaCityUK being sold to Legal and General. From the initial ideas, there were plans to develop a phase two and that is what is being worked on. Phase two includes an expansion of MediaCityUK of almost double its current size and this turned out to be too much for a single developer. So to continue growing the scale, a strategic partner was needed (Robinson, 2016). At the time of acquisition MediaCityUK was valued at 503 million pounds. Still, Peel will retain responsibility for both the asset management of the estate and development management of the future plots (Jones Lang LaSalle, 2015).

Phase 2 includes an additional 50,000 m2 of offices, 1,800 apartments, retail and leisure and innovative public spaces with pedestrian promenade running through. The Chief Executive of The Peel Group, Steven Underwood, said that the expansion was able to continue due to the on-going support from the public sector. Together with the partner Legal and General Capital, this provides them a strong platform to realize the future development phases. Also, for the second phase the project needs to become an example for the 21st sustainable urban neighborhood development by supporting its residents with high quality public spaces and leisure and retail (MediaCityUK, 2016). The plan is to have it all realized by 2025 (Robinson, 2016). Findley mentions that it was

important that there was enough market for it all and as local authorities they are going to keep working together with Peel to achieve the vision of successful Salford Quays. With phase two a unique opportunity presents itself for a new generation of designs to complement what is already there and to keep working on a thriving and vibrant location (Fitzgeral, 2016). The plans for approval of phase 2 were given in September 2016 (Pidd, 2016).

4.4.2.1 DRIVERS

The three key players in the process are Peel, Salford City Council and BBC.

BBC initiated the project when they announced that they are relocating and organized a competition. Based on criticism on their offices in London, the move for BBC had a lot to do with profile improvement of the company. This explains also the requirement for high environmental standards **(D12-p.78)**.

Peel also shares the drive for sustainability related to image **(D13-p.78)**. Robinson tells that in the period of 2006 to 2009 sustainable buildings were valued with BREEAM accreditation and it became a topic people talked often about. Therefore, Peel thought it was important to take this first step and be a front-runner to keep driving forward (Robinson, 2016)**(D13-p.78)**. Robinson does not deny that there is absolutely a marketing approach **(D14-p.78)** to it as sustainability is on the agenda now and not going anywhere in the near future.

But there is more. Because Peel is not only involved for the development phase but also the phases after, the most cost-effective solution was sought for the development. As they are not walking away after completion, but rather invest back in the development, Peel can also include the operational costs and revenues in its plans. Robinson explains that this allows them to see the cradle-to-grave scenario; the impact of making the wrong decisions in construction phase and their impact in the operational phase. So because Peel has the benefit of the whole life cycle, decisions cannot be based on short term solutions as these can result in higher costs later on. Aside from reducing the costs of the total life cycle **(D15-p.78)**, Robinson also names the market as a driver. “On one hand there are more and more taxation and levies starting to penalize businesses who do not reduce their energy and on the other hand you can attract companies if you are sustainable and can prove it”, explains Robinson **(D16-p.78)**. Corporate businesses are also looking at places where they could be located for about ten year without going to be affected by charges applied for use of energy example.

In the end, it also comes down to being sustainable as a company too **(D17-p.78)**. Peel also has a sustainability policy which is part of the construction process, supply chain, design, operation and material resources (Ozturk et al., 2010; Robinson, 2016).

Managing director Stephen Wild summarizes the drivers: “Not only is sustainability important because it is part of our values as a company, we also believe that a truly sustainable community for MediaCityUK will translate into a more robust asset value and better marketability. We have looked to achieve a sustainable development in terms of physical infrastructure, but also post-occupancy, we have worked to increase efficiencies and sustainable behaviors in an open and collaborative way with the community” (ING, 2016)**(D14, D15 and D17-p.78)**.

Similar to BBC and Peel, Salford City Council also had a profile improving driver**(D18-p.78)**. Findley explains that such a development puts the city of Salford on the map. In addition, partnering on such a large-scale development attracts more companies-especially from the creative and media industry- and that is also good for the city. The development is expected to create 15,000 jobs within the area (Manchester Investment Development Agency Service, 2011). Thus digitally-driven industries of this scale can make a sizeable contribution to both the regional and national economy (Fitzgeral, 2016)**(D19-p.78)**. It also helps create a new vibrant and high-quality area for the community.

The following table summarizes the key stakeholders and their key drivers.

Table 12 - Main stakeholders and their key drivers MediaCityUK (source: own ill.)

Actor	Key driver	Type
BBC	Profiling to reduce criticism (D12-p.78)	Reputational
Peel Group	Image and being front-runner (D13-p.78), marketing approach (D14-p.78), costs and asset value (D15-p.78), company values (D17-p.78) and, and anticipation on legislative changes (D16-p.78)	Reputational, financial, intrinsic and legislative
Salford City Council	Profiling (D18-p.78) and job creation/contribution to regional and national economy (D19-p.78)	Reputational and financial

4.4.3 BARRIERS

According to Findley, there were no major barriers because BBC was already known to be the end-user and because of the bidding process, all the parties already know what was expected and needed to be done.

Even though it was not a big hurdle to them, Robinson mentioned that there were some challenges with regards to the costs. Decisions made at day one can seem too expensive, but in Peel's case the focus had to be on the long term approach. Yet, this is not something easy to deal with when you are trying to manage costs and budgets (Robinson, 2016). Robinson thinks this is a problem many other developers are facing; when anything becomes too problematic, costly or time-consuming, there is a tendency to move away from it **(B20-p.79)**. Therefore, it is crucial that the sustainability is integrated in the early principles of the scheme.
In this case Peel had to make sure that the construction team would not work in isolation from the operational team- especially not around sustainability decisions- because the construction team focuses on the life of the project and are therefore more inclined to look at the cheaper options instead of the entire life cycle (Robinson, 2016).

In addition, Findley tells that various funding from governmental bodies supported the developments. But he explains that these existed of complicated packages and mentions that there were quite extensive areas of public realm on the site which does not make a lot of money **(B21-p.79)** - so that had to be dealt with as well.

That latter awakens the discussion of soft values again. Robinson is the first to say that there is a problem with accreditation around sustainability. How can it be measured **(B22-p.79)**? He explains that for Peel they rather look at the whole picture; in 2016 there are now 7,000 people living, working and enjoying their leisure time in MediaCityUK, there are about 250 businesses- big and small- and there is a big focus on driving the employment and local economy. And that is all positive and was achieved with the help of BREEAM Communities.

Measuring the true values remain a barrier though as each person can have a different interpretation of that as well. But dealing with these softer values is the next step (Robinson, 2016)**(B22-p.79)**. In the UK there is demand to convert sustainable communities into hard pounds- sort of like a premium on the value. But according to Robinson there is still a long way to go yet, and that is the challenge- there is not *yet* a hard correlation between sustainable communities and value. Robinson emphasizes on the word yet as he believes that it will come around one day and the certificates are one of the things beginning to drive that.

Furthermore, he repeats that one cannot look at the values isolated per phase; the process does not start and end in one phase, so the entire life cycle has to be taken into account during the decision-making **(B20-p.79)**. He

mentions that obtaining a certificate is also not the end of the journey; one must keep working hard to keep sustainability at the top of the agenda in a fast evolving world with new technologies and trends. Moreover, people have to be more educated **(B23-p.80)** into how they make business decisions regarding sustainability (Robinson, 2016).

With the tight deadline of the relocation of BBC, the decision-making process had to be done in a constrained timeline as well **(B24-p.80)**. Fortunately, it was possible in the end to deliver 1.6 million square foot in MediaCityUK in three years, but when you are working so fast, you do not always have the time to sit and try to work out what truly the best way to go forward is (Robinson, 2016). And that is quite unfortunate at times too **(B24-p.80)**. Findley adds that the timescale demanded major planning application and that one of his roles was to make sure the planning process could go smoothly; otherwise the development may not have been ready on time.

And even though not mentioned during the interviews, this was the first development to obtain the BREEAM Communities certificate so many issues were new and may have had to be adjusted during the process.

Findley brings up some other type of barriers which are more related to the type of developer and development and role of the local authorities **(B25-p.80)**. First off, he mentions that more barriers are encountered when one is dealing with a speculative development with developers who are interesting to make a reasonable and quick profit, and then depart. That also does not make it easy to transfer experience from one case to another as the characteristics can be quite different (Findley, 2016)**(B25-p.80)**. But he explains that the type of development can also make a different, and also in terms of sustainability. The local authorities are working with Peel in another development, but as this development is much more of industrial type and located in the port, things like social sustainability are less taken into account as for example there will be no public realm developed here (Findley, 2016). The objectives and vision are much different than MediaCityUK.

To deal with the different types of developers, Findley mentions that the local authorities would be in a much better bargaining position if they were in ownership of land. But if not, then their planning policies are a strong tool to apply, yet these are constrained by national planning policies in terms of what local authorities can demand. So there will remain an issue of how far developers want to go in their own interest (Findley, 2016). Thus, it could become a matter of box-ticking then. Robinson concludes that local authorities need to deal better with the different type of developers to try to push them into a more sustainable approach.

4.4.4 INCENTIVES

One of the biggest advantages of this development process was that a big anchor tenant like BBC was looking for relocation. BBC moving a substantial part of its operation to Salford as part of a new media cluster area was integral to the project (Salford City Council, 2008)**(I19-p.80)**. Stephen Wild goes even so far to say that without the BBC, he thinks MediaCityUK would not have even happened (Roue, 2015). Findley also agrees that the decision of BBC to move was absolutely crucial and critical. He explains that without BBC as the major tenant, Peel would not have taken the risk and built MediaCityUK as a speculative development (Findley, 2016). So BBC in a way was the main stimulus for MediaCityUK. It gave Peel the confidence to develop the area and furthermore, on the back of BBC, they were able to get other companies interested as well **(I19-p.80)**. At last, Findley mentions that because BBC brought out the bid, everything was already in there and that made the entire process easier as demands and expectations were already clear for all parties **(I20-p.80)** and this has reduced the amount of barriers.

Aside from the role of the end-user, Peel could also see advantages for themselves as company because of the type of developer they played in this process **(I21-p.80)**. Findley adds that it was critical for this development as well that the site was owned by the single owner of Peel and continues to be so. Robinson elaborates that as a developer, investor and operator, Peel was and still is looking for the most cost-effective solutions. Having the incentive of being involved for the entire life cycle **(I21-p.80)**- partly because of BBC too as they did not want to own buildings- motivated them to look for high-quality, sustainable and smart solutions in their decisions as they are the ones who will benefit from it later as well. In that sense, because Peel is involved in all the phases, the split-incentive barrier was removed **(I22-p.80)**.

Peel made also sure then that in their approach the construction team made decisions based on the holistic life cycle of the asset and not just the development phase. And it was then that the benefits of cost-saving on green energy, well-designed buildings, urban heat effect and such became apparent too (Robinson, 2016). The drive for continuously improving their assets is apparent. Robinson tells that even now that phase 1 is realized, the operational process is still trying to enhance the sustainability quality based on the BREEAM Communities. They demand that each building obtain a BREEAM Very Good or Excellent rating and have an energy management in place looking for ways to keep making energy efficiency better. Constant revisiting the state of art of their assets is in Peel's own interest. Findley adds that there is recognition that if one is environmentally excellent over the long term, quite some money can be saved.

Moreover, Robinson also says that sustainability became part of their corporate strategy. So having that collective mindset towards sustainability helps to encourage their supply chain partners for example as well **(I23-p.81)**.

Findley goes on to explain that it is easier to be a single land owner, because this ownership is critical. The fact that Peel wanted to retain it was also important and made the entire process easier, because then you have a party who has a long term commitment interest. Having to link different developers in one area and try to make them see the long term value in a development is much tougher (Findley, 2016).

There were also other beneficial factors involved in the process which are more related to the image and value.

Since being based in the MediaCityUK some tenants have reported to see their turnover increase by up to three times. A development like MediaCityUK can have this effect and is strong enough to attract other companies in the digital and creative industry (Roue, 2015). This makes the area attractive to others and delivers continued growth **(I24-p.81)**.

Robinson explains that the focus on attracting other corporate companies is important. Peel has noticed that with discussing about sustainability with SMEs- who usually have a shorter future time span- compared to corporates is rather different as sustainability is also increasingly on the agenda of corporates whereas this is not always the case with SMEs (Robinson, 2016). Also here a shared corporate social responsibility vision between companies can be seen and can contribute to why the focus on businesses is sustainable urban development is interesting. With a sustainable development like MediaCityUK corporates take interest as it benefits their profile and Peel can assist in this **(I25-p.81)**. So there is also definitely a marketing approach to all this (Robinson, 2016). And if you can demonstrate with a BREEAM certificate that yours is a better place **(I26-p.81)** to be located for over a ten year period, and then you attract companies.

In addition, corporates establishing in MediaCityUK have similar interest then. So the BREEAM Communities can help drive the right mentality and make people think more about their decisions. With the tenants on one page, decisions based on sustainability can be made easier **(I27-p.81)**.

One of the big advantages of the process was to have the Salford City Council as a partner- they have been huge supporters (Robinson, 2016). Salford City Council assisted from planning, launching an incubator for SMEs called The Landing, helping with applications and arranging different types of funding for the public realm. "They have been a strategic partner", explains Robinson **(I28-p.81)**.

Robinson goes on to say that the public authorities have been of great help during the planning and control processes and making sure everything was arranged on time, especially considering the tight deadline they were working with **(I29-p.81)**. As BREEAM Communities was awarded the first time in MediaCityUK, the certificate had not yet been part of the local authorities plan and vision. The positive support of Salford City Council during the bidding process was also necessary to make this happen. If BBC would have thought that the council would be difficult in handing out the necessary documents, they probably would not have come. Getting the right planning permissions on time was actually one of the top contractual requirements (Findley, 2016)**(I29-p.81)**.

Nowadays, that is different though. For example Bristol City Council requires BREEAM Communities assessment on all their major developments through planning policy. The council wants to make use of nationally recognized standards in line with the National Planning Policy Framework (BRE Global, 2013b). With the assessment integrated in the planning policy, proposals for development with BREEAM Communities can be processed more efficiently. This can translate to a faster negotiation and decision-making process between planners and developers. It does not replace existing legislation and is not compulsory, both planning authorities and developers can benefit from the improved efficiency of application process while demonstrating the sustainability of the project (Cabrita & Alvarez, 2010) **(I30-p.82)**.

This means that the developer can save both time and money by having the applications move more efficiently though the planning process as the proposal is already covering the basic planning policy requirements (BRE Global, 2013a)**(I29)**. By being in line with the National Planning Policy Framework, BREEAM also helps secure planning approval (UK Green Building Council, 2013). Improving the approval efficiency can serve as a great incentive for developers **(I30-p.82)**.

The Salford City Council also assists in monitoring the impact the development has made by looking for example on the amount of car uses. They are happy to work with us on that and findings can be used for improvement or future developments (Robinson, 2016). This could lead to gathering more information on the soft values challenge.

Related to the life cycle approach, Peel is also happy to be able to maintain control over the public realm as it affects the quality of the environment- which is something Peel has a vast interest in (Robinson, 2016). In addition, Findley adds that Peel needed to ensure the overall quality of the area for their tenants, so they were given the opportunity to do these themselves as Salford City Council did not have the budget to maintain the high quality **(I31-p.82)**. This was not the case in Masthusen, Sweden. Findley explains that the Salford City Council also supported in other ways. The extension of metro link for example would not have happened without their help- and this was an important part of the bid as well. Furthermore, the council also did what they could to help secure other companies on the site. They even invested financially themselves by providing funding to help relocate the BBC staff and by investing money in the incubator The Landing **(I32-p.82)**.

At last, Robinson mentions some general incentives to motivate developers more in order to drive sustainable developments. He mentions that it involves a mix of things, but helping to access funding or giving some sort of rate reduction can perhaps also help **(I33-p.82)**. This can encourage developers according to Robinson. With the system in the UK being driven down to local councils, councils have control over how to spend their money and they could somehow use this as a mechanism to drive developers to be more sustainable.

Figure 36 - MediaCityUK (source: http://www.chapmantaylor.com/en/projects/detail/mediacityuk/en/)

5 COMPARISON FINDINGS

Based on a cross-case analysis this chapter will process the similarities and differences between the case-studies of Ecomunitypark, Masthusen and MediaCityUK based on the variables mentioned previously; type of developer and development, stakeholders and partnerships, drivers, barriers and incentives. The variables of the case-study findings are interpreted to the category that appears to be most related to them. The examples of these variables which were described in the literature study are used as a guideline. The variables are short and straight-to-the-point for the tables, but with the coding the reader can find its context in the text in chapter 4. Additional variables which have come up based on the empirical findings are labelled with italic style. The tables in this section have the purpose to give a clear overview of the similarities and differences between the cases. These comparisons will form a bridge for the conclusions in the next chapter.

5.1.1 COMPARISON STAKEHOLDERS, PARTNERSHIPS AND DRIVERS

Before elaborating further on the stakeholders and their comparisons, the following tables give an overview of the type of developers and development. These general observations were not coded in text. They will be further elaborated in the section about stakeholders.

Table 13 - Comparison of type of developers (own ill.)

Type of developer	Ecomunitypark	Masthusen	MediaCityUK
Name developer	Ecomunitypark B.V.	Skandia Fastigheter	Peel Group
Single or multiple	Single developer	Single developer	Single developer
Type of developer	Developer/investor	Traditional developer	Developer/investor
Duration involvement	Long term: Involved in operational phase with park management and owner's association	Short term: Involved only in development phase	Long term: Involved throughout life cycle- asset management

Table 14 - Comparison based on type of development (own ill.)

Type of development	Ecomunitypark	Masthusen	MediaCityUK
Single or mixed-use	Single-use; business parks	Mixed-use	Mixed-use
Scale size	17 ha	11 ha	81 ha
End-users known	End-user known in initial phase	-	End-user known in initial phase
Vision for area	Bio-based and knowledge cluster	Sustainable and knowledge cluster	Media and digital knowledge cluster
Experience with BREEAM urban certifications	BREEAM-NL Gebiedsontwikkeling (first time use)	BREEAM Communities (first time use)	BREEAM Communities (first time use)

Table 15 - Comparison by stakeholders and partnerships (own ill.)

Stakeholders and partnerships	Ecomunitypark	Masthusen	MediaCityUK
Key stakeholders	Ecomunitypark B.V. and Municipality of Ooststellingwerf	Skandia Fastigheter and City of Malmö	Peel and Salford City Council
Public or private-led	Private-led	Private-led	Private-led
Role of municipality	Facilitating	Facilitating	Facilitating
Collaboration	Worked together on sustainable plans/vision (S3-p.60)	Worked together on sustainable plans/vision (S7-p.68)	Worked together on sustainable plans/vision (S12-p.76)
Use of BREEAM	BREEAM to demonstrate and measure sustainability, and as guiding tool (S2-p.60)	BREEAM to help meet local demands and as guiding tool (S6-p.68/69)	BREEAM to demonstrate sustainability (S11-p.75)
Other key stakeholders	End-user ECOStyle (S1-p.60/61)	Other developers (S9-p.69)	End-user BBC (S10-p.75/76)
Area management	Park management with owners' association(S4-p.61)	-	Estate service with service charge (S13-p.76)
Public/private role in public space	Private party remains in ownership of public realm (S5-p.61)	Public authorities remain in ownership of roads and public realm (S8-p.68)	Private party remains in ownership of public realm S13-p.76)

5.1.1.1 STAKEHOLDERS AND PARTNERSHIPS

The findings of the literature have shown a shift to private-led developments with developers taking the lead while governmental authorities take a more facilitating role. All the three case-studies had this structure in common as well. These developments can have a single land owner or multiple. All three cases were started as single private-led developments. Only exception was Masthusen which in a later phase decided to sell some of the plots to other developers, behaving similar to a traditional developer role. Skandia Fastigheter differs from Ecomunitypark B.V. and Peel Group to the extent to which the developer is involved in the whole process. Skandia Fastigheter behaves as a traditional developer compared to the other two as it is only involved in the development phase. Ecomunitypark and MediacityUK are most alike with the owner of the land also being involved in operational phase- however do note that this is done under separate entities. In addition, the owner of Ecomunitypark B.V. is also an end-user with its company ECOStyle. In the case of MediaCityUK Peel remains involved by maintaining ownership of the area and managing their assets, but not as a direct end-user themselves. Moreover, Ecomunitypark B.V. has set up a park management operation with owner's association and building owners become part of the association by paying a park fee while Peel charge a service fee for the estate management, but remains complete ownership and management.

Based on this comparison of the different developers, Skandia Fastigheter fits more the example of the traditional developer. According to literature this would entail that they are more likely to have a short term interest in the sustainability aspect of the development compared to Ecomunitypark and Peel who have a longer commitment. Yet, Skandia Fastigheter might not be as traditional, as interestingly during the interviews was mentioned that

Skandia Fastigheter expressed interest to develop, maintain and operate the public realm in the area and would have preferred to realize these themselves instead of the municipality, thus indicating an interest in the long term view of the development. However, this could be explained by an interest in estimated increased value of the properties in the area due to the high-quality public realm.

5.1.1.2 PARTNERSHIP WITH LOCAL PLANNING AUTHORITIES

The findings from practice did show however that just because these cases were private-led and municipalities took on a facilitating role, they were not less involved. As a matter of fact, all three cases illustrate active participation from the public parties. Close collaboration between developer and local authorities led to working together on the necessary plans and vision for the area and were regarded important during the initial phases. The City of Malmö appeared to be the most active in terms of having plans and requirements already in set for the area- but even so collaboration between local planning authorities and developers was strong.

5.1.1.3 THE USE OF BREEAM

The three cases had all in common that it was the first time the developers worked with BREEAM certifications on urban area level. The findings were in accordance with the literature findings about BREEAM as well having acted in the processes of the cases as a guiding and communication tool between the stakeholders during the process and to be able to demonstrate their achievement. Furthermore, it also helped measure the level of sustainability in an objective manner. BREEAM was also used to set up the framework for the development process. Notably, in the case of Masthusen BREEAM was even used as a tool to help meet the local requirements in the area. The fact that it was the first time the developers worked with BREEAM on urban scale also further explains the close collaboration with local authorities as adaptions to local plans were often necessary. At last, in the particular case of Masthusen, the developer heavily relied upon BREEAM to act as a strong guiding tool affecting the decisions for the development. This could have to do with the fact that more developers were involved in Masthusen.

5.1.1.4 OTHER FINDINGS

The type of development in which the process took place also matters and is something to keep in mind. Ecomunitypark is a single-use business park whereas the Masthusen and MediaCityUK are both mixed-use developments. Another common trait was that all three developments were focused on being part of a knowledge cluster for like bio-based, sustainability and media. This was initially not a variable to be taken into account, but did appear apparent during the case-study findings. Another aspect to bear in mind is the scales of the developments, with Ecomunitypark and Masthusen closest to each other, but with MediaCityUK being far larger in size. No findings however were able to highlight a major difference between a scale of 11 ha and one of 81 ha. However, it is important that with even the smallest case in this research, Masthusen, 11 ha was regarded as a large-scale development by the developer and was therefore interesting for a BREEAM urban certification.

Moreover, both developments of Ecomunitypark and MediaCityUK were targeted at a particular key end-user; ECOStyle and BBC respectively. Again, in this aspect, Skandia Fastigheter fits the more traditional developer traits by developing Masthusen without a particular end-user involved. Instead, Skandia Fastigheter sold some blocks to other developers who then also became part of the development process. The end-users have shown to make a big impact on the development as they were involved from the start.

5.1.1.5 DRIVERS

The following table goes on to compare the drivers of the key stakeholders.

Table 16 - Comparison based on key stakeholders' drivers (own ill.)

Key Stakeholders	Description drivers	Type of drivers
Ecomunitypark		
Ecomunitypark B.V. (initiator and end-user ECOStyle)	Started with mainly intrinsic driver (D1-p.61). But the reputation of ECOStyle and the commercial drivers are also taken into account (D2-p.62).	Intrinsic, reputational and financial
Municipality of Ooststellingwerf	Job creation (D3-p.62) and setting an example (D4-p.62)	Reputational and financial
Province of Friesland	Improving image (D5-p.62)	Reputational
Masthusen		
Skandia Fastigheter	Demonstrating sustainability (D6-p.69), publicity (D7-p.69), securing large-scale development (D8-p.69) and corporate responsibility (D9-p.69)	Reputational, financial and Intrinsic
Malmö City Council	Acquiring knowledge because of interest (D10-p.69) and continuing change shift of profile from industrial city to a sustainable city (D11-p.69).	Intrinsic and reputational
MediaCityUK		
BBC	Profiling to reduce criticism (D12-p.78)	Reputational
Peel Group	Image and being front-runner (D13-p.78), marketing approach (D14-p.78), costs and asset value (D15-p.78), company values (D17-p.78) and, and anticipation on legislative changes (D16-p.78)	Reputational, financial, intrinsic and legislative
Salford City Council	Profiling (D18-p.78) and job creation/contribution to regional and national economy (D19-p.78)	Reputational and financial

Literature findings have narrowed down the types of drivers to financial, reputational, legislative and intrinsic. The focus of this research is to focus on the developers, but the drivers of other key stakeholders are also mentioned here to see if there are any similarities or differences. All participating developers show signs of reputation and finance being the key drivers for their investment in sustainable urban development projects. Reputational drivers seem to be one the most important to all key stakeholders as the findings elaborate on image-related drivers compared to the other types of drivers. The combination of financial and reputational drivers is also important for the developers of Ecomunitypark, Masthusen and MediaCityUK. With the owner of ECOStyle being a non-traditional developer, the intrinsic driver was key for this developer. Besides the reputational and financial, all three cases showed sign of intrinsic drivers- mentioning they want to act sustainable because they feel responsible. However, it should be mentioned that responsibility can also be linked to reputational drivers, so there is some overlap there. Moreover, a difference in level of intrinsic drive could be observed from the non-

traditional developer Ecomunitypark B.V. and the corporate developers Peel Group and Skandia Fastigheter. Drivers related to legislative only appear to be of concern in the case of MediaCityUK as Robinson explained they also wanted to remain ahead of any future legislative changes regarding sustainability.

The findings of practice in this regard tend to be in line with the literature findings of drivers. Reputation being acknowledged by all confirms that there has been an increasing growth in reputation among companies to behave sustainable and that it is regarded an important driver. The literature findings suggested that the reputational driver might be affected by company sizes. Interview findings from MediaCityUK support this statement when having said that the SMEs in the area were less interested in the corporate sustainability role as opposed to the bigger end-users like BBC and ITV. Based on these findings it could be concluded that reputational drivers are increasingly important for any organization and company, creating a shared interest between the parties. One literature finding discussed that this could explain why businesses are important in sustainable urban developments as they share the reputational interest and are therefore willing to invest more.

Another suggestion made in literature with regards to reputation is the competitiveness. Both Skandia Fastigheter and Peel Group are major developers in their countries and claimed to want to be front-runners in this area- hence competitiveness was also important here. However, the same does not apply for Ecomunitypark B.V.. The findings also highlighted legislative drivers in the case of MediaCityUK, but it is hard to estimate its level of importance based on the interviews as it was only briefly addressed by Peel Group. Furthermore, intrinsic drivers have also been proven strong by the three cases, for the case of Ecomunitypark and MediaCityUK this could also have to do with the long term involvement, but in general all three cases highlighted the importance of addressing sustainability in their projects and why they thought it was necessary.

At last, it should be kept in mind that various internal and external factors can influence drivers of developers and other stakeholders.

5.1.2 COMPARISON BARRIERS

Table 15 continues to compare the barriers encountered in the processes.

Table 17 - Comparison based on barriers (own ill.)

Barriers	Description barriers	Type of barriers
Ecomunitypark B.V.	Flexibility of the plan (B1-p.62)	Legislative
	Division of land 55% green and 45% built to meet requirements of surrounding nature environment (B2-p.63)	Financial and legislative
	Management of public realm (B3-p.63)	Legislative
	Protests from nearby residents against another business park in their backyard (B4-p.63)	Legislative
	Split-incentive challenges (B5-p.63)	Financial
	Unclear how to demonstrate and translate soft-values (B6-p.63/64)	Knowledge
	Lack of knowledge and vision from municipality (B7-p.64)	Knowledge
	Inefficient organizational structure of municipalities can hamper access to right people/information (B8-p.64)	Organizational
	BREEAM certification requires high cost and time (Krikke, 2016)(Krikke, 2016)(Krikke, 2016)(B9-p.64)	Financial and legislative

Barriers	Description barriers	Type of barriers
	Unknowns and lack of information from developers (B10-p.64)	Knowledge
	Less willingness to pay for residential development due to less interesting circumstances (B11-p.64)	Financial
Masthusen	Contextual barriers with the adoption of BREEAM Communities more (B12-p.70)	Legislative
	Numerous actors participating in process and because decisions are to be taken democratically often developments are hindered due to their influences (B13-p.70/71)	Legislative
	With BREEAM not being integrated in the planning from the start time delays were caused (B14-p.70)	Financial and knowledge
	Not integrating BREEAM in planning and permit processes can lead to unnecessary time delay (B15-p.70)	Legislative
	BREEAM certification requires high cost and time (B16-p.71)	Financial and knowledge
	Some internal resistance within company due to costs and time associated with sustainability (B17-p.71)	Organizational and knowledge
	Private individuals are not yet willing to pay more for sustainability- companies however are starting to do that more (B18-p.71)	Financial
	Not able to maintain ownership of public realm (B19-p.72)	Legislative
MediaCityUK	Managing costs and budget decisions for different life cycles of development (B20-p.79)	Financial
	Large areas of public realm in development do not deliver money (B21-p.79)	Financial
	Measuring and translating soft values (B22-p.79)	Knowledge
	More education with regards to sustainability is needed (B23-p.80)	Knowledge
	Tight deadline to deliver project (B24-p.80)	Legislative
	Difference in developers and development make it hard to transfer experience from one case to another (B25-p.80)	Knowledge

In the literature findings barriers were defined as phenomena which actively counteract and are in the way of a desirable change or inertia which results in the change progressing slowly in relation to challenges and targets (Boverket, 2015). This sub questions focuses on the main barriers developers faced during the process.

In the section about barriers, barriers were defined in the following four categories based on findings of literature: financial, legislative, knowledge and organizational.

Whereas there are some barriers which appeared in the findings of each case-study, they varied in other aspects as well. The lack of knowledge about incorporation of soft values and the high costs and time of BREEAM assessment were repeated a couple of times- as were variables related to efficient planning processes and challenges

regarding public realm. Yet, it was barriers related to finance which was most often named. This result from practice is in line with the findings of the theory about barriers in sustainable urban development. Developers are business actors and at the end of the day, the development needs to be financially feasible and attractive enough for them to invest so that their core business can survive the market and maintain sustainable. Costs related to BREEAM in terms of price and time was also addressed by the cases to be a financial barrier. Yet, it should be noted that for none of these cases financial barriers hugely affected the development process and put it at risk- perhaps indicating that it is not a strong barrier or that because these were front-runner projects financial barriers posed less risk. One of the biggest financial barriers occurred in Ecomunitypark with the discussion about division of the area with 55% greenery and 45% buildings. Still, the barrier was overcome. This could have to do with the developer's strong intrinsic drive and/or that the developer is the future end-user as well.

Another financial barrier mentioned in literature is the perceived market acceptance of sustainable buildings as these are often priced with a premium. However, similar to the shared reputational interest between businesses, the cases also address companies more willing to pay for sustainability than individual residents. However, both Masthusen and MediaCityUK do include residential dwellings in their plans so there must be a financial side to it- perhaps an offset with larger companies. So perhaps business establishments are needed to help make a sustainable development financially feasible- which could be a reason why in the Netherlands the focus is more on sustainable business parks and less on residential or combination of the two.

The findings of literature study have shown different outcomes in regards to knowledge being a barrier. However, the findings of cases have indicated this to be an important barrier as well and it is mentioned in all cases. This barrier can be identified both on the developer side as well as lack of knowledge and expertise from the public side. Variables related to unknowns about soft values, expertise/experience and BREEAM itself were mentioned multiple times. Krikke even goes so far to say that knowledge-related barriers are why more traditional developers tend to stay away from sustainable urban development projects- indicating that these can be quite strong barriers. Due to lack of proper information developers see more financial risks or are unable to show the values- thus knowledge barriers often result in financial barriers as well. This is also often the case when one mentions that BREEAM is too costly and demands too much time.

Legislative barriers were also mentioned in all cases and mostly in respect to the combination of BREEAM and planning/permit procedures. This could have to do with the fact that BREEAM for urban areas was firstly used in these developments, so both public and private parties had no prior experience on how to handle with BREEAM in regards of the administrative and regulatory aspects. So it could be possible that experience with BREEAM urban certifications can eliminate this barrier in the future and perhaps turn it into something positive. Moreover, the case of Masthusen addressed the majority of legislative-related barriers. This could be explained by strong local involvement of municipality of Malmö in the process and the democratic nature of Sweden where individuals and parties have strong say and can lead to long tedious processes. In addition, Skandia Fastigheter was the first to adopt BREEAM Communities directly from UK so it had to be adapted especially to the Swedish context and this also caused long legislative process. This is not the case with MediaCityUK and the Ecomunitypark as BREEAM Communities was already designed for the British context while the Dutch Green Building Council already worked on Dutch BREEAM-NL Gebiedontwikkeling variant during the process of Ecomunitypark.

Both the legislative and knowledge barriers are directed to operations close to municipalities- like planning, legal framework and/or knowledge of staff. Thus these barriers could directly be solved by local planning authorities themselves.

At last, organizational barriers were not widely addressed even though in the literature findings they do appear to be one of the more popular named barriers. However, an explanation for this could be given based on the fact that these companies all had sustainability as part of the company strategy when initiating the developments as front-runners. However, during one of the interviews with Masthusen, it was mentioned that initially the company struggled with the high costs of the sustainable development, but fortunately turned around when starting to notice the upsides to it.

5.1.3 COMPARISON INCENTIVES

The following table goes on to compare the different types of incentives analyzed in the case-studies. The four main types include financial, reputational, legislative and capacity-building.

Table 18 - Comparison based on incentives (own ill.)

Incentives	Description incentives	Type of incentives	Target incentives
Ecomunitypark B.V.	Economies of scale to be gained with certification in an already certified urban area (I1-p.64)	Financial	Barrier removal + driver empowering
	Obtaining faster design permits because of BREEAM urban certification (I2-p.64)	Financial	Driver empowering
	Incorporating soft values in calculation models (I3-p.65)	Financial	Barrier removal
	Subsidies for further investments in sustainable energy measures (I4-p.65)	Financial	Driver empowering
	Paying lower value of agricultural land for business function and change of zoning plan (I5-p.65)	Financial and legislative	Barrier removal + driver empowering
	BREEAM as strong tool to guide actors involved in process (I6-p.65)	Legislative	Driver empowering
	BREEAM certificate to profile yourself and make it tangible that you are being sustainable (I7-p.65)	Reputational	Driver empowering
	Long-term involvement of developer as end-user adds value and removes split-incentive challenges (I8-p.65)	Financial	Driver empowering and barrier removal
	Having a fixed official contact person within municipality to support in various tasks like planning, finding the right person, department or other (I9-p.65)	Legislative and capacity-building	Barrier removal + driver empowering
	Positive attitude and culture within the municipality (I10-p.65)	Capacity-building	Driver empowering
	Municipality took financial risks too in terms of infrastructure development, invested time (contact person and solving juridical problems related to sustainability), invested back in the business park by establishing an education center and schools on the site (I11-p.66)	Financial	Driver empowering
Masthusen	Having exemplary projects set in an already established environment helps guide developers in their own projects and learn lessons from previous similar sustainable developments. This existing sustainable environment is steered by the municipality (I12-p.72)	Capacity-building	Driver empowering

Incentives	Description incentives	Type of incentives	Target incentives
	Having an exemplary and progressive municipality who creates favorable conditions for a more holistic planning approach with beneficial effects (I13-p.72)	Capacity-building	Driver empowering
	The combination of BREEAM certificate and scale of the area offered values for being sustainable like reducing risks (I14-p.73)	Financial	Barrier removal + driver empowering
	Economies of scale to be gained with certification in an already certified urban area (I15-p.73)	Financial	Barrier removal + driver empowering
	Gained publicity is can be used to advantage when cooperating with other developers and municipalities, because you are able to demonstrate your sustainability with (I16-p.73)	Reputational	Driver empowering
	BREEAM as a tool eases discussions in decision-making process, reduces room for negotiation and bind all actors under share vision (I17-p.73)	Legislative	Driver empowering
	Having the right people/mindset offers support for a BREEAM certification within organization (I18-p.73)	Capacity-building	Barrier removal + driver empowering
MediaCityUK	Having a big end-user like BBC involved from the start was valuable as it gave the developer the confidence develop as it reduced risks and attracted other tenants to the area (I19-p.80)	Financial and reputational	Driver empowering
	Having the requirements and demands clear in the bid led to the entire process being easier as demands were clear for all (I20-p.80)	Legislative	Driver empowering
	Being able to be involved throughout the entire life cycle as owner/operator pushes to see other advantages like what is most cost-effective (I21-p.80)	Financial	Driver empowering
	Being involved in all phases reduced split-incentive challenge (I22-p.80)	Financial	Barrier removal
	With the right mindset within companies employees motivate others as well (I23-p.81)	Reputational	Driver empowering
	Scale of development is able to have large impact in the industry and make area attractive to others and allow continued (I24-p.81)	Financial and reputational	Driver empowering
	Having companies established in the area allows for shared corporate social responsibility vision between companies can	Financial and reputational	Driver empowering and barrier removal

Incentives	Description incentives	Type of incentives	Target incentives
	be seen and improves understanding and willingness to pay (I25-p.81)		
	BREEAM certification as marketing approach (I26-p.81)	Reputational	Driver empowering
	BREEAM Communities demands the right mentality and can bring tenants on one page, making decision-making easier (I27-p.81)	Legislative	Driver empowering
	Municipality as active supports; they helped arranged funding, public transportation and invested in the incubator on site (I28-p.81)	Financial and capacity-building	Driver empowering
	Municipalities offered faster approval efficiency for permits (I29-p.81)	Legislative	Driver empowering and barrier removal
	Maintaining control over public realm (I30-p.82)	Financial	Driver empowering and barrier removal
	Active and financial support from municipality with extension of metro, help secure other tenants and assisted in funding relocation of BBC staff (I31-p.82)	Financial and capacity-building	Driver empowering
	Help to access funding or giving rate reduction (I32-p.82)	Financial	Driver empowering and barrier removal

Based on the literature findings, incentives have been processed into financial, reputational, legislative and capacity-building incentives.

Literature findings mentioned that a mix of incentives is most effective and common. This resonated with the findings from practice where all case-studies seem to have a similar combination of financial, reputational, legislative and capacity-building incentives in the development process.

Based on the empirical findings, financial incentives appear to be the most mentioned. This is in line with findings of the literature as well. However, this does conflict with studies stating that financial incentives appear to only have a weak impact on developers. The empirical results show that the financial incentives often tend to act as both driver-empowering and barrier-removal. This could indicate that financial incentives can be the solution to the main barriers-which are also financial. Yet, these financial incentives appear to be more towards increasing profitability than to make a project feasible, as often they also empower financial drivers. Both Ecomunitypark and MediaCityUK were provided subsidies and funding which the developers claimed to be pleased with and regarded as a valuable aspect in the process. Yet, these subsidies and funding did not appear to be crucial to the feasibility of the development. Yet, two things to keep in mind about this is that (1) developers do not always behave as they say and (2) these are considered best-practice cases and their motives could lie much differently than more traditional developers. Financial participation from the municipalities also had a positive effect on the developers as they felt they were supported.

So even though these were private-led developments and thus mainly all finances and risks were carried out by the developer, still in all cases public parties made financial investments as well. Infrastructure was covered by public authorities in all cases , and in the case of Ecomunitypark and MediaCityUK the local authorities went even further and invested in facilities within the area like for example the education center and schools in Ecomunitypark and the incubator The Landing in MediaCityUK. Other ways in which they financially invested included fixed staff contact person (Ecomunitypark) and relocation of staff for the tenant (MediaCityUK). Thus even though not

financially responsible as a facilitating party, the municipalities actively invested back in the area to support the development.

Furthermore, both Ecomunitypark and MediaCityUK seem to empower their financial drivers by being incentivized as long term actor. This reduces split-incentive barriers and can increase cost-efficiency for the developers in operational phase. This while some literature findings suggested that financial incentives are directed to overcome the short term focus of most actors. So it should be noted that perhaps different types of developers need to be analyzed in order to conclude the impact of financial incentives. At last, it is also important to keep in mind that financial incentives do not always directly translate to monetary terms, but can be also indirect as it affects the developer's strategy and potential future earnings- which supports why financial and reputational incentives are often combined. This also confirms the result of a study stating that the combination of finance and reputational incentives tend to be the most effective as it provides a first step in stimulating sustainable development by firstly the reputational incentive- and then backing it up with economic justification.

Reputational, legislative and capacity-buildings seem to share the same level of effect based on empirical findings. Like just mentioned, reputation can be often reported in combination with financial incentives. This can be supported based on the many marketing advantages seen with reputational incentives- often because of the demonstrable BREEAM certification- and how to use this in order to attract tenants and/or other developers to project which in turn can result in higher and faster revenue for the developers. This is interesting as findings in literature have also reported an increase in reputational incentives as they also start recognizing the financial risks associated with a bad reputation. In this regard BREEAM also proves to be used to improve the profile and to be able to benchmark sustainability between developers. One main criticism towards reputational incentives remains the risk of greenwashing and other pretend interest in sustainability. With the exception of the initial organizational barrier mentioned in the case of Masthusen, reputational incentives are targeted to empower existing drivers like image, marketing and competitiveness.

In contrast with the empirical findings of financial and reputational incentives, the capacity-building and legislative incentives appear to be more often targeted to empower drivers. Findings of literature review have stated that legislative types are most effective when they reduce administrative burdens and this can be supported by the empirical claims based on efficient planning processes as a result of legislative incentives. With regards to BREEAM it can also lead to an easier decision-making process between parties. It should be mentioned though, that both in the literature and interviews, the planning efficiency is better achievable within existing scheme- like BREEAM in this case. In addition, a decrease in administrative burdens is translatable to cost-efficiency as it can save time and money- both valuable for developers. This is also in line with findings stating that these incentives are most effective when they can be made tangible. It should be noted that one study claimed that legislative incentives geared towards administrative processes are hard to scale as these are often complex of legislative nature. This could indicate a longer time to successfully start implementing more of this incentive type. However, this does not mean it is possible. Findings from literature have also shown that in particular British councils are trying to increase the efficiency of planning processes involving BREEAM Communities as part of their regular plans and framework.

Capacity-building incentives can also be linked to the empirical findings related to collaboration and knowledgeable input from stakeholders like public authorities- of which the latter is particularly strong in Malmö. Interestingly, capacity-building incentives were also connected to the fact that the developments of the cases involved a single initial developer and land owner as this decreases the complexity of the processes due to less stakeholders involved. The capacity-building incentives were often linked to assistance offered by the public party in terms of access to funding, bringing actors together and supporting the development in positive ways with knowledge or other exemplary projects. Some of the municipalities also supported in financial ways and this could overlap with financial incentives as well. The cases have also shown that the local authorities were actively involved in bringing relevant stakeholders to the table; whether it was the Province of Friesland or Transport for Greater Manchester.

Both the legislative and capacity-building incentives are directed to how a municipality operates and/or what type of exemplary role they take on. Similar to the barriers- legislative and knowledge- also here municipalities could directly offer these incentives by changing for example the planning procedures, equip its staff with proper knowledge related to sustainability to help inform developers and to be supportive. Hence, it appears that some incentives can be more directly linked to the operations of local planning authorities than financial and reputational ones- where developers and external organizations like BREEAM can also play a role.

Overall, it should be taken into account that both internal and external factors can affect the drivers, barriers and incentives and result in incentives not always being able to have the same effect in each development. Positive factors and incentives can be difficult to separate. Moreover, the combination of incentives should be kept in mind as these can affect the effect of one another.

At last, it can also be noted that incentives can also be provided internally by the developers themselves by seeing opportunities to enhance their drivers. This is slightly in contrast with the literature findings which gave the impression that most incentives are to be provided by governmental authorities. One example of this is the implementation of BREEAM assessment by the developer- the comparisons above highlight that using BREEAM can lead to better marketing, reputation, demonstrability and collaboration. Also, it should be noted that the internal incentives can mostly be related to finance and reputation while capacity-building and legislative more often involves a larger role for governmental authorities.

Based on the findings of literature study, interviews and comparisons, the following chapter will discuss the conclusions of this research.

5.1.4 SUMMARY COMPARISON FINDINGS CASE-STUDIES

The following table summarizes the findings of the case-studies and gives an extracted overview of their similarities and differences in stakeholder structures, drivers, barriers and incentives. The ‘M’ behind variables in the rows of drivers is drivers from the municipality. The remaining ones are from the developers.

Table 19 - Summary cross-case comparison (own ill.)

Variables	Ecomunitypark	Masthusen	MediaCityUK	Discussion
Stakeholders	Ecomunitypark B.V. and Municipality of Ooststellingwef	Skandia Fastigheter and City of Malmö	Peel Group and Salford City Council	Single developer, private-led developments with facilitating public role. Close collaboration between the two parties. Developer/investors have relation with end-user early on. BREEAM is used to guide process, to demonstrate sustainability or to meet requirements.
Type developer	Developer/investor	Traditional developer	Developer/investor	
Duration involvement	Long term	Short term	Long term	
Other key stakeholders	End-user ECOStyle	Other developers	End-user BBC	
Collaboration	Worked together on sustainable plans/vision	Worked together on sustainable plans/vision	Worked together on sustainable plans/vision	
Role of BREEAM	To demonstrate sustainability and guide	To meet local requirements and to guide	BREEAM to demonstrate sustainability	
Drivers				Financial and reputational drivers most addressed by both developers and municipalities- hence creating shared interests. Long-term developers share intrinsic values.
Financial	Commercial and job creation (M)	Reduce large-scale risks	Costs and value, job creation(M)	
Reputational	Reputation end-user, set example(M)	Publicity and CSR, profile of city(M)	Image and front-runner, profile(M)	
Legislative	-	-	Anticipation legislative changes	
Intrinsic	Personal, intrinsic drive	Municipality values	Company values	
Barriers				Financial barriers appear most common- often related to BREEAM too. Legislative, knowledge and organizational barriers often ultimately result in financial barriers due to time, costs and/or uncertainty. Legislative and knowledge barriers are close to municipal operations and thus could be solved there.
Financial	Use of land, split-incentive, BREEAM, unwillingness pay residential sector	BREEAM, time delays and unwillingness pay residential sector	Budget total life cycle phases, costs public realm	
Legislative	Zoning plan, NIMBY residents, integration BREEAM in planning	Contextual factors BREEAM, integration BREEAM, participation actors, unable to operate public realm	-	
Knowledge	Incorporating soft values, lack of knowledge and/or vision	Adoption BREEAM	Incorporating soft values, lack of knowledge and/or vision	
Organizational	Inefficient municipal division structure	Internal resistance within company	-	
Incentives				Financial incentives appear most common and are targeted both to empower drivers and reduce barriers. Reputational incentives are linked to BREEAM and to empower drivers related to reputation. Legislative and capacity-building incentives are close to municipal operations and the role they take on.
Financial	Scale economies, include soft values, subsidies, long-term value, public investment	Scale economies and risk reduction	Risk reduction, long term value, subsidies, public investment	
Reputational	BREEAM to profile and demonstrate	BREEAM to demonstrate, marketing	BREEAM to market, anchor end-user	
Legislative	Flexible zoning plan, BREEAM to guide process, fixed municipal contact, faster permit approval	BREEAM to guide process	BREEAM to guide process, faster permit approval, bid with clear requirements	
Capacity-building	Positive and supportive attitude from municipality with knowledgeable staff	Progressive municipality and exemplary projects nearby to learn	Supportive/partner-like municipality	

6 CONCLUSIONS

Following the literature and empirical analyses, this chapter will formulate the conclusions. To do so the main question and sub questions from the research will be repeated. The sub questions will each be addressed separately before answering the main research question.

The main purpose of this research is:

By exploring how to bridge the gap between sustainable ambitions and realization with a better understanding of how incentives can stimulate developers to sustainable developments, the research can lead to insights and recommendations to get one step closer to bridging this gap.

6.1 RESEARCH QUESTIONS

The main research question and sub questions are:

How can private developers be incentivized by local planning authorities to invest in sustainable mixed-use urban development projects?

1. How are the stakeholders' roles and partnerships structured within the development process?
    a. What are the drivers of the key stakeholders involved?
    b. How is the partnership and collaboration in the development process?
    c. What is the role of BREEAM during the development process?

2. What barriers are encountered during the process of sustainable urban development?

3. What incentives are applied during the process of sustainable urban development?

Each question will now be discussed further.

6.2 CONCLUSIONS STAKEHOLDERS' ROLES AND PARTNERSHIPS WITHIN SUSTAINABLE DEVELOPMENTS

This sub question is further divided into sub parts; first the overall conclusion for this question is addressed and after the general partnership within the process, the role of BREEAM between the stakeholders and the drivers of the key stakeholders will be elaborated individually.

Key conclusion: Private-led urban developments are to be supported by facilitating yet active local planning authorities. With active is meant a close collaboration between private developers and local planning authorities on planning and visions for the area. BREEAM can serve many purposes during the process, with the most noticeable ones being a guiding tool for decision-making, to help meet requirements and the certificate to demonstrate the achieved levels of sustainability. Both developers and municipalities are motivated by financial and reputational drivers which can create a shared interest between the parties during the development process. Moreover, reputational drivers can possibly be affected by tenant type- indicating why businesses play a larger role in the development than residents- which can also explain why business parks are more common than mixed-use urban developments. At last, intrinsic drivers could be linked to developers whom are committed to a long term.

Type of developer and development

The type of developer- whether short term or long term involved in the life cycle- can affect the outcome of the development. Park and estate management show to be useful for the long term developers as these management systems allows them to better operate the development and collaborate with other tenants or actors. Because of this retained ownership after construction, there is also vast interest in operating the public realm. Remarkable was that the more traditional and short term involved developer (Skandia Fastigheter in this case) also expressed interest to operate the public realm- but were not allowed. However, this shows that a short term developer can also express similar interests as long term developer because they were able to acknowledge the value.

Having an end-user involved in the early stages can influence the process and steer the development as its requirements and interests are taken into account from the very beginning.

Partnership with Local Planning Authorities

There has been a shift from active to facilitating governments and private-led developments often appear to be associated with passive involvement of public parties. The results of this research however highlight that just because the local planning authorities had mainly a facilitating role, it didn't stop them from being actively involved. There was active participation of the municipalities during the collaboration by working together on planning documents, bringing relevant stakeholders together, infrastructure, access to funding and investment in establishment on the development sites. Their involvement was facilitating, yet with much active support.

The Use of BREEAM

The certification of BREEAM for urban developments had the role of guiding the decision-making process and communication between the stakeholders- especially when used the first time. Moreover, it offered proof of the level of sustainability achieved in the development which made it easier to demonstrate the commitment to others. Moreover, it can be used to make sure actors meet the development requirements and to create a shared vision.

As all three developments had no prior experience with BREEAM as an assessment tool, it demanded close collaboration between the private and public parties. Perhaps with more experience, the strong collaboration would be less needed.

Drivers

The literature findings have narrowed down the types of drivers to financial, reputational, legislative and intrinsic.

Financial drivers

Financial drivers appear to be important for the developers as they are looking at ways to reduce risks, be cost-efficient or increase their profit. Even though often mainly related to social drivers, the local planning authorities also mention variables like job creation as financial drivers for them.

Reputational drivers

The financial drivers were always mentioned in combination with reputational drivers as well. The combination of these two appeared to be most relevant to the developers (as well as public authorities). This highlights a growth in the importance of reputational drivers for companies. With more companies developing a shared interest for their reputational standards in regards to sustainability, developers mention that this reputational interest also leads to willingness to pay more for being established in a sustainable urban development project. Private individuals appear to not be on this level yet and that could be an explanation to why the focus in the Netherlands is much more on sustainable business parks and not mixed-use urban developments.

Moreover, competitiveness and being associated as front-runners were also strong drivers for the developers to invest in sustainable urban development projects. Being the first was important for their reputation.

Intrinsic drivers

Intrinsic drivers were also traced to all the developers in this research- even though it is difficult to truly distinguish the intrinsic and reputational drivers in some cases. Still, the developers expressed they felt the responsibility as a company to take action and contribute to sustainability. The intrinsic driver felt strongest with the non-traditional developer of Ecomunitypark B.V. who really tries to include sustainability because he believes it is best, whereas the more traditional developers like Peel Group and Skandia Fastigheter mention sustainability in regards to responsibility and company visions. At last, the intrinsic driver was mostly addressed in the cases Ecomunitypark and MediaCityUK, perhaps indicating a relation between intrinsic drivers and long term developer commitment.

Legislative drivers

Legislative drivers were mentioned only once as a way to stay ahead of future changes regarding legislative about sustainability. This driver did not appear to be as strong as the other three.

At last, it should be kept in mind that various internal and external factors can influence drivers of developers and other stakeholders.

6.3 CONCLUSIONS BARRIERS

Key conclusion: Financial barriers appear to be the most encountered by developers. These vary from split-incentives, high costs and time delay. They could also be linked to unwillingness to pay from tenant types- with companies more willing to pay for sustainability than individuals- which in return can affect the type of development. Financial barriers related to the use of BREEAM contained high costs and time. Legislative, knowledge and organizational barriers can all result in financial barriers too due to time, costs and/or uncertainty. Thus it is important to address the legislative, knowledge and organizational barriers as well. Also in regards to legislative and knowledge BREEAM was identified as a barrier. Front-runner developers appear to experience less organizational barriers.

Financial barriers

Barriers related to financing appeared most often in the findings- both literature and empirical. An explanation for this is that developers are still business actors and for them to survive the competitive market, a development has to be financially attractive in order to participate. The willingness to pay from private individuals was also more or less repeated here. All the cases include business functions and perhaps this offset is needed to make up for the lack of willingness to pay from the residential sector. But so far this can only be assumed.

The use of BREEAM assessment was often also regarded as financial barrier due to its high costs and time. Yet, the financial barriers in the three cases never proved to be strong enough in order to really possibly set the development at risk. An explanation for this could be given because the developers are all regarded as front-runners, thus their perception of the financial barrier might lie differently than other developers.

Knowledge barriers

Knowledge related barriers like lack of expertise, lack of knowledge on how to translate the softer components of sustainability in a calculation model and lack of experience with BREEAM appear to be strong barriers. All three cases faced challenges regarding this type of barrier. These knowledge barriers are not be underestimated as they could be one of the main reasons why many developers tend to stay away from sustainable urban development projects. This also leads to a possible relation between financial and knowledge barriers in which if it is not clearly known for a developer for example how to include costs and revenues in a sustainable development, then it is difficult to assess the financial feasibility, risks and profit as well and thus leading to financial challenges.

Legislative barriers

Legislative barriers were most common mention in association with the use of BREEAM and its integration in planning and permit procedures. An explanation for this could be the fact that there were no prior experiences with these in the cases. Thus perhaps, a more frequent and integrative collaboration between local planning authorities and BREEAM could reduce this barrier in the future.

Furthermore, in the case of Masthusen specifically, it became apparent how contextual factors can also affect the legislative barriers.

Organizational barriers

Organizational barriers did not appear to be strong barriers, but again this can be explained because of the type of developers involved. Literature strongly suggests that this barrier not to be underestimated as internal organizational disagreements with regards to sustainability can hamper developments.

6.4 CONCLUSION INCENTIVES

Key conclusion: Not only one, but a combination of different types of incentives is applied to stimulate developers. In addition, incentives can be targeted to empower drivers and/or remove barriers. Financial gains can often be secondary to reputational, legislative and capacity-building incentives. The financial incentives target both empowering drivers and reducing barriers, while for long term developers it is often more about empowering existing drivers. Reputational incentives appear to only be targeted to enhance reputational drivers, and are increasingly becoming important for companies. Moreover, BREEAM can be used to create these reputational incentives and to create shared interests between parties. Legislative incentives are context sensitive and can be created by developing more efficient planning and permit procedures-including the integration of BREEAM in planning frameworks of municipalities. This can ultimately lead to saving time and money for developers. The exemplary role of the local planning authorities in how they support and projects in their area work stimulating for developers. Being able as municipality to provide the suitable knowledge, expertise, partnerships and funding works also helps to stimulate developers to invest in sustainable urban development projects.

Financial incentives

In line with drivers and barriers, financial incentives are the most addressed. Literature however suggested that this is merely a weak incentive, but the interviews indicate other as these incentives were often targeted at both empowering drivers and removing barriers. Still, it should be mentioned that in the cases there were not large financial barriers to be moved and it seemed that the financial incentives were targeted more to increase profitability than making a development feasible. The financial participation of the local planning authorities also affected the developers in a positive way. Hence, just because a municipality takes on a facilitating role, does not mean that no financial investments should be made to support developments like these.

Another important point is that the long term involvement of developers also allowed split-incentive challenges to be removed as the developers themselves could benefit from the achieved long term values. The long term developers appeared to have more financial gains because of their involvement in operational phase as well. In this sense, the role the developer takes up stimulates them to approach the development differently and to secure their profits.

Reputational incentives

The combination of financial and reputational incentives was also common. It appears effective as initially the reputational incentives do not only contribute positively to the reputation, but will secondly also translate to a financial value.

BREEAM was also mentioned often in combination with reputational incentives as the certificate can increase the marketability of the project or demonstrate the level of sustainability. Also here, the reputational incentives of the certificate can lead to positive financial outcome as it could lead to attracting tenants, higher revenue and faster selling/leasing time. Moreover, companies acknowledge the financial risks which could be the result of bad reputation. The reputational incentives are mostly targeted to empower already existing drivers further.

Legislative incentives

The legislative incentives are directed to reduce administrative and process-related burdens. These were not highly addressed as barriers, but frustration could be noted during the cases as developers felt like things could be done more efficiently. Therefore, the legislative incentives are interpreted to be more targeted to empower drivers instead of reducing barriers. At the end of the day, developers know that there is always a process to go through to get the required permits so perhaps that is also why it is not addressed as a barrier.

These process and administrative variables are often linked to the integration of BREEAM assessment in planning policies and systems. If local planning authorities are able to integrate the two, a decrease in administrative burden can be experienced which translates to saving time and money for developers- and as this aligns with their drivers, this could incentivize them to invest in sustainable urban development projects. Some local planning authorities in UK have already started to incorporate BREEAM in the planning framework to make the process more cost and time efficient for both parties.

Capacity-building incentives

Much like the legislative incentives, capacity-building incentives also mainly involve support from the local municipalities. Developers appear to be positively affected by the assistance they can receive from local planning authorities in terms of knowledge, experience (based on previous projects), bringing actors together and accessing funding. In particular, the City of Malmö appears to be a good example of this. By already stimulating and creating a sustainable area, other developers are also attracted to the site as they would want to be a part of it and know that they will surely get the support from the local planning authorities and thus lead to perhaps a smoother development process. Also here, the capacity-building incentives tended to targeted to empowering drivers.

In general, one must realize that many internal and external factors also affect the drivers, barriers and incentives and/or that the similar incentives do not always have the same outcome. These positive factors, drivers and incentives can sometimes be hard to separate. Furthermore, the influence of a combination of the incentives is also to be kept in mind.

Lastly, it also seems that incentives do not always have to be provided from an external party like the local planning authorities, but can sometimes be also provided internally. The adoption of BREEAM remains one of the best examples for developers to challenge themselves to go further. Yet, it appears the internal incentives can mostly be connected to financial and reputational incentives, while legislative and capacity-building incentives are to be expected from public parties.

6.5 HOW TO STIMULATE PRIVATE DEVELOPERS TO INVEST IN SUSTAINABLE MIXED-USE URBAN DEVELOPMENT?

The individual sub questions leading up to the main research questions have been discussed and based on these findings the research can go on to answer the main question of:

How can private developers be incentivized by local planning authorities to invest in sustainable mixed-use urban development projects?

Private developers can be stimulated to sustainable urban development projects based with a combination of financial, reputational, legislative and capacity-building incentives. These incentives can be used to either empower existing drivers and/or remove barriers.

The type of developer- short versus long term commitment- can affect the drivers in the development process. Furthermore, developers and local planning authorities having a shared interest in financial and reputational drivers can affect the collaboration positively. It is important to note that a facilitating public role still requires active participation in terms of both collaboration and finance. BREEAM certifications help guide the processes, meet requirements and prove sustainability achievements. BREEAM can increase the reputational incentives. The type of development and involvement of other key stakeholders like end-user can also affect the process.

Financial barriers are to be taken into account and are often the result of the legislative, knowledge and organizational barriers as well. However, these appear less a threat for front-runner developers. Barriers related to finance, knowledge and legislative are also often connected to the use of BREEAM during process.

A combination of different incentive types- targeting both to empower drivers and/or remove barriers- appear to be most effective. The combination of financial and reputational incentives appear to be mostly connected to the market and developers, while the legislative and capacity-building incentives are closely linked to the role and operations of local planning authorities. It is important to keep in mind that drivers, barriers and incentives can be perceived differently by developers and to take the internal and external factors also in account.

The figure below illustrates the use of incentives in their context.

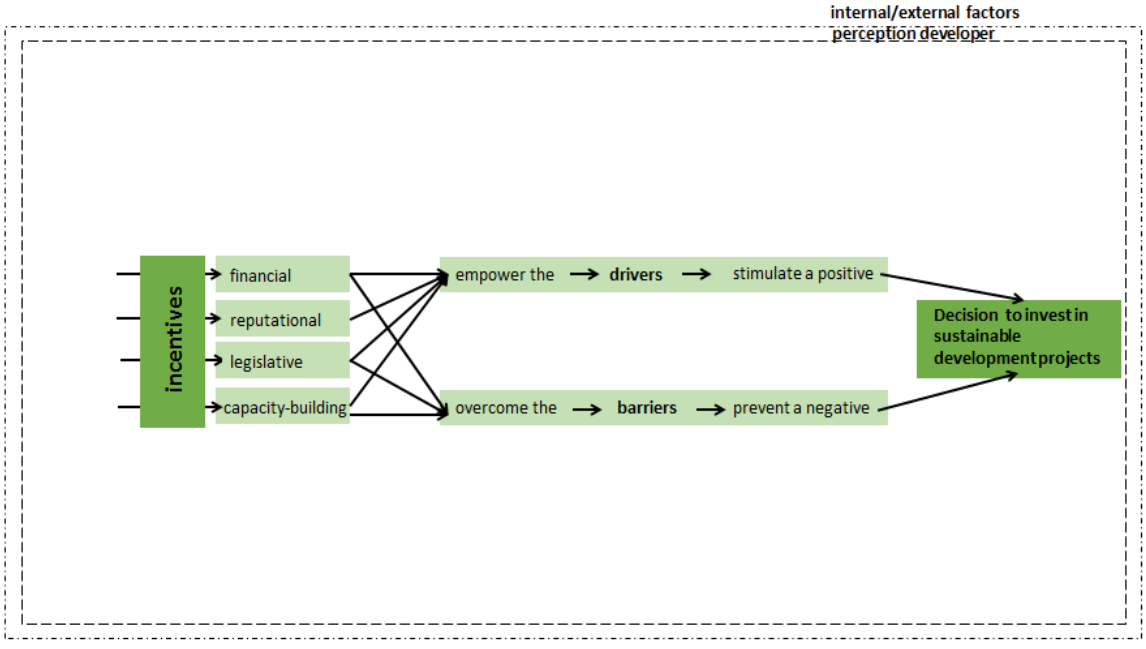

Figure 37 - How to use incentives to stimulate sustainable urban development projects (own ill.)

7 CHAPTER 7: RECOMMENDATIONS

This chapter will discuss recommendations. Similar to the conclusion chapter, these will be divided into the different sub questions. Subsequently, per sub question, a distinction is made for research and practice. At last, the chapter will conclude with recommendations for further research.

7.1 RECOMMENDATIONS FOR THE RESEARCH AND PRACTICE

The recommendations given are based on areas which have not been covered with the sub question or due to additional insights. These are divided into recommendations for research and recommendations. The latter is also divided into recommendations for developers and local planning authorities. The recommendations are based on both literature and empirical studies. Findings from other interviewees which were not directly relevant for the conclusions are also introduced in this section as they offer additional perspective.

7.1.1 STAKEHOLDERS AND PARTNERSHIPS

This section discusses recommendations based on the first sub question about the structure of stakeholders and partnerships within the development process.

7.1.1.1 STAKEHOLDER'S ROLES AND PARTNERSHIPS

7.1.1.1.1 RECOMMENDATIONS FOR RESEARCH

This research has only been to the extent of the two key stakeholders private developers and local planning authorities, but both literature and empirical findings have shown that many other stakeholders also participate in the process and can also have large influences. Furthermore, during the research it was also noticed that the institutional landscape also affects the relation between public and private- and while some research on this can be found in appendix- a more thorough research based on institutional landscape and how to transfer lessons can be useful. At last, one aspect which has not been covered enough is, is the exploration of (new) partnership models between stakeholders.

Recommendation 1: Research the role and influence of other key stakeholders in realizing sustainable urban development projects

Aside from the new emerging roles of developers and municipalities, other stakeholders are also emerging. With a market which is shifting more towards demands and consumers; end-users are gaining increasingly attention. And as could be seen with the case of Ecomunitypark and MediaCityUK, if they are involved early on in the development process, their impact can be significant. Other rising stakeholders include banks and energy companies.

> "Institutional organizations- particularly banks- have been shifting their responsibilities these past 7-8 years towards becoming greener." – Robinson

> "With financing the most important driver, banks can play a big role". – Sieben

Recommendation 2: New emerging partnership models within sustainable urban development

With new key stakeholders entering the arena and shift of power between parties, research asks for a better review of current partnership models which are suitable for sustainable urban development processes and perhaps explore the introduction of new ones. Partnership models like ESCo with non-traditional development actors like energy companies have already been formed.

Recommendation 3: Transferring lessons of sustainable urban development between different institutional landscapes

The findings of the case-studies also highlighted many unique traits of the processes because of their institutional background. A start has already been made in comparing the English, Dutch and Swedish institutional context and can be found in the appendix. Yet, a more elaborative research on the institutional background can allow for more in-depth cross-case comparisons and lesson-drawing.

7.1.1.1.2 RECOMMENDATIONS FOR PRACTICE

The following recommendations were formulated for practice.

Recommendation for local planning authorities: Be facilitating, yet active!

The findings of the research have shown that just because local planning authorities are taking up a more facilitating and leaving more room for private-led urban developments, developers are still stimulated by a municipality which is actively involved in the process. This can be in financial terms; like giving subsidies or access to funding or investing in the area as well with facilities, infrastructure and transportation. But it can also be less financially directed; make sure the staff has proper knowledge about sustainable urban developments and have time to assist developers, or bring relevant stakeholders together. In sum, always seek how to contribute to the project.

Recommendation for developers: Focus on collaboration

In general, the studies have shown that developers are interested in achieving financial gains, and sometimes this could result in conflict with stakeholders with different interests. Thus, to increase the chances of getting the urban development project approved and supported, focus on creating shared interests and try to include key stakeholders like end-users. Considering interests of others and working towards a collective vision can result in an overall smoother development process.

7.1.1.2 USE OF BREEAM IN DEVELOPMENT PROCESS

7.1.1.2.1 RECOMMENDATIONS FOR RESEARCH

Recommendation 1: Evaluation of BREEAM assessment tool

Both literature and empirical findings have indicated the use of BREEAM assessment tool to guide the process while simultaneously serving as a tool to demonstrate to the external world that the development is sustainable. Even though acknowledged as a meaningful tool in this research and to help define the boundaries of a sustainable urban development, BREEAM was not necessarily the main focus of the research. Based on the numerous barriers and incentives that were BREEAM-related, further research on evaluating the advantages and disadvantages of BREEAM is necessary to get a better grip on the role of BREEAM in the sustainable urban development process.

Recommendation 2: Comparing different assessment tools

BREEAM is not the only assessment tool out there. Other widely-used ones include LEED and CASBEE. A comparative study between the different tools and how they rate on various aspects in sustainable urban development can also lead to better understanding of which tools to use and how these can be improved.

7.1.1.2.2 RECOMMENDATIONS FOR PRACTICE

Recommendation for developers and local planning authorities: Gain and share more knowledge about BREEAM

BREEAM remains one of the most used assessment tools in the Netherlands and with sustainability gaining more attention, certifications like BREEAM are going to be used. The role of BREEAM as a tool can influence the development process and steer it in a sustainable direction. Hence, both developers and local planning authorities should learn more about the use of BREEAM by perhaps working together with Dutch Green Building Council and discuss the possibilities and limitations of the tool for mixed-use urban development projects. Subsequently, transfer, share or bring in this knowledge within the company or municipality to know what to expect or how to faciliate.

> "Municipalities can facilitate by creating demand or necessary scale for BREEAM to become interesting."- Barenbrug

7.1.1.3 DRIVERS OF STAKEHOLDERS

7.1.1.3.1 RECOMMENDATIONS FOR RESEARCH

Recommendation 1: Classifying types of drivers and their effectiveness

Only four main categories have been used to identify drivers in this research. An extended research of quantitative nature can further investigate different types of drivers and their effectiveness on developers. This can lead to a more accurate taxonomy of drivers and which drivers are most effective in stimulating developers to invest in sustainable urban development projects.

Recommendation 2: Comparison of drivers of different stakeholders within the urban development process

During this research only drivers of the key stakeholders were analyzed, but with new collaboration models and new stakeholder types on the rise, an extended research on the drivers of other stakeholders in an urban development process can lead to better understanding of the similarities and differences between the drivers of stakeholders. Understanding the similarities and differences can contribute to making collaborations smoother due to shared interests.

7.1.2 BARRIERS

The following sections will discuss recommendations for research and practice related to barriers.

7.1.2.1.1 RECOMMENDATIONS FOR RESEARCH

Recommendation 1: Classifying types of barriers and their effectiveness

Similar to drivers, further research into various types of barriers can provide more accuracy on which factors are withholding developers from sustainable urban developments. Financial barriers resulted most common based on this research, but however these barriers also did not appear strong enough to actually bring a halt to the developments of Ecomunitypark, Masthusen and MediaCityUK. That could be because these are front-runner cases, but it could also indicate that perhaps these are not the strongest barriers. Hence, further studies into the effectiveness of different types of barriers should also be examined.

Recommendation 2: Translating and including soft values into calculation models

The translation of soft values like safety, livability and green proved hard to measure, and the interviewees have expressed that this is an important piece to make the business case of sustainable urban development feasible. Therefore, a quantitative study based on the financial feasibility of soft values can be useful to bridge this gap.

"Soft values for the environment are hard to translate and explain." – Barenbrug

"A lot is still unknown about the BREEAM-NL Gebiedsontwikkeling with private developers."" – Barenbrug

7.1.2.1.2 RECOMMENDATIONS FOR PRACTICE

Recommendation for developers and local planning authorities 1: Educate yourselves and share knowledge

Knowledge related barriers resulted to not be underestimated as these can ultimately result into uncertainty and/or a business case which is not feasible. Regarding topics like sustainability and BREEAM, developers and municipalities often appear to be misinformed about the risks, costs and time- and this often leads to a negative association with sustainable urban developments. Both developers and local planning authorities can address these barriers by making sure their team has the proper expertise and knowledge about sustainability. They could educate themselves by for example learning from others, talking to important players like Dutch Green Building Council and employ staff with background in sustainability. Subsequently, the gained knowledge should be transferred to others in the industry as well.

"There is still much of an educational process to go through…You are trying to educate people that if you invest in a more efficient building, it will drive you year-on-year savings on energy bills. But it is not easily translating to values at the moment." – Robinson

Recommendation for local planning authorities 2: Increase efficiency in planning procedures

Aside from financial and knowledge barriers, legislative barriers were also mentioned quite often. These barriers mostly addressed inefficiency of planning and permit procedures, zoning plan and other administrative burdens. The integration of BREEAM in local planning frameworks was also brought up. These legislative elements are closely related to the tasks of local planning authorities, hence local planning authorities can reduce these barriers by changing their procedures and how they work. Understandably, changes in legislation do not occur fast. Yet, by for example increasing the efficiency of obtaining permits can save time for developers, integrating BREEAM within local planning guidelines and procedures can also lead to faster results and being flexible about zoning plans can create room to collaborate with developers.

"Incorporate the BREEAM-NL Gebiedsontwikkeling in the Dutch planning process to make approvals more efficient." – Marcelis

7.1.3 INCENTIVES

7.1.3.1.1 RECOMMENDATIONS FOR RESEARCH

Recommendation 1: Classifying types of incentives and their effectiveness

This is the same type of research suggested for drivers and barriers. Often literature suggests only financial incentives, but a study on taxonomy of incentives can provide wider possibilities for types of incentives. In

addition, the combination of which incentives are most effective can also be explored, and this could lead to great insights for local planning authorities as they will learn how to best stimulate developers.

Recommendation 2: Internal and external factors affecting incentives

The extent of effectiveness of incentives can possibly be largely affected by both internal and external factors. These factors have not been studied in this research, but getting a better understanding on these can help shape up under which circumstances incentives are most likely to be effective or not. This can perhaps help municipalities target their incentives most effectively.

Recommendation 3: Internal/external provision of incentives

This research started with the assumption that all incentives are to be provided by the external party of local planning authorities. However, during the course of the research it became apparent that this does not always have to be the case. For example, BREEAM was seen by the developers as an incentive to market their areas and to demonstrate their sustainability, hence BREEAM could also be regarded an external party which can incentivize developers. Moreover, even though blurring the lines of intrinsic drivers, internal incentives can be seen as incentives which developers put in place themselves to further motivate them to be more sustainable. One example is attracting employees with expertise of sustainability and/or rewarding employees who stimulate sustainable projects. No literature could be found on internal incentives, thus these only remain an assumption. But exploring this possibility can be of interesting contribution to how to incentivize developers and *who* should do that.

7.1.3.1.2 RECOMMENDATIONS FOR PRACTICE

Recommendation for local planning authorities: Understand interests of developers and apply incentives accordingly

The results of this research have highlighted several types of incentives which appear to be of interest to developers. Local planning authorities should engage more with private developers to discuss their interests and based on that they can see which incentives- or combination of- can be best applied to stimulate developers to take that extra step towards sustainable urban development projects.

Recommendation for developers: Communicate interests with municipalities and seek how to stimulate yourself and/or others in the industry

To receive proper incentives, developers have to communicate their interests with local planning authorities in a clear way. In addition, the section above discussed how developers can try to stimulate their teams too by creating incentives within the company or having people with the right mindset. Also, developers are important actors within the building industry so they can try to motivate other developers- or other stakeholders- to invest in sustainable projects as well. It does not seem like sustainability is being removed from the agenda anytime soon, so therefore it would be in developers' own interest to contribute to more sustainable urban developments.

"It is a mix of a lot of things that need to be thrown in there to incentivize developers. You have to have a bit of different elements to help make it work." –Robinson

"Make benchmarking possible." – Van Der Spek

7.2 RECOMMENDATIONS FOR FURTHER RESEARCH

The following recommendations are targeted to others in the scientific field of sustainable urban development projects to conduct further subject-related research.

With more private-led urban developments occurring, a discussion about the ownership and maintenance of public areas is becoming more relevant:

In some of the case-studies the discussions around this aspect were already notable. Public realm space is still often maintained by public parties, but will private-led developments cause this to change? Developers and investment can see the benefits of developing and maintaining a high quality space, but more often than not, the maintenance of these public spaces have to be handed over to public authorities. Aspects like split-incentive, public interest and regulations play often a role. A study on the future of developing, operating and maintenance of public spaces could answer these questions.

Redevelopment of inner urban areas:

The case-studies in this research were all based on empty plots and areas. Sustainability also calls for redevelopment of inner urban areas as cities grow and become denser in the future. Therefore, it would be relevant to research how sustainable urban redevelopments can be developed. Such an environment with existing infrastructure, network of actors and culture and history can lead to very complex development processes and studies can lead to insights about how to approach this type of development.

Private-led healthy urban development projects:

Aside from sustainability, there is an upcoming trend in health and well-being in buildings and urban environments. These topics have the individual much more placed in the center compared to sustainability which is also dealing with aspects like energy. A WELL-certificate based on assessing the well-being level inside buildings and areas has already been developed. Further research into healthy urban areas can be an extension of sustainable private-led urban developments.

8 CHAPTER 8: REFLECTION

This chapter reflects on the research by critically discussing the results of the adopted methods, design, topics, variables and findings which were measured and applied during the research process. Lastly, a more general reflection upon the topic within its academic field and graduation lab is also discussed.

8.1 RESEARCH TOPIC AND METHODOLOGY

8.1.1 RELEVANCY OF THE TOPIC IN WIDER CONTEXT

Sustainability has been a trending topic and numerous studies have been carried out about it. Because the term is so widely used, it could give the sense of being a washed-up research topic. Therefore, it was of importance to verify the relevance of stimulating sustainable urban development projects in the research through the use of scientific literature and interviews and what it contributes to scientific society. This was done in the initial phases of the research with a combination of literature study and short explorative interviews with experts in practice to verify the need for such a research.

In addition, the definition of the term is interpreted in various ways, so it was important for this research to make clear what is meant with sustainable urban development and that the focus was not on sustainability itself in the sense of its technological aspects of energy and water and such. The focus in this research was focused much more on the process including the key stakeholders and in particular the developer, and how to stimulate this actor to sustainable developments. This also made sense based on the shift to private-led urban developments and growth and impact of urban developments for the environment. By addressing sustainability on an urban scale and from a private developer perspective, a relatively new side of the topic is discussed.

The topic has proved to be difficult to narrow down due to its broadness on different interrelated aspects and it's still much explorative character. The limitations of the generalizability and validation of the research topic and methodology have been discussed in chapter two.

8.1.2 RESEARCH DESIGN

A qualitative research design approach has been selected for this research based on its explorative nature. The purpose of the research was to seek how to stimulate developers to develop sustainable urban developments. To be able to reach a conclusion, the study investigated the stakeholders' collaboration between the key actors, and the drivers, barriers and incentives during the process based on the experience of three case-studies. This chosen style still remains suitable for this research as it is much more focused on the process, contextual understanding, point of view of participants and collecting rich data to gain better understanding (Bryman, 2012). On the other hand, a study which would have been more focused on only one aspect had the risk of leaving out other related aspects.

This chosen approach has also been selected by other student theses and academic papers based within the context of sustainable urban development. However, the gathering of hard and reliable data is much more difficult with this approach (Bryman, 2012).

In particular when generating a categorization of drivers, barriers and incentives to be able to compare the case findings, the lack of quantitative findings became apparent. The studies on which the categorizations are made did often use a quantitative approach, however these were not always in line with each other. Perhaps a combination of quantitative data collection to establish which barriers, drivers and incentives are most relevant would have led to a stronger and more reliable categorization to compare the findings of the qualitative case-studies.

8.1.3 ADOPTED RESEARCH METHODOLOGY

A combination of data collection and semi-structured interviews were applied in order to research the stakeholders' partnerships, drivers, barriers and incentives. In the initial phase of the research explorative interviews were also done to confirm the relevancy of the research and to help narrow it down.

Based on data of literature findings, classification of the stakeholders, drivers, barriers and incentives were also made in order to make the findings of the case-studies later on comparable. As most studies on these domains tended to be either too broad or too specific for this research topic, a combination of different findings of different studies were used to adapt models of different types of stakeholders, drivers, barriers and incentives to fit the interest of this research. Furthermore, the findings are based on studies done in various countries, so it is also unlikely that the selected categorization represent each case-study context best.

The categorizations of the main domains were done using various literatures in order to still be critical and to recognize similarities between the findings. However, ultimately though, the narrowed down selection could present a bias based on expected results or be too broad to lead to detailed findings.

The coding of the variables for the empirical findings proved to be challenging as it is hard to objectify. Different interpretations and overlaps caused for lots of reviews of the findings. For the next time, it would be good to put more effort into studying how to analyze cross-case comparisons and to find good examples for coding and interpreting the data, and to address this in an early stage of the research.

8.1.4 CASE-STUDY SELECTION

In line with the exploratory and qualitative nature of this research, a comparative case-studies approach has been selected to gain better understandings of how to stimulate developers through incentives. The choice for case-studies is also supported in the sense that it is seen as a form a qualitative research which enables the understanding of a complex issue- which applies as well to this research. Moreover, it fits well with exploring relatively new areas within the field based on practice, as Yin (2003) explains: a case study is an empirical inquiry that investigates a contemporary phenomenon within its real life context, especially when the boundaries between phenomenon and context are not clearly evident.

And even though this approach has led to a rich collection of data to answer the research questions, it also has numerous criticisms. One is that the logic of comparative case-studies provides too little logical constrain to generate dependable theory (Dorussen, 2001). In addition, the approach also suffers from selection bias as the cases were selected because there was assumption that incentives played a role. Yet, an advantage is that the selected cases pay more attention to the conditions under which incentives were relevant.

The complexity of case-study comparison is also made more complex as the cases are based in The Netherlands, Sweden and UK- thus each representing a different institutional landscape.

To narrow down and define sustainable urban developments, the use of BREEAM urban certification has been applied. This was also one of the results of the explorative interviews during the initial phase. The assessment already includes numerous criteria to assess whether an area can be considered sustainable or not- and as it was not the purpose to assess when and how an urban area is regarded sustainable in this research, areas with BREEAM certification offered an objective way to select cases. This however limited the pool of cases to only 25 cases of which 5 are present in the Netherlands. In addition, four out of five of these cases were single-use and the only mixed-use one; Locatie Valkenburg was too different from the other cases as it varied in being public-led, a much bigger scale than the others and was too much at an initial phase to generate any useful data for this research. The developers of the area are not even known yet. Thus initially, Locatie Valkenburg was included in the selection of cases because it was a Dutch example of mixed-use BREEAM certified area, the numerous differences, have ultimately led to it being excluded from the research. It would have been useful to have made this decision early on and use the time spent on other areas of the research. Yet, Ecomunitypark- single use business park- was kept as even though it was single-use, it matched the other criteria for selection. This highlights the challenges that

were found with having to choose from a limited pool of cases and reduces the equal comparability between the cases. Had there be no criteria on selecting cases with a BREEAM certificate, the options for case-studies would have been greater- also in selecting sustainable Dutch mixed-used urban developments- and possibly the role of BREEAM in regards to drivers, barriers and incentives would have been less highlighted.

Various interviewees reasoned that one should keep in mind that the BREEAM certification does not exist too long and that the economic crisis has put a damp on urban developments the last years- especially mixed-use ones. Hence perhaps more time is needed to carry out further research on certified urban developments.

At last, the cases selected are all considered early adopters- or front-runners. This also tends to make the results to be more biased as these are regarded successful because they stood out. Some additional interviews were conducted with professionals from development projects in the Netherlands where they did not succeed to receive a certification or the certification did not turn out to be valuable for them. This group represented more traditional developers and their way of thinking. Initially, the findings of these interviews were meant to offer a reflection based on the drivers, barriers and incentives in comparison with the other three case-studies, but due to too much variance between the projects, the findings have also been left out. In total five interviews were conducted for this and also here the time could have been used elsewhere instead. However, even though not included in the findings, the interview results gave the researcher more knowledge about the topic, it highlighted the importance of perceptions and factors affecting the decision-making of developers and to be critical about this, and the findings could be used in the recommendation section.

8.1.5 DATA COLLECTION AND FINDINGS

A constant loop of use of literature findings caused the research to go back and forth sometimes to keep making the research more specific, but at the same time not too focused to eliminate useful connections. The findings of the interviews and documents on the case-studies also helped to shift the focus to be more relevant and focused. A combination of academic papers, student theses, reports and newspaper or online articles had to be used to gather literary data. The newness of the research topic also became apparent during the literature study as there was limited literature to be found on the subject. This made it difficult at times to back-up statements done by interviewees and/or professionals with the necessary literature. If done again, perhaps it could be good to ask interviewees to what they base their statements on.

The findings of literature have to be critically observed. Various literature highlight criticism which applies for this particular research subject too. The first is that one may ask why the interests of the private parties have to be met when in fact the ultimate objective is to maximize environmental and social benefits (Enters, Durst, Brown, Carle, & McKenzie, 2004; Reddy, 2013). An explanation for this is given though by stating that if developers invest in sustainability this will also benefit the environment, and secondly when private investment is involved, the process of commercialization can become faster and thus increase the environmental benefits over a shorter time period. At last it will also reduce the dependence on public budgets- which is in line with the shift to facilitating municipalities.

Furthermore, the use of incentives for private parties can be justified if they occur in the following conditions (Enters et al., 2004):

- Social benefits are greater than private benefits
- Social costs are less than private costs

Moreover, there is also a degree of unpredictability as not all private developers act the same. Not being a homogenous group, developers can have different goals, different perceptions and different decision-making criteria to invest in sustainable urban development projects (Reddy, 2013). So even when two developers are faced with the same scenarios- barriers and drivers- there is no guarantee that they will have the same outcome.

Subsequently, there are also internal and external factors embedded in the context of the development and affecting the situation.

Reddy (2013) mentions that one could argue whether incentives should be introduced first in order to increase private investments, or whether private investments should increase first in order for more incentives to be applied. Also, the durability of incentives themselves should also be kept in mind so that their impact goes beyond the specific development and also to future ones.

With regards to the classification made for drivers, barriers and incentives, it is perfectly possible those certain categories are missing or that the types are too general. The generalization is good on one hand because it leaves room for interpretation and does not leave out any elements, but on the other hand its broad generic also easily causes overlap between the different variables.

On the other hand, the findings of the interviews vary in the way that semi-structured interviews do not always have the same logical order. Sometimes there would also be an issue of time; some interviewees could take for one hour while others only had 30-45 minutes time. Based on the answers of interviewees, sometimes other and new topics also were introduced. So the semi-structure nature of the interviews did allow for some variance in the results. Moreover, some interviews were conducted in English and others in Dutch and faults with translation should also be considered. In addition, for the larger processes of Masthusen and MediaCityUK it was hard to pinpoint which person to interview as many people within the organizations-both public and private- were involved and the findings of the interviewees in this research may not be similar to if someone else within the organization were to be interviewed. So the findings are very much specified on the interviewee, time, and language and in addition their contextual landscape. This makes it hard to make the conclusions generalized and hard.

8.2 THE RESEARCH IN ITS ACADEMIC FIELD OF SUSTAINABLE URBAN DEVELOPMENT

This research is part of the graduation lab Sustainable Private Sector-led Urban Development. The focus lies here in particular on the connection between private actors and sustainability within the urban context.

Thus even though the relationship between private actors and sustainability have been researched in this domain, a research with incorporation of BREEAM for urban areas and to stimulate developers through incentives appeared to be relatively new within this academic field. In the dissertation of Heurkens (2012) policy instruments like stimulating and capacity-building tools have been discussed to stimulate private actors, however these were not specified to incentivizing developers.

8.2.1 NATIONAL AND INTERNATIONAL COMPARISON

Again, similar to the dissertation of Heurkens (2012), multiple studies compare Dutch cases with English. Often due to their similarities or because of the shift towards private-led developments in the Netherlands. These studies have helped to gain more understanding about the similarities and differences between the Dutch and English context. This was a bit more difficult to do with the Swedish case.

Due to the international variances between the cases, the findings cannot be generalized. However, they could lead to other studies focusing on the transferability of lessons between countries and/or generalizing variables to improve international case comparisons.

8.2.2 ACADEMIC AND PRACTICE

Using empirical findings of case-studies, interviewing professionals and conducting the research within Royal HaskoningDHV has allowed for many practice-based feedback and results. Gaps between academic and practice field are often addressed within the field of real estate. Also in this research the opinions and perspectives between the two could vary or offer different insights. A stronger focus on bringing these two fields together could deliver useful insights for both academic and professional field. Furthermore, like previously mentioned it can be beneficial for academics to understand on what professionals base their statements and/or challenge professionals to critically take a look at their own analyses. By doing so, both parties can benefit from each other.

This gap became especially apparent during interviews and the internship when the statements done by professionals could not always be supported by literature or the other way around.

8.2.3 GRADUATION LAB SUSTAINABLE PRIVATE SECTOR-LED URBAN DEVELOPMENT

This section will reflect upon the graduation lab Sustainable Private Sector-led Urban Development based on how well the research fits into this field, the contribution of the research to this lab, the comparisons with other student theses and what can be improved for next time.

The theme of the graduation lab is broad and offers room for various interpretations. The research of stimulating developers to sustainable mixed-use urban development projects fits into this to a large extent since it covers the sustainability side, the private-led development side and urban development itself. However, it does so by focusing specifically on sustainability being certified by BREEAM, the key actors private developers and local planning authorities and mixed-use urban development projects. Naturally, there are other ways to assess sustainability than BREEAM certification, there are other important stakeholders to consider and other types of urban developments also exist. Within the time frame of this research these other parts could not be covered, but this research does offer a starting point and recommendations for further research topics which also fit in this lab.

This research has started off by looking at the status quo of sustainable private sector-led urban development and because this was happening at a rate considered too slow to reach sustainability ambitions, the research focused on how to incentive the private developer to invest in sustainable urban development. By taking the private developer as the key actor in this research, insights have been gathered into the drivers and barriers addressed by this actor and how incentives can either empower these or reduce them. Thus the findings of this research make a contribution to understanding the drivers and barriers of developers and to which incentives can be applied in order to increase the rate of sustainable private sector-led urban development. The dissertation of Heurkens (2016) could be used as a good base to gather knowledge about the lab topic and to which areas more attention could be given. For future graduation labs, a personal recommendation would be to make a short list of key literature/documentaries representing the field and have students discuss their interpretations of these with each other. In addition, to reduce the gap between academic and practice, it can also be interesting for students to attend a seminar with both academics as well as professionals discussing the topic of the lab at the beginning of their research.

Other student theses from the same lab included topics like innovative developers, corporate social responsibility and policy implementation gaps. These studies in combination with this research can all be related to one another sooner or later. And even though the focuses are all unique, they fall under the same lab- thus indicating the broadness of the graduation lab and the different ways it can be understood.
It could have been interesting for the lab to focus on the main findings of the abovementioned studies and to make a real effort into connecting their relations with each other as this could lead to highlighting certain problems in this field and/or offer interesting new leads for future graduation research themes. One personal suggestion for future research topics is to replace the word sustainability with health and well-being and to focus on these softer values within urban development. This appears to be a topic which is becoming increasingly addressed by professionals in the field and can therefore be interesting for future studies as well.

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10 APPENDIX

10.1 EXPLORATIVE INTERVIEW 1

Explorative interview with Jos Schild - Advisor Sustainable Development -Expert and assessor BREEAM-nl Urban Development from RoyalHaskoningDHV
Duration: 2 hours
Date: May 10, 2016
Place: RoyalHaskoningDHV Rotterdam

Summary

Interesting first remark: the view outside here at our office in Rotterdam is not nice- you look out on the high way. Our office in Arnhem however is beautiful. It's surrounded by green and I just feel much more at ease there.

When defining the 'urban area scale' and/or which party is responsible for what:

Public and commercial space involve two parties with such different interests. The public party wants a public space to be developed which will enhance the social and environmental quality of the area, while the private developer/owner wants to use the space most efficiently as possible.

Currently this is where one gap/challenge lies: how to bring these two parties about these two types of spaces together to create a sustainable area which everyone is happy with.

The demand for sustainable dwellings is already present. Developers/investors are well aware that they will get out their investments and that there is enough demand in this sector.

The role of the public authorities is changing to becoming more facilitating indeed. Yet, they have all these ambitions they would like to achieve. But they should set some clear requirements about how they want to steer market parties. Because they do possess strong, influential tools to steer the market in a certain direction, if they really want to…

First of all, I think all these EPC ambitions and CO2 goals are not appropriate. Setting an EPC-norm or having tenders where lowest EPC-norm is reached, is not the solution. One reason is because we don't even know whether the EPC calculations are certain. There's a lot of uncertainty about these calculations. Sometimes you would find in practice that a building which supposedly has less EPC is using up more energy than another building which is not even certified with an EPC or has a higher one. Also, to just build a low EPC house/office is not easy as you have to consider if people for example really want to live/work in a house/office where the windows can't open (or only a few) because that will save energy. If you look at the market, most owners are just happy contributing to sustainability by having double-glazed windows. They would not like an energy-efficient house/office to change the level of comfort they feel.

Which brings me to a crucial matter regarding sustainability: it is mainly about influencing behavioral change. Sure, our awareness regarding sustainability has increased a lot over the past years, but being aware and behaving a certain way are two different things. Finding out how to influence parties' behavior regarding sustainability is definitely a challenge. Not just talk, but act.

Now the governments can enforce certain laws in order to reach their ambitions, but just setting stricter rules will not lead to the wanted results. You cannot just enforce these types of rules. Especially not to market parties. You need to have support.

What the governments should do- whether they are setting these ambitions or not- is to behave themselves as role-models. They need to be the example in order for market parties to follow. The municipality of Haarlem does a tremendous job at this. They take the initiative when it comes to building a sustainable city; they have sustainable specialist in their teams, they have budget for sustainability and they go out and actively search how to work best with private parties.

This is definitely necessary as there is a field of tension between the one with the wallet and the power of the governmental authorities (one strong tool is land ownership).

Governments should seek how they can fill in the positions of missing links between the different levels of parties and interests. That is how they can best act as a facilitating government.

The wish to develop sustainability or to increase sustainability within an existing portfolio is something that mainly comes from within the company. It is an internal driver, often coming from someone in the company, who really wants to change or increase the face/image of the company by contributing to the society. Or someone who just has personal interest in sustainability and happens to be in a managing position. These are more likely also the younger ones.

This general drive for increasing sustainability is there to a certain extent. It's happening on the level of buildings for sure. Especially the major real estate companies are realizing that the demand of sustainability is becoming more and they will need this to be part of their portfolio in order to keep growing in the future.

This drive is much less on the urban scale level though. Urban areas are more abstract and thus more complex. The definite starting point of an existing urban area is for one, very difficult to decide. Making it hard to use the appropriate set of tools. Moreover, with urban areas (also with different owners), makes it hard to set the boundaries of responsibility or who benefits from the investments in the sustainable urban developments.

Long-term commitment thus can be a great way to incentivize parties. This can reduce the challenge of incentive- split and allows private parties to invest and earn back yields themselves. At this moment that is still unclear, because investors are less incentivized to invest in a high-quality space when they are not the ones being able to benefit from it later on. This forms one of the biggest barrier in investing in sustainable urban projects.

Questions like who is responsible for what and who is benefitting from a type of investment become more important.

Maintenance and management are getting an increasing role as a way to reduce the incentive-split. We might be leading more towards park management.

Park management (mostly commercial though) is a great tool to get investors/owners together to achieve a goal, but what is more interesting about park management is that quality norms and marketing tools seem to be more attractive ways to incentivize parties to these types of investment. Sustainability will follow from that. The location of the community will generate most interest and make it attractive.

A great idea would be to have like a VvE (owners' association) on an urban level. Why not? The private parties can collectively steer an area with their shared interests. We have it on building level, why not urban?

Location is primarily more important. If you can make the location attractive, then on a building level you will easily achieve attractiveness as well. But again here you could be dealing with split-incentives.

Another barrier of the urban scale is that the developments are much slower. The process is much more time-consuming. And private parties want to steer, including the maintenance and control, after having invested much time into a project. They would like to have more influence on the overall quality of their portfolio.

BREEAM certificates are used as a strong tool to increase the value of their real estate. It works great on building scale.

On urban level however BREEAM for urban areas is too slow. It is challenging to work as an integrated team.

As said before, defining the starting point of an existing urban project is difficult. Because these masterplans were likely made 20-30 years ago.

BREEAM for (existing) urban areas is often used as an incentive to monitor the process. In contrast with the BREEAM for buildings, BREEAM for urban areas is much more focused on the process instead of the end-result since the projects stretches out over a longer period of time. Plus, the process is more abstracter.

An example where it is happening though is the Amsterdam Havenbedrijf. Partially also from an internal drive to change to a more sustainable company.

Important is for municipalities to have the right people and budget available to invest and stimulate sustainability. The energy agreement is not being reached. The ambitions have just been made, often by people who know very little about sustainability and don't have appropriate environmental backgrounds. The ambitions themselves are unclear. For example, we want low EPC, but what do you want to reach with that? They don't know themselves. We want more green. But what is that. They need to define these ambitions better to be able to translate them on a project level.

To stimulate different tools and rewards can be used. It doesn't always necessarily have to be financial tools. A reward or tool can also be a successful collaboration between public-private achieving a certain sustainable goal. This does good for the faces of both public and private sides, so there will be interest.

The organizational structure might also have to be revised. The ambitions often come from a higher, more abstract level (province/regional governments). But a municipality needs to be able to translate these on a project level and then even on a personal level (the actor's you are working with).

On a personal level the intrinsic value is one major driver. Secondly, but weaker driver, is the profile or image of the person or company.

Important as well is that the ambitions which are set from public side are well within time and budget constraints. The business case needs to be sound. For example, private parties are interested if they earn their investments rapidly (within 5 years). The government can seek ways to facilitate this.

Governments can also give discount on water / purification charges within an area. This way private parties will be incentivized to maintain quality and reduce their costs. MC Erasmus is good example. By focusing on reducing the use of water, they noticed that other types of operational costs were also reduced. But it is not clear if this was already calculated initially or if it was just a happy coincidence.

We come back to commitment. For private parties major revenues can be scored. But it is a difficult puzzle and there is definitely not just one solution. How to make maintenance interesting if they are being used by other parties and if consumers don't want to pay higher rent. Thinking about how to adopt leasing possibilities within real estate can be one potential solution.

Other interesting comments:

The technology like EPC and CO2 levels are not the starting point. Also the focus doesn't have to be energy. Sustainability is much more than energy and water. Happiness, quality, health and well-being and rate of employment are becoming major factors as well contributing to sustainability. Also have a technical sustainable building meeting the standards, does not necessarily mean the building is attractive to be in. Simple attributes like green, water and open and clean environment have major impacts on the behavior of people as well.

Sustainability itself is definitely a trending topic. But it actually has been discussed since the oil crisis. It's not as new as people think it is. And I think it will not be long before the word gets replaced by upcoming buzzwords such as healthy cities and environments. I think for the next 10-20 years that will be the main focus. And healthy places will need social and physical elements to intertwine.

Sustainability psychology is an interesting study; people need to become more aware about what they truly want to achieve when they set sustainable goals. Isn't the use and effect of sustainability, much more important than the product itself?

Municipality of Houten is addressing an interesting issue; they are focusing much more on end-users. Including the elderly.

Sustainability needs to be addressed on all scales: city, neighborhood-user.

There is a generation gap. Especially in municipalities this is important as they need people who are passionate about these topics to actively pursue them. But the same counts for private organizations.

Furthermore, always understand the need. Parties or users don't always have the need for BREEAM or to be sustainable. This is not necessarily a bad thing.

Also decide on the commitment. Companies back out when a crisis hits or when there is no more time to focus on sustainability. There is short term vs long term sustainability.

The one who has the wallet will remain the one who has most to say. Especially interesting when the market is becoming more private-led and governments have to steer. TRIOS Bank is an example.

10.2 EXPLORATIVE INTERVIEW 2

Summary explorative interview with Mario van Teijlingen - Director International Business ING- from ING.

Duration: 1 hour
Date: May 20, 2016
Place: ING Commercial Banking Headquarters, Bijlmerplein 888 Amsterdam

"I want to start off by explaining the two types of professional investors we work with here at ING. The first kind is the institutional investor. They have a very long time horizon and are looking for stable, low-risk investments. Over the past years, institutional investors have taken a bigger interest in investing in real estate. The second type are the non-institutional investors. These are private, sometimes family-owned, independent investors. In the Netherlands there are a lot of these type of investors which hold a lot of capital.

The Sustainable Real Estate Finance finances. About 1-2 years ago they already started promoting sustainability by stimulating green buildings. In total they have financed about 50.000 buildings in the Netherlands, which means
50.000 building in their portfolio that they can possibly influence the level of sustainability. But they are not the only bank joining the green movement. The Nederlandse Bank has also been actively working on this issue and tries to inform private parties how dependent their economies and profits are of carbon.

I believe sustainability is the future. You cannot do nothing about it. I think within maybe 5, 10 or 15 years it will not be possible anymore to finance a non-green building.

For a company to join the sustainability movement it is important to assess first where you stand and then where you want to go. You have to be realistic and for us, our clients need to have a feasible business case they can invest in.

Our institutional clients are in general already aware of sustainability and are also taking measures internally. The bigger challenge is to convince the non-institutional investors to become more sustainable. Here at ING, together with a third party, we have developed a tool to help stimulate these parties. This tool performs a thorough scan of the investment and except just showing how much CO2 reduction is possible with a sustainable project, it also gives a detailed overview about the actual costs, revenues and time. By making this information clearer, the risks involved become lower for the investors.

From the 50.000 buildings which ING participated as a financier, 12.000 of these received an initial scan. After such an initial scan, a more detailed one is performed to give more accurate information regarding the investment. The initial scan can be used to give a quick overview of whether the costs of a sustainable project might be too high for a party. You have to be realistic that some investors will have the budget for sustainable budgets, but that others don't.

ING wants to bring more movement in this market by getting more of the non-institutional parties to invest in sustainable projects. The institutional parties need less stimulation; they have been active on this field and it comes from an internal drive to be more transparent and because they have a corporate social responsibility
towards the society. We see that assessment tools like GRESB are a great way to stimulate investors and to benchmark companies.

As for our tool that we try to introduce to the non-institutional clients; we have been trying to make it useful for our institutional clients as well. The last year or two we have financed many opportunistic foreign investment parties in Spain. Interestingly, energy certificates like BREEAM and LEED were not even used in Spain. Investors would only build up to the minimum sustainability requirements and not above that. What we saw was that the foreign investment parties really demanded these energy certificates as they are seen as a tool of transparency towards their clients. A similar situation occurred in Germany, where prior to the wave of foreign investment energy certificates rarely demanded. After demanded increased from these foreign parties, energy certificate labels became more widely adopted.

Except the sustainability labels, governments can also help to stimulate by taking on a more active role. Italy is a good example. Because of its rich portfolio of cultural sites, governments have to be more participatory and take on a more active role in the city's sustainability compared to other European countries.

Now of course, England is a front-runner on sustainable urban development projects. They have some great examples. But also some catastrophic ones, so it isn't always good in England.

More clients are becoming aware of the topic sustainability and ING wants to play an active role in this. This is because it will also benefit ING as they can offer the proper knowledge to their clients and hereby they can reduce the risk of the portfolio they finance. So being active in promoting sustainable investments is in their own interest as well. In order for clients to realize this, they have to go all-in to becoming sustainable. As said, it is done largely because of it's in their interest. Generally, they earn 1-2% profit of the projects they finance and sustainable investments can help secure or increase the value and reduce the risks of vacancy. Both factors which can affect their profit.

Internally, ING is aware that behavior and change management are important aspects as well to consider when going green. This is also a challenge as you have to have the right employees and knowledge about the topic. Sustainability trainings are now being given to the entire department.

So ING wants to actively stimulate their clients to invest in sustainable projects as well. But not all clients are open for this. They can resist. Especially, the non-institutional parties are difficult to bring on board. First of all, they are much less transparent and secondly they have less interest to be corporate socially responsible because they don't have to respond to anyone. Yet, ING is working on tools to more actively keep motivating the sustainable markets. These will be revealed during the PROVADA on June 7th. Events like this also helps

shape the profile of ING as they are then able to market themselves as a green party. With things like green bonds, they are also able to monitor and publish how much they finance green activities. Representing themselves as a green party is largely because of the corporate social responsibility towards society.

At the moment ING is trying to prioritize which clients are best in position to start investing in sustainable buildings. Hereby it is important to know which clients have the budget here for. Naturally, the clients also have to have a drive to become more green. Often this means for them that the business case can be feasible.

A reason why energy labels are much more applied to new buildings instead of existing buildings is because of the costs of the label. If you put the costs of BREEAM label in relation to the total overall cost of a new project, it is relatively small so therefor attractive and more feasible. But the total costs of transformation project are in general
lower, so the costs of adding an energy label are then in relation much higher, making the investment less attractive.

One of the tools ING will present at the PROVADA is the 'carrot as stick' transformation tool. This measure acknowledges that by transforming you should receive more rights and/or lower price- making the sustainable transformation more appealing. ING also wants to introduce a hard rule by saying that if you don't invest in sustainable projects, the loan-to-value ratio will be lowered.

Naturally, ING only has a limited amount of tools they can implement as a bank to help stimulate green investments. The government could give more space to private banks by offering more fiscal benefits, but this is complicated of course. Other ways, better than giving out subsidies, is to let banks take over the financing in projects instead of governments.

Furthermore, a lot can also be improved by harmonizing the sustainability ambitions. Also outside of the Netherlands. The sustainable goals differ so much internationally; how can it be that EPC and CO2 reduction goals are so different. With a set of international investors as clients, this also forms a barrier. Because it costs a lot of time in the value chain- a lot of governance- when an investor has to deal with making projects sustainable in different countries. Each country has different requirements and goals and if we are all chasing the same goals this should be much less complex. I think a lot of improvement can be done in this area too. Ideally, on a global level. But for now, at least EU should have less differences between the countries.

Since a few years, ING does not participate anymore as a developer. Between 2008 and 2011 immense losses were made and the ING development department was closed. The participation of ING in urban developments is also rare. There are just too many risks involved on this scale; especially when it comes to buying land."

10.3 EXPLORATIVE INTERVIEW 3

Summary of explorative interview with Fred Bruijn– Senior advisor on the area of sustainable energy developments at SWECO

Duration: 30 minutes
Date: May 23, 2016
Place: SWECO,
Rotterdam

"We offer our clients services on technical, organizational and financial levels. The challenge with sustainable projects definitely lies in the finance aspect; risks and profit are important decision-makers for the client.

Sustainability needs to be better supported with the help of subsidies. These can create profitability and thus become more attractive. Saving options are less interesting, because often they are less integrated to the primary functions of the business.

Many studies are being done on the 'new city'; where sustainability is key and not only because of energy, but because all lifecycles are being included too. The social aspects of sustainability are also more present here.

The municipality of Breda is a good example of a municipality which is trying to actively stimulate sustainable projects. They do their parts in bringing the necessary parties together to facilitate the process and they also make sure they generate enough publicity for the project. Sometimes external third parties are still needed; Energy Service Companies (ESCo's) are lately taking on this tertiary party role.

The municipality also made her own roof tops available for solar energy. This active behavior can also be found in how they are taking initiative and are also offering guarantee to investors. For investors this can mean a significant reduction of risks.

Other ways municipalities can help facilitate the process towards sustainable investments for investors is to shorten the time frame of adapting zoning plans. This is also seen as a hurdle.

For investors though, profit and trust remain two big factors in the decision-making process. A municipality can offer trust by being reliable, having a proper plan and guarantee. Another way is to offer subsidies; recently the SDE+ (Stimulering Duurzame Energieproductie). The first round of application for this subsidy was so successful that the government is organizing a second round later this year. For the second round more budget will be set available too.

Another hurdle is the split-incentives. ESCo's can be one of the solutions within the energy efficiency area. We are noticing that nowadays there is a higher demand for a commodity instead of the actual product. To reduce these hurdles of split-incentives you should find creative ways of financing. Within the financing, the Total Cost of Ownership plays a large role. This needs to be attractive. So far, ESCo's are the most widely applied 'creative' financing way we offer our clients.

There is a vast amount of Dutch capital available here in the Netherlands to be invested in sustainable projects. Yet this is not happening. And definitely not on the speed that it should be if the sustainability goals were to be met. I definitely don't see us reaching any of those goals any time soon. The municipalities can take more active roles. I hear there are talks about the possibilities of introducing 'revolving funds' here, but so far they are only talks. No real actions. At least not I am aware of.

In regards to sustainable urban developments, so far a lot is happening with leisure or business parks. Less with residential. We see a pattern developing, especially on old waste terrains. These new areas will be developed into self-provisional areas.

We see that investors often choose to just meet the minimal required level of sustainability in their projects. To go above and beyond the minimum it is important for the business case to have the different interested of the parties clearly outlined, define the total cost of ownership and make sure profit can be made. In the end, private parties need to survive in this market. That is their primary goal.

Tools like BREEAM and energias trias can also help to attract investors.

When it comes to sustainable technology, it can be too expensive or have too much impact on the end-users' behavior. We have been in situations where the government enforced the law and we got fined because of being unsustainable. That's also a way of doing things.

Investors themselves don't always have the adequate information about the costs and revenues of investing in a sustainable project. That's where we can come in and reduce that lack of knowledge of our clients. We act as the intermediaries.

Governments can also try harder to reduce the return-on-investment time frame. It depends on the type of

investors which ROI they are interested in, but usually equity investors want a very short time frame; less than 5 years. An example to this solution is to bring the ROI within the subsidy time frame.

In summary, governments need to take more action if they really want to achieve these green ambitions. So far they only want to dip their toes in the water, but they don't want to swim."

10.4 EXPLORATIVE INTERVIEW 4

Summary explorative interview with Maarten Dansen – Senior Project manager at Dutch Green Building Council Duration: 1 hours
Date: May 31, 2016
Place: Dutch Green Building Council Rotterdam

"We are currently working on a newer version for the BREEAM-urban area; one which is better suited for urban re- developments. The need to develop such a certificate is a choice of principal, because you want to promote more livable urban areas. Moreover, sustainable building cannot truly be sustainable if its surroundings are not sustainable. Hence, the need to develop an assessment tool for urban areas.

Municipalities are not really developing with this certificate. I think if they start doing the preparation work and say in advance that an area is going to be certified, developers will more easily join along in the development. Because then the preparatory work is partially done by the municipality.

Havenbedrijf Amsterdam is one of the few and recent examples of BREEAM-urban area. About 80% of the land is yet to be developed. We notice that in this case the BREEAM certificate is used as a marketing tool to make the area more attractive. By putting a label of high-quality and sustainability, the project becomes more special than others and will become attractive for buyers/tenants. Furthermore, developers and investors can promote themselves as being green.

The sustainability certificate for urban areas is much softer than BREEAM new-built or in-use. This is because it is much more difficult to compare urban areas. They are more difficult to measure on an absolute scale.
Sustainability in an urban area is not just about the usage performance of energy, but it is also about health, comfort, employment and other social aspects. These soft factors are difficult to quantify and to compare between urban areas. Especially since urban areas come in different size and shape. By certifying though, you can check if the involved parties have thought thoroughly about these factors of sustainability and they want to incorporate these in the plan.

As far as I am aware there is one project with BREEAM-urban which was initialized by the public parties Rijksvastgoedbedrijf and municipality of Katwijk. Most other projects for BREEAM-urban area in the Netherlands are a public-private partnership.

Most of the BREEAM-urban area projects are focused on business and not mixed-use. I think the main reason for this is because most developments are happening now within the business industry. Around the tunnel at A2 in Maastricht there are plans to develop a certified mixed-use area.

I also know a project in which the client individually certified the buildings instead of the entire area. I don't understand why.

Dutch Green Building Council is not closely involved within the sustainable urban developments. We don't advice as we have to maintain an independent party. You need in total three parties to assess an urban area; the inspector, DGBC and the client. However, we do often sit at tables with private parties in order to reflect on the certification criteria and which challenges posed during the development.
Yet, certificating an urban area will remain complex. On average it takes about 16 years to develop an entire

area. So it's hard to decide 16 years prior to that, that you will certify an area. So the question is when will you do the assessment? Moreover, that is if the area is developed in one time. Nowadays, we see that most urban developments are phased; making it even harder to decide when is good time to perform the assessment. At last, an urban area is always in development, it is never truly finished. So that is also an aspect you will have to deal with. It's just much more complicated than on a building level.

We try to make it a bit more flexible with the point accreditation. For example, the assessment criteria points in the Definitive phase can be awarded points in a later stage. We also don't have a completion certificate. The certificate for urban areas needs to be checked every 5 years. Today, in the Netherlands, we didn't have to re- assess a project yet.

As said before, the social factors of sustainability make the process of urban development more complicated. Again, because areas differ in size and functions. We try to make it a bit easier by for example not saying that a certain material use can be good or bad, but instead by checking if the consortium has thought well about the material use by analyzing a minimum of three options. DGBC and the inspector can validate the quality of this research.

Most importantly is to stimulate the thinking; make sure that the parties involved have thought well about the decisions they made and if they evaluated the different options. With all the social factors within urban areas, you are limited in the possibility to measure. On a building level we assess performance, solutions and process. On the urban area we focus only on the process.

It is DGBC and the inspector's responsibility to validate the process. If we think the process is not sustainable, we will not give the certification. For us it is important to maintain the high-quality level which the certification stands for, otherwise it will lose its meaning.

Usually, it is one consortium which applies for the BREEAM-urban area. They make all the decisions together.

When it comes to the costs of the BREEAM-urban area and BREEAM-re-developments-which is still in the making- the level of costs shouldn't be much different. In general, re-developments are costlier, because again the process is just more complex than a new-built development. Also here we will try to make the assessment criteria more flexible and approachable for re-developments.

One of the benefits of BREEAM-urban area is that it can help make the ambitions for an urban area clearer; it will not just be about saying we will be the greenest urban area but about developing specific ambitions. The BREEAM- urban area can be used as a great process management tool in the development, because it can help make the overall ambitions clear. In the end this saves money as the management of the process can be done better and conflictions can be reduced.

Even more money can be saved by working smart with consultancy firms. Often these firms ask high payments and because one is not informed well, they will not know better than to pay for it; increasing the total overall cost of getting such a certificate. We try to keep the costs as low as possible where we can- but often you hear that clients were misused by consultancy firms after the project is completed.

Our goal is to make the Netherlands as sustainable as possible. There is also a lot which is sustainable but not certified or which is certified but actually not sustainable.

At the moment the BREEAM-urban areas are too limited, too few. We have introduced them about 4-5 years ago and the costs of maintaining the 5 projects running are in relation too high. Therefore, we have been busy with setting up a new scheme; one which will be more approachable, simpler and clearer. It takes a few big parties to start adopting the certificate for others to follow.

At the moment, our general list of participants are mostly private companies. And I think we need to actually try to get more municipalities involved as well. The bigger municipalities like Amsterdam, Almere and Haarlem have

more time and budget for sustainability and they are active. But the smaller municipalities are much more limited. I think they are the ones who will benefit even more from certificates. Furthermore, the consultancy firms which are guiding their clients throughout the process of sustainable investments have a good position in promoting sustainability to their clients.

BREEAM-urban area came from the demand of the market. There was enough excitement to set up a uniform way of assessing the sustainability in urban areas. There was enough collective support. In 2012 it was announced that the BREEAM-urban area was not well equipped for re-developments. So that is why we are developing a new certificate for that. Andy van Dobbelsteen was also involved in this process.

As far as I know there are a few good international examples.

BREEAM-urban area can be a good management tool throughout the process. But it will remain challenging to answer which party benefits the most of this?"

10.5 EXPLORATIVE INTERVIEW 5

Summary explorative interview with Just Pereboom – Head of Capital Markets at OVG Real Estate
Duration: 1 hour
Date: June 7, 2016

Place: The Edge, Amsterdam

"First of all, here at OVG Real Estate we do not do urban development. At my previous job, at PROLOGIS, we did develop industrial and/or logistics terrains. These kind of developments naturally include infrastructure and public space since you need the industry terrain to be accessible. So as a developer you want to invest in the roads for example. With office buildings I think it is different. Accessibility of office buildings should be a task of the government.

We are known to be a sustainable office developer and so far we have no intentions of entering the urban development field. Reason therefore is that we would solely want to focus on our core business; which is to develop sustainable office buildings. Moreover, we are also looking to expand geographically and that is a challenge itself, so we wouldn't want to also develop a product which is far from our core business. In 2007 we actually applied for the tender of the urban area in Maastricht near the A2, but we quit. And I think that was good, because we do not have the knowledge about urban development.

Within the office sector, we are popular for our BREEAM certificates. But these certificates are too stiff, too inflexible, and because of this it often leads to just a 'tick-the-boxes' mentality. We are already looking at the next step; wellness. I think at some point sustainability and BREEAM will become the standard and it will not make your project or company stand out. So to distinguish ourselves from the competition we will need to make a step towards increasing well-being in office buildings. When certificates like BREEAM become the norm for everyone, then they might not even be necessary anymore because they don't distinguish the project from others.

The office sector is quite conservative. The Edge office building here is the most sustainable office building in the world; we were able to make that statement. There is still so much to do within this field; lots of new-built or transformation offices can still be developed in a sustainable way.

BREEAM has been a marketing tool all along. Such a certificate can give you a unique selling point- a competitive edge. Marketing was also one of the reasons we used it, but as it is becoming the standard we are looking already for other ways to make our developments stand out; technology and well-being. Furthermore, I'd like to say that what made BREEAM certified projects successful for us, was that we didn't just tick the boxes; we also looked at other ways to make the working environment more unique.

I think we already passed the tipping point of BREEAM certificates becoming the standard. This tipping point presented itself when on the investor-side there was demand for BREEAM certified buildings, otherwise they

would not invest. But as we already passed this tipping point, sustainability will no longer make you stand out. Like previously mentioned, instead we are shifting the focus on technology and well-being, and of course with still sustainable elements.

There are benefits to building sustainably; it reduces the costs and it increases efficiency. But it also has its challenges. For example, it is hard to measure soft elements like work productivity. And not because we don't know how, but because it is relatively new there is not enough historical data series to make the necessary statistical analyses. This is a matter of time though, by documenting and measuring now we will have more data in the future. This also leads to another challenge in regards to the social values; privacy and ethics. One of the big questions now is deciding where to draw the line between collecting data and privacy violation. For example, how much should a company know about its employees' health in order to lower absenteeism.

People want an office which is in an attractive environment, because that's good for attracting talented employees or because they want to profile themselves with companies of the same type or level.

There is an increasing demand for flexible office operators; companies want to be able to grow while staying flexible. Elements like contract term, square meters and contract type will have to be adapted to meet these flexibility demands. On average about 35% of the total costs of a company is the rent. By offering a different, more flexible total package, another rent price calculation can be done. The better value proposition will need to be set.

The municipality of Amsterdam had quite role to play in the development of the Zuidas. Zuidas used to be a monofunctional area, but not anymore. More residential units are being built. The land policy of the municipality became different; more flexible so it allowed other types of developments.

Parkmanagement is happening, but it is very capital-intensive, so who will take that responsibility. It's happening in UK, but less in the Netherlands. In comparison with England, the Netherlands is densely-populated and is a small country.
The role of the government is important to develop urban areas. Here in the Netherlands the government is usually active for a short term, since we are a democratic country. If you compare that with Asian countries like South-Korea and Singapore it is much different. Singapore and South-Korea are also acting sustainably and they are able to be successful because of the autocracy. Especially, in emerging cities (like we see in China, Indonesia and India), there is a need to develop entire urban areas-or cities- in a sustainable way. But the government has an important role to play in this and needs to be active. New York in USA is another example of how the role of the government can influence developments. Personally, I think New York is just a concrete jungle and the infrastructure and livability of the city is bad. There are almost no green spaces. This can be largely explained due to the fact that most developments are private-led; private parties' interests are different.

The carrot and stick principle is very applicable when it comes to reaching these sustainable targets. You need incentives- whether monetary, tax or something else- for private parties to be stimulated to act out on the policies.

When it comes to transformations and re-developments location is very important. That's why we look at old buildings in strategic places; so close to stations and other public transit hubs. One of the biggest challenges with transforming buildings is the purchase price of the building. The price cannot be too high; actually it should be more or less similar to the value of the plot because of its value. So far we have been able to score good deals and get old buildings for relatively low price, but it's not always easy. Re-development is often only possible if the buying price is good, otherwise it will not be economically feasible.

Moreover, another challenge waits in the existing structure and year of construction of the building. New-built can always be made sustainable, but existing buildings not. Physical and technologically this is just not always feasible. Furthermore, there are also risks involved if you buy the building and it is not yet completely vacant. Because, when will you then start developing- do you wait for the tenant to leave or do you kick them out? And the longer you wait, the more risks increase. These decisions and processes can be time-consuming, thus making it riskier and more complex.

Another challenge in sustainable built environment is the financing. Mostly, private parties will need financing in order to make the business case feasible. Thus, banks are important for this. However, banks are not so excited about re-development projects and the amount of finances for these types of projects is quite limited. Banks in the Netherlands are consolidated, as opposed to in Germany, where the banking world is much more competitive. The government can also contribute to this solving this challenge by allowing easier accession from foreign financers in ways of fiscal incentives for example.

Other challenges in which the government can offer solutions is the zoning plan/permits and land leasehold (erfpacht). All these plans and permits are separate counters within the municipality. This division of the necessary departments consumes times and the departments are not on the same line.

An incentive which could work can be a more flexible zoning plan. In Amsterdam quite a lot of transformation projects take place, but here that is also a priority of the municipality. So it depends where the priorities of the municipalities lie in order to steer well.

The challenge or sustainable urban development is tough, yet important. The cities are growing more and more and the built environment needs to be able to meet this demand in a sustainable manner".

10.6 BREEAM CERTIFIED PROJECTS FOR URBAN DEVELOPMENTS

Building / Asset Name	Client / Developer	Scheme	Rating Score	Stage/ Valid Until	Certificate No.	Assessor/Auditor	Town Postcode/Zipcode	Country
Atlaspark (Afrikahaven)	Atlaspark (Afrikahaven) Havenbedrijf Amsterdam	NL Area Development	Excellent 71.57%	DESIGN STAGE	6-GON-2012	ir. Djacco van den Bosch - Soeters Van Eldonk architecten	Amsterdam	Netherlands
Aylesbury Estate	Aylesbury Estate Notting Hill	Communities	Unclassified 0%	Interim	BREEAM-0053-4537	HTA Design LLP	London SE17	United Kingdom
Berry Farm	Berry Farm Barratt Homes	Communities	Pass 0%	Interim	BREEAM-0051-1436	Temple Group Limited	Eastleigh SO31 8GQ	United Kingdom
Boorley Green	Boorley Green Ashill Developments	Communities	Pass 1%	Interim	BREEAM-0046-5351	Temple Group Limited	- SO32 2UA	United Kingdom
CastleWard	CastleWard Lovell Partnership Ltd	Communities	Good 42.38%	Interim	BREEAM-0044-6161	HTA Design LLP	Derby	United Kingdom
Crowdhill Green	Crowdhill Green Bloor Homes/ Highwood Group	Communities	Pass 1%	Interim	BREEAM-0050-5339	Hodkinson Consultancy Ltd	Fair Oak	United Kingdom
Ecomunitypark	Ecomunitypark Ecomunitypark BV	NL Area Development	Outstanding 88.61%	DESIGN STAGE	2-GON-2012	Ir. Wouter de Zeeuw Projectmanager - FOM Consultants	Oosterwolde	Netherlands
Falstaff	Falstaff Sheffield Housing Co.	Communities	Very good 59.31%	Final	BREEAM-0044-1154	Deloitte Real Estate	Sheffield	United Kingdom
Former Brooks Laundry Site	Former Brooks Laundry Site Folland Limited c/o DJ Foley Limited	Communities	Pass 0%	Interim	BREEAM-0059-1131	Method Consulting LLP	Bristol BS2 9RE	United Kingdom
Horton Heath	Horton Heath Horton Heath Limited	Communities	Unclassified 0%	Interim	BREEAM-0056-8287	Hodkinson Consultancy Ltd	Horton Heath SO50	United Kingdom
Land at Moorgreen Hospital	Land at Moorgreen Hospital Barratt Homes	Communities	Pass 0%	Interim	BREEAM-0059-2873	Temple Group Limited	Southampton SO30 3JB	United Kingdom
Land off Woodside Avenue	Land off Woodside Avenue First Wessex	Communities	Unclassified 0%	Interim	BREEAM-0050-1288	Temple Group Limited	Eastleigh SO50 9ES	United Kingdom
Lelystad Airport Businesspark	Lelystad Airport Businesspark Omala N.V.	NL Area Development	Very Good 60.37%	DESIGN STAGE	1-GON-2012	ir. Djacco van den Bosch - Soeters Van Eldonk architecten	Lelystad	Netherlands
Locatie Valkenburg	Locatie Valkenburg Rijksvastgoedbedrijf en Gemeente Katwijk	NL Area Development	Outstanding 85.2%	DESIGN STAGE	4-GON-2012	Wouter de Zeeuw - FOM Consultants	Katwijk	Netherlands
Masthusen (Kv Bilen 7)	Masthusen (Kv Bilen 7) Riksbyggen	Communities	Excellent 73.11%	Interim	BREEAM-0044-3465	White Arkitekter AB	Stockholm 10386	Sweden
Masthusen (Kv Bilen 7)	Masthusen (Kv Bilen 7) Diligentia AB	Communities	Very good 57.5%	Final	BREEAM-0050-9695	White Arkitekter AB	Stockholm	Sweden
Media City	Media City Peel Holdings	Communities	Excellent 78.94%	Interim	BREEAM-0031-1530	Sinclair Knight Merz	Manchester M50 3SE	United Kingdom
Norfolk Park	Norfolk Park Sheffield Housing Co.	Communities	Very good 58.81%	Final	BREEAM-0044-1147	Deloitte Real Estate	Sheffield	United Kingdom
North Stoneham	North Stoneham Highwood Land LLP	Communities	Unclassified 0%	Interim	BREEAM-0056-6968	SoSustainable	Eastleigh SO50 9HP	United Kingdom
Pylands Lane	Pylands Lane Ashill Group	Communities	Outstanding 89.09%	Final	BREEAM-0056-9467	SoSustainable	Eastliegh	United Kingdom
Pylands Lane	Pylands Lane Ashill Developments	Communities	Pass 0%	Interim	BREEAM-0046-5369	Temple Group Limited	-	United Kingdom
Schiphol Trade Park	Schiphol Trade Park GEM A4 Zone West C.V.	NL Area Development	Excellent 78.38%	DESIGN STAGE	3-GON-2012	ir Lonneke van den Elshout - Movares Nederland BV	Haarlemmermeer	Netherlands
Shirecliffe 1	Shirecliffe 1 Sheffield Housing Co.	Communities	Very good 58.57%	Final	BREEAM-0044-1162	Deloitte Real Estate	Sheffield	United Kingdom
Urridaholt	Urridaholt TBA	Communities	Unclassified 0%	Interim	BREEAM-0057-4707	Mannvit	Gardabaer 210	Iceland
Urriðaholt - North side phase 2	Urriðaholt - North side phase 2 Urriðaholt hf	Communities	Very good 63.40%	Final	BREEAM-0059-9597	Mannvit	Garðabær 210	Iceland

10.7 BACKGROUND INSTITUTIONAL LANDSCAPE

A cross-cultural case-studies comparison does not come without its challenges. As the institutional landscape is decisive for the urban planning in a country, it is important to also acknowledge how the institutional framework of the case-studies in their respective countries. Comparing local urban governance is not easy, as a nation-wide comparison is tough enough based on the local and regional differences (Stoker, 2011). Within any country there could be several different levels of local government and departments and the form of each could vary based on local circumstances. By illustrating the basic institutional differences of the countries, the context and results of the case-studies perhaps are better understood.

However, since the purpose of the research is not to compare the institutional landscapes in the Netherlands, Sweden and UK, the research will not continue with an in-depth analysis on this topic based on its complexity and limited time of the research. Notwithstanding these reasons, the following sections will identify some relevant and basic governance difference and similarities between the respective countries by applying some global, simple and comparative governance typology.

The structure of the urban governance can influence the way public and private actors are involved in the implementation of urban development projects (Heurkens, 2012). As the public-private relationship is an important aspect of the stakeholders and partnerships structure, this research will focus on these relations rather than urban governance and planning systems as a whole.

Prior to comparing the different urban governances a short background about urban planning in the UK, the Netherlands and Sweden will be given.

10.7.1 UK

The Anglo-American era started when Margaret Thatcher became prime minister in 1979, while around the same time Ronald Reagan was elected president of the United States of America in 1981. An entire new enterprise culture was introduced which promotes privatization, deregulation and marketization of activities which had become to be seen as a privilege of governments (Garau, 2009). As urban planning was closely linked to state intervention and regulation, it became also a main focus of Thatcher.

The influences of Thatcher on urban planning in the UK had the strongest impact in the inner areas of the metropolitan cities. During that time the main challenges include the de-industrialization and urban decline. The solution for these was to establish a planning regime which encourages large-scale private development by employing public funds to attract private capital. During that time thirteen urban development corporations were created in many inner city areas, including the famous London Docklands, basically overruling the elected local authorities (Garau, 2009).

Another instrument which was introduced in this era was the planning-free zones where uncontrolled development could take place. These new zones blossomed in 22 square kilometers London Docklands and its central business district core Canary Wharf. These developments highlighted both the strength of the large-scale development approach as well as the problems they caused due to lack of integrated planning (Garau, 2009).

At the end of 1980s the British planning was also influenced by an increase of public interest in the environment, which subsequently translated itself in a strong interest in sustainable urban planning. Together with a more positive economic outlook, a revival of concern for the quality of urban life became strongly encouraged (Garau, 2009). Soon after, the European Union showed strong interest and support for putting sustainability on the agenda.

Another remaining challenge facing the British urban planning is its over-reliance on private investment, derived from the Thatcher year, and its reluctance in public-sector investment, particularly in the field or urban transport (Garau, 2009).

The interest for environmental policies was prompted by various developments, with the most significant one being the oil crisis of the 1970s. Environment was rarely on the political agendas, yet England has been a front-runner in a number of environmental issues (Cullingworth & Nadin, 2002). England had one of the first cabinet-level environmental departments, the Department of the Environment, which was established in 1970.

In 1997 Tony Blair made a call for all local authorities to complete Agenda 21 strategies by the end of 2000. Even though many prime ministers did not make the environment a priority, certain ministers, parliamentary committees, agencies, advisory bodies and interest groups have continues to raise the profile of environmental issues in the UK.
In 2000 the government established the Sustainable Development Commission and its purpose was to monitor the extent to which sustainable development targets were being achieved, identify trends in unsustainability and gain more knowledge about the concept (Cullingworth & Nadin, 2002).

The British environmental policies have an interesting feature; the active role of some the important interest groups. Governments may try to set these groups aside, but increasingly cannot ignore them, especially not since they go access to power via the EU Environmental Commission. This has resulted in the EU having a big impact on the British sustainability policies (Cullingworth & Nadin, 2002). As such the environmental action programs have had increasing impact on policy and practice in the member states. These were documents with emerging policies to be incorporated by the EU and followed by the national, regional and local government.

10.7.2 THE NETHERLANDS

Like the majority of Europe, the Netherlands was yet recovering from the Second World War during the 1950s and 1960s. This event pushed the further development of the social welfare state; where the central government played a key role achieving the policy objectives- including urban planning (Van Straalen, Van Den Brink, & Van Tatenhove, 2016). During the 1970s urban quality became an increasingly important objective and local municipalities kept control of the urban developments.

However, at the beginning of the 1980s, the neo-liberal movement resulted in shift from center-left to center-right governments. This translated to a reduction of public budgets and much greater reliance on the private sector (Garau, 2009). This larger role of private markets in spatial development processes affected the power balance in planning practices. Since the 1990s private-led planning practices strengthened the role and power of private parties in planning. From a governmental perspective, this new balance could be seen as a struggle between the encouragement of private development and fear for dependency on private developers (Van Straalen et al., 2016).

Particularly since the mid-1980s, the Netherlands has been making efforts to monitor the environmental impacts of the built environment (Melchert, 2007). The attention for sustainable development increased since the publication of 'Our common future' in 1987. In the following years, all policy plans included the words 'sustainable development'(Goedman, Houtsma, & Zonneveld, 2008).

The National Packages for Sustainable Building contained lists of measures for sustainable construction, design and usage. There was a separate package for urban planning which included principles for sustainable urban planning and which could be used by planners in new developments. However, it was harder to formulate clear, neutral criteria and procedures for decision-making in the urban planning package which is why subjective judgement of experts was incorporated (Van Bueren, 2009).
The purpose of these packages was to harmonize and share knowledge on a sustainable built environment. These packages were part of the Policy Program for Sustainable Building created by the Ministry of Housing, Spatial Planning and the Environment. The program formulated sustainability goals and developed instruments to help the building sector achieve these goals.

As the 2000s progressed, the heterogeneity in sustainable building policies increased due to various developments (Van Bueren, 2009):
-Initiatives to support the further harmonization of sustainable built environment hindered the competing interests of the industry.

-The packages were focused on the interests of the weakest actors, while the bigger and front-runner actors wanted to achieve higher ambitions.
-Local authorities wanted to adapt their demands for sustainability based on their ambitions level and the characteristics of the plan area.
-The Ministry of Housing decided that from 2004 onwards the building sector no longer needed government support to develop sustainability. Central policies were cut down.

The last revision of the sustainable packages was in 2005, but has remained available up until 2012. The urban planning package was planned to be reviewed in 2007, but this never happened. It had a more conceptual and comprehensive setup than the other packages, and other developments have already been made to support the implementation of the concept it introduced.

10.7.3 SWEDEN

Up until 1980s Sweden had one of the most state-led systems of Western countries. But this changed abruptly to a free market after 1980. In 1990 this change continued with neo-liberal elements like tighter public budget and deregulation (Garau, 2009). Planning authorities in Sweden rely heavily on securing public infrastructure and community services by negotiating with private developers rather than through direct provision.

The Swedish planning have been successful in their green field new town developments I the 1960s, 1970s and 1980s and later on applied their acquired knowledge to brownfield redevelopment and sustainable planning and design.

Sweden is divided into about 290 municipalities, which form the main planning unit. Municipalities in Sweden have a strong position in the planning system when it comes to both urban and rural areas.

On a national level, the Swedish planning system is regulated by the Swedish Planning and Building Act. All municipalities are required by law to have a comprehensive plan (master plan) for the area. The municipal authorities are also the ones to make decisions about spatial planning in the urban areas. There are three levels of planning within the municipality: the policiy level (including the comprehensive plan), legal land use planning (detailed planning) and implementation (Delshammar, 2015).

In Malmö policies and and the comprehensive plan are developed in cooperation between the various municipal departments. Important policies are the Green Plan, Climate Adaption Plan, Storm Water Strategy and Nature Conservation Plan (Delshammar, 2015). The City Planning Office is responsible for the detailed planning.

Sweden too was an early bird with regards to sustainability. The sustainable development was introduced by the government in the early 1990s, but the focus was laid more on the ecological dimension of sustainability. The first national strategy for sustainable development was presented in 2002 and in 2003 it was adopted as an overall objective of government policy (Ahlberg, 2009). In 2004 and 2010 the strategy was revised by the government. Since sustainable development is an interdisciplinary issue, and since the work process in the government builds on joint decision-making in which all ministries participate, all ministries were also involved in the development of work on the sustainability strategy. Since 2005 the Division for Sustainable Development at the Ministry of Environment has been responsible to lead this coordination. Moreover, in early 2005, the government established a Council for Sustainable Development under the National Board of Board of Building, Planning and Housing. The purpose of this was to facilitate the implementation of Sweden's Sustainable Development at the local and regional levels (Ahlberg, 2009).

10.7.4 URBAN SYSTEMS CLASSIFICATION

According to Newman and Thornley a classification of the different urban planning frameworks in Western Europe can be categorized to four groups; the British, the Napoleonic, the Germanic and the Scandinavian (Garau, 2009). According to this typology, the Netherlands would be part of the Napoleonic family, UK part of the British family and Sweden part of the Scandinavian family.

UK became known for its pragmatism and localism and often this leads to arguments stated that British planning system is one of the most decentralized in the world. However, this is not necessarily so. Still today, the UK is characterized by a strong role of central government (Garau, 2009). Yet, the central government cut loose its regulatory and guiding functions on matters of urban planning, with broad and non-binding planning principles and guidelines delegated to sub-national tier of regional governments. Moreover, the Dutch planning is also interesting if compared to British planning. Both countries have shown a shift from development-control to develop-led planning; creating more room for the participation of the private sector and civil society actors (Garau, 2009). However, this does not necessarily mean that planning or public powers are weak, and the Dutch are good example. The Dutch legislation advises to provincial governments for environmental controls and landscape protection.

Sweden, the Netherlands and UK vary in many ways; size, language, culture, history, population and institutional settings. However, besides a high GDP per capita, these countries have other similarities as well. Garau (2009) mentions a few; all are elective democracies and all have gone through industrialization and urbanization processes at roughly the same time.

Jon Pierre (1999)makes a proposition for a conceptual framework which distinguishes the primary policy objectives of the local urban governance in four types; managerial, corporatist, pro-growth and welfare (see figure x). These models are shaped by their economic, political and ideological context. The categorization of these four groups is loosely based on four domains: (1) the primary context; (2) the overarching political objectives; (3) the preferred policy, planning or financial instruments applied to reach objectives and (4) the most common outcomes associated with the latter. Other characteristics which are also described include policy style, political exchange, public-private relationship and city-citizen relationship.

	Models of urban governance			
Characteristics	Managerial	Corporatist	Pro-growth	Welfare
Political objectives	Efficiency	Distribution	Growth	Redistribution
Policy style	Pragmatic	Ideological	Pragmatic	Ideological
Political exchange	Consensus	Conflict	Consensus	Conflict
Public–private exchange	Competitive	Concerted	Instrumental	Conflict
City–citizen relationship	Exclusive	Inclusive	Exclusive	Inclusive
Primary contingency	Professionals	Civic leaders	Businesses	The state
Key instruments	Contracts	Deliberations	Partnerships	Networks
Pattern of subordination	Positive	Negative	Positive	Negative
Key evaluative criterion	Efficiency	Participation	Growth	Equity

Figure 38 – Four urban governance models (own ill.)

A description of each model is described in the following sections.

First off, the managerial urban governance; in this style the local government can be assessed based on two aspects. One aspect is based on the democratic, participatory objective that characterizes local government as an instrument for the management of political conflict. The second aspect is the managerial aspect, in which the local government is seen as a public organization focused on resolving collective needs and services (Pierre, 1999). Managerial governance accords only a minimal role to the elected officials. The style blurs the public-private distinction by portraying public service producers and clients as actors in markets and by identifying market-based criteria as the main evaluation criteria. The main objective of the managerial style is to enhance the efficiency of

public service. A key strategy is to reduce the public-private distinction by for example introducing private-sector management strategies in public sector services. Some popular instruments applied to reach these objectives are: contracts with for-profit organizations for providing certain public services, managerial positions in the public sector, internal markets and other forms of competition both within the public sector and between public and private.

The corporatist urban governance is typical for small and advanced democracies of Western Europe. Their political systems has a long history characterized by strong public sector, redistributive policies, comprehensive welfare state services provisions, a high degree of political involvement, equal representation and strong voluntary groups. Local government is seen as a political and democratic system for the inclusion of social groups and organized interests groups in the urban political process. Furthermore, they are treated as an instrument to create consensus and joint public-private action. A problem with this style is its fiscal discipline. Compromises that are acceptable to all major participating parties are secured by distributive compensatory policies. Despite the fact that there is considerable interest among the voluntary associations to have input on public expenditures, there is much less incentive to participate in discussions concerning urban revenues, except when the interests of the organizations themselves are at stake. This collective self-interest causes problems in the urban governance because it tends to disaggregate the public interest and put local authorities in a weak position to bargain (Pierre, 1999).

The principal of corporatist urban governance is distributive, ensuring that the interests of the parties are represented in the urban services and policies. This inclusive character does not only represent the interests, but it also serves as a vital instrument of governance. By bringing in all the major stakeholders and their interests into the urban political process, the urban political choices are highly accepted by the civil society (Pierre, 1999). Even if start of the process is more time-consuming and slow, the implementation often becomes smoother compared to other governance models because of the early involvement of the key actors.

Even though this model is made to distinguish different types of governance approaches; Pierre does note that in reality, the particular approach to governance may display elements of the different categories simultaneously. This occurrence has been reported in studies or urban developments that have exhibit capacities to incorporate elements from all four models (Pierre, 1999). The same applies for the countries England, the Netherlands and Sweden, where also the urban governance is not solely pertaining to one of the abovementioned groups.

Based on different studies describing the institutional landscape of these countries, England would primarily be described as managerial, Sweden as a corporatist and the Netherlands as welfare.

Progrowth urban governance can be found in capitalist economies and is well-known to facilitate the compromise between the political and economic power. It is seen as the structuring of joint public-private actions to boost the local economy. These collaborations rely on shared interests in economic growth between city hall and the business elite. Of the four governance models, the progrowth one is the least participatory (Pierre, 1999). Even though most local stakeholders have a direct or indirect stake in the growth of the local economy, the progrowth politics does not have many opponents. So apart from the public and private elites themselves, there are few active supports. The economic growth is a key aspect of the progrowth urban governance and ideally the growth should be long term and sustained. A wide variety of instruments is applied to accommodate this style; urban planning, the mobilization of resources from regional and national government, infrastructural development, and creating a favorable image of the city that attracts investments.

The welfare systems usually have economies which are dependent on the state. Because of the dependency on central government spending, this governance style includes the state as much as possible, whether as a provider, an enabler or both. There is a great reliance on the state to grant compensatory programs to the city. This type of system often tends to become more important than trying to stimulate the private sector, somewhat because of the uncertainties involved in such a strategy and partly because developing networks with the private sector is not an attractive option for political reasons. Of all the four models, this governance model is the least geared towards attracting private investment (Pierre, 1999). The main principle of this style is to secure the income of state funds to sustain the local economy. In some welfare states the style has been adjusted to embrace a more cooperative relationship with the private sector.

Other analyses are also done specifically on the balance between central and local government. To better comprehend the distance between these governmental levels five categories are made to distinguish European countries. The following categories are formed: British, Napoleonic, Germanic, Scandinavian and East European. As the institutional landscape of only the Netherlands, UK and Sweden are relevant in this research, only the categories British, Napoleonic and Scandinavian will be described.

The UK belongs to the British family. In this group local authorities are seen as service providers within a framework set and controlled by the central government. Britain has continued strongly centralized with limits on local governmental autonomy. The effect of this on the planning systems is that the appeal system ensures central control on local decisions and guaranties conformity to national guidelines from the part of local planners. Thus local authorities are limited to their decision-making role. Negotiations, especially in larger developments, involve the concept of planning gain, as public and private parties are competing to create a win-win situation. Another different characteristic of the British urban planning is that they separate the system in three elements: the plan making function, the developmental function and the regulatory or control function. These three functions are performed in different departments within the planning office.

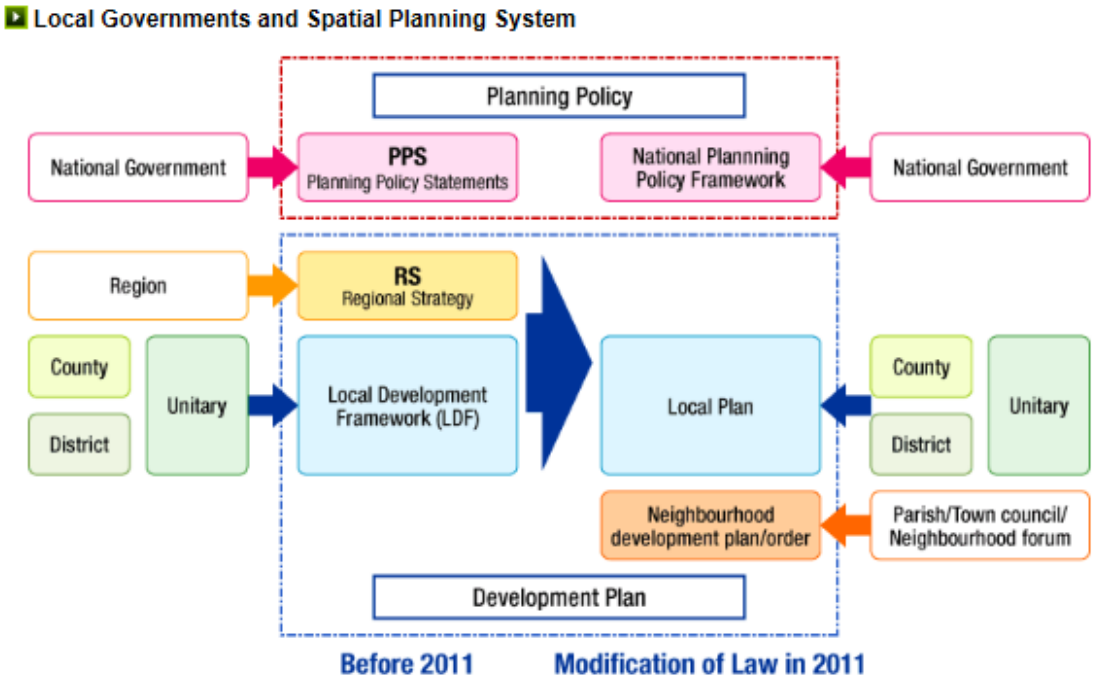

Figure 39 – Urban planning system UK (Source: http://www.mlit.go.jp/kokudokeikaku/international/spw/general/uk/index_e.html)

Belonging to the Napoleonic family is the Netherlands. Here local municipalities have a strong presence in the local community. Traditionally, the local authorities were branches of the central government and the degree of centralization has been traditionally high. However, over the years there has been a gradual shift towards strong local representation within the local community.
The national code of planning regulations is well-represented in this group and is there to create a hierarchy of plans. Starting from the top, the plan usually involves the development policy, and going down, it becomes more detailed scales and with a zoning approach in land uses. What makes this group complex is its combination of the centralized control together with responsiveness to local pressures- creating complex interactive arrangements. With the latest shift towards becoming more decentralized and a greater regional presence influenced the urban planning; which now regularly takes place within a variety of vertical and horizontal cooperation.

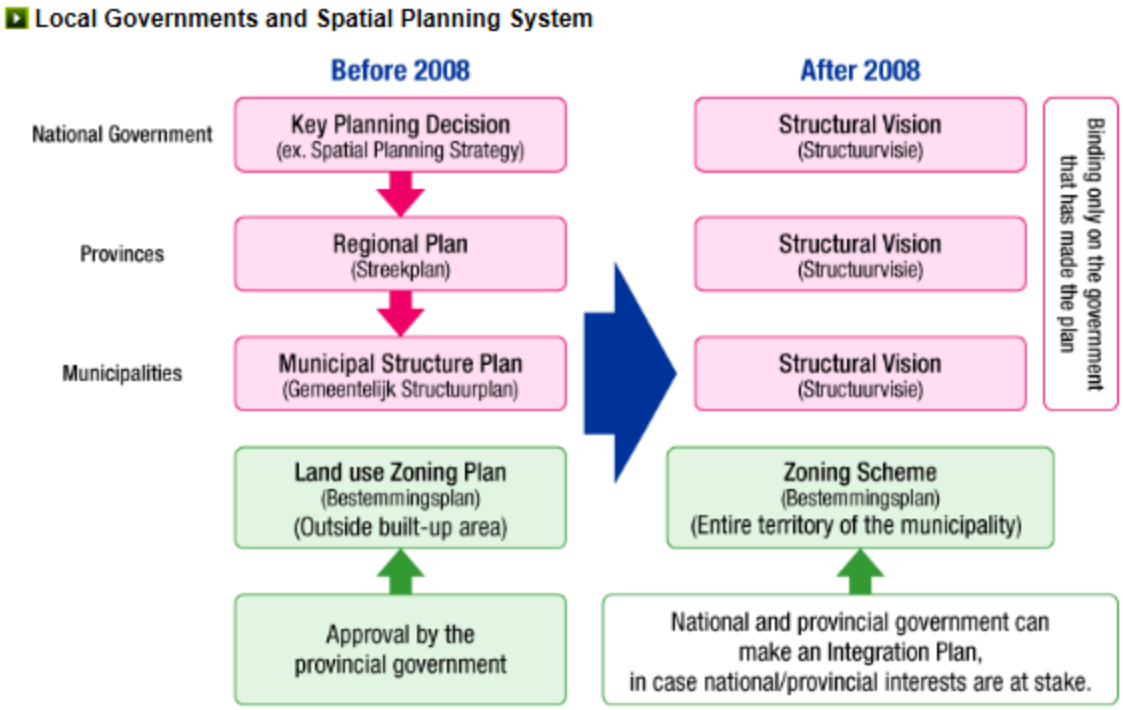

Figure 40 – Urban planning system the Netherlands (Source: http://www.mlit.go.jp/kokudokeikaku/international/spw/general/netherlands/index_e.html)

Sweden is part of the Scandinavian family. There is a strong relationship between central government and regions with the central government usually having its own agency operating at the regional level. This way of governance is similar to the Napoleonic family as well.
Furthermore, the Scandinavian family is known the be the most decentralized urban systems in Europe, with the national level brought back to a minimum with regards to responsibilities and involvement, a comparatively weak regional planning ,and a strong local planning focusing on municipalities. Local planning usually involves negotiations between the municipal parties and the private developer, making planning permissions an elaborate task.

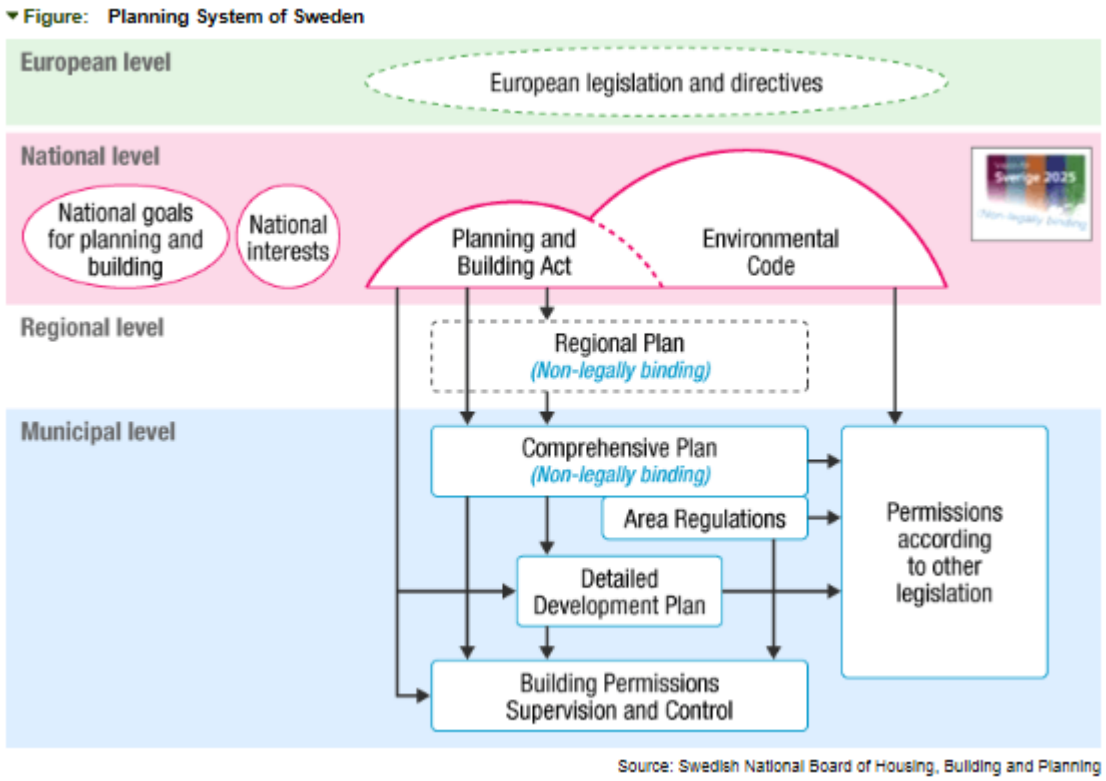

Figure x – Urban planning system the Netherlands (Source: http://www.mlit.go.jp/kokudokeikaku/international/spw/general/sweden/index_e.html)

Based on the aforementioned sections the UK has the most centralized urban governance system, Sweden the most decentralized and the Netherlands is somewhat in the middle of the two- see figure x.

Figure x – Scale of decentralization of UK, the Netherlands and Sweden (own ill.)

This distinction can also affect the outcome of the case-studies findings because of the difference in institutional landscape. Even though it is not the purpose of this research to go in-depth about the urban systems of these countries, it is good to bear in mind during the data collection of the case-studies as it could possible explain certain behaviors, partnerships and/or barriers and incentives.

10.8 INTERVIEW QUESTIONS FOR CASE-STUDIES

The interviews will be of qualitative nature and are semi-structured. The following questions have been prepared to guide the interview. Approximate duration of the interviews will be between 30-60 minutes.
Not all sub questions have to be asked- they serve as guidance. Furthermore, the questions are also slightly adapted to the party (public or private).

1. Introduction
    a. Greetings
    b. Thank you for taking the time
    c. Permission to record and duration interview
2. Introduce interviewer: name, school, study, purpose of research
    a. Explain research goal briefly
        i. Public, private, incentives, SUD, business/mixed-use NL and abroad, explorative research to gain more insights
    b. Why this case;
3. **DOMAIN STAKEHOLDERS**: Role as developer (or other actor) in the case-study development:
    a. What type of developer (or other stakeholder) are you?
    b. What were your main interests regarding this development?
        i. Why interest in sustainability? Why necessarily a certification?
    c. How was the process? Who initiated the project?
    d. How was the collaboration between the public-private parties?
        i. Which partnership model was applied?
    e. Which parties were most influencial/important during process?
        i. How was the municipality involved?
    f. Main difference of interests?
4. **DOMAIN BARRIERS**: What barriers were encountered during process?
    a. Why choose for a sustainable urban development? What were the drivers?
        i. Anything to do with municipial policies? Or just market-driven?
    b. Difficulties with obtaining BREEAM-urban area certification?
    c. Process-related problems?
    d. Which parties caused most barriers for the developer/project (or unexpected)?
5. **DOMAIN INCENTIVES**: How were the barriers overcome?
    a. Were incentives used? Which ones? By which party were they promoted?
    b. How to use incentives in order to prevent future challenges in process?
6. Added-value: what is the added-value of a sustainable urban development for you?
    a. Marketing? Other factors?
    b. What is the value of the BREEAM certification?
    c. Who was mainly responsible for added-value? How important were these in making the project feasible?
7. Why are there not so many sustainable urban developments yet in the Netherlands?
    a. Why not mixed-use development? Happening in Sweden, UK, USA and Asia…
    b. Any particular main barriers or drivers?
    c. How can developers be stimulated through incentives?
    d. Why do some want certifications and others not?
8. Any other interesting information regarding how to make sustainable urban development more attractive in the NL?
    a. Any other parties interesting to talk to?
9. Close: Thank you for your time.

Other potential key topics: business cases, risks, feasibility, long-term complexity of urban area, marketing

10.9 CASE-STUDIES INTERVIEW ECOMUNITYPARK

10.9.1 PRIVATE

Interview with Bert Krikke – Ecomunitypark B.V.
Date: September 26, 2016

Approached by the owner of ECOStyle. ECOStyle is a company which produces natural products for garden and animals. The location of the company became too small. So the owner bought 17 ha of land in Oosterwolde with the idea to create a sustainable business park. I was then at Triodos Bank and he asked me to develop the total concept for sustainability and consequently I was involved for three years as project director for the urban development. The reason for sustainability is that he is someone who always tries to do be sustainable and wanted therefore also a sustainable business park. And that fitted well with my knowledge and expertise. And then together we decided that it would be nice to use an objective measurement for the level of sustainability because you can say that something is sustainable. That is how we ended up with BREEAM NL Gebied. So BREEAM is used in this development to set the framework for the development because BREEAM has lots of aspects which are interesting to integrate. But also to indicate to companies looking for a location that we are a sustainable business park.

Project is initiated by Anne Jan Zwart, director of ECOStyle. He bought the land and asked me to develop it.

There were no barriers. The land we bought was agricultural land next to a business park. Together with the province and the municipality we decided to come up with a whole new concept to integrate the agricultural landscape with the nearby business parks. So the purpose was not only to be sustainable but also to create a better transition between the agricultural landscape and the city. So to integrate landscape with business. The municipality worked with us on a one-to-one level. By helping to make a structure vision and a zoning plan. We also contributed a lot of to these plans and we looked together, also with the province, to look at how many land we should build on- so the percentage built on land. How many buildings are allowed? It has been a triangle between the municipality of Ooststellingswerf, the Province of Friesland and Ecomunitypark.

The province of Friesland had the benefit that a very sustainable business park would be realized within their territory. The municipality also wanted something with sustainability and saw it as an opportunity to attract new companies to the area. Furthermore, BREEAM NL Gebied also focuses on creating job opportunities in an area and therefore the municipality found it valuable for them to contribute to give the area an economic vitality boost.

Working with the municipality went smoothly, working with them made it easier. We decided upon everything together. Yet, in the beginning Anne Jan Zwart – as owner- wanted more buildings / businesses and less green. In the end we came up with a balance to keep 50% of the land green and water. That was a process conflict we had to go through- especially because he bought the land. But soon enough he saw that this was the best way to realize a sustainable business park and that you had to handle the area differently. So we had to search for the right balance, the right direction. But once we discovered how working together with the parties went smoothly.

To convince the owner about the percentage of land we quickly got a design team with architects to visualize the concept for the plan. To see how the quality of the area would look. Which is of course interesting for him too as his company will also be established there. And we were able to show a concept for a park landscape for the businesses and then he quickly saw that this was ideally for his company as well. What often happens with business parks is that companies are just put there and the architecture can be quite different – resulting in a

messy look. So that led quickly to a campus-like vision where companies are situated in green with more or less the same style/expression.

No real difference of opinions between public and private parties. This is an area where not a lot is invested in. So this created more room and attention for this development. But I can imagine that areas where a lot is already built on it is a different story- that has a lot to do with it. So there were no big obstacles. We quickly said to the municipality to sit at the table together with us. Let 's look together what the best option is. And when we decided upon the 50-50% division of land the municipality also realized that they are not working with a traditional private party. This party really wants to make the best of the area so let's work on this together. And still today that created a good ambience / vibe during the development process up until today.

Smooth development and coherent vision due to intrinsic value?
Partly yes. But also commercially it was a good decision. Because we see now that companies which also want to profile themselves this way want to be established here. So it has been a conscious decision. The owner knew it was not only a sustainable move, but also economically/commercially it was good concept. So we found a way to combine sustainability with business.

Financial feasibility
It helped that this was agricultural land- so the value is lower. If you buy land for a much higher price it becomes more difficult to leave a large part of for example 50% not built on. So because you paid a higher land price, you have to increase the building concentration. Schiphol Trade Park is an example hereof. So location of the area is also important. Sometimes it can also be unsustainable to not build a lot. But for an area outside the Randstad I think this is nice example for small and medium cities, near the highways, to show a higher level of quality and therefore realize higher levels of sustainability.

If you want to make it financially feasible in the inner cities you have to build much more concentrated because the land is expensive. Or you have to ask for a high land price, but then you risk losing companies wanting to establish there. The investment value can also play an important role for companies which are established in a sustainable business park. And the investment value is higher in a sustainable business park. So the added-value of real estate land is interesting and this is not only in inner cities but also in business parks outside. So there should be a balance found between a higher concentration and 25-30% water and green. And a higher land value or real estate which can be explained by the value of the real estate and that people are more at ease in the business park which can be good to attract employees too. These are all factors that have an impact. But many of these factors are difficult to translate to numbers, which is why developers tend to stay away from these types of developments. The hard components are limited and include the value of the land. But the softer values are harder to indicate. And then you get a story about the satisfaction of employees or that they are not often ill. But these are still hard to translate to further calculations. Very little research has been done on this topic. And this is reason why traditional developers tend to stay away from these developments.

On a sustainable building scale research is being done on these factors by monitoring the health of employees for example, but not yet on sustainable urban scale. In England they are doing these types of researches with Chiswick Park and Stockley Park by monitoring employees and the values of green and water. But I am not sure how necessary these types of researches are, because at the end the end-users have to feel pleasant in an area and they have to be willing to pay extra for this.

Keep also in mind that the land values are only a limited part of the total investment- usually about 10% only. So developers and investors should realize this more often. Maybe then they would feel more flexible what to do with the land considering it is only a relatively small percentage of the total costs.

What also plays a role is the individual building scale. ECOStyle is the first new-built in the area and we realized that they scored points easily for BREEAM Outstanding certificate because the building itself was already situated in a BREEAM Outstanding area. So you get accredited more points easily because a lot has already been done on the urban scale. This translates to lower costs for obtaining a BREEAM certificate for buildings in a BREEAM certified area. And that can also be interesting for investors, because you are able to gain economies of scale. It could be interesting to do a calculation for this to see how much costs you save when applying for BREEAM building certificate in a BREEAM urban area. And that could mean that you save more to invest in the land. And of course the fact that for investors it is financially attractive to have BREEAM certified building.

A lot of this has to do with unknowns. Once a private party realizes the benefits of developing a BREEAM business park and that delivers considerable finance advantages when realizing sustainable buildings- that is also important to set as a goal to attract sustainable companies. But instead what happens is that land development companies of the municipalities do not set any standards with regards to sustainability levels of the companies. Here at Ecomunitypark we set a minimum standard for buildings to obtain BREEAM Very Good otherwise you are not allowed in the business park.

One advantage is that you attract companies which also want to be situated there and secondly you have a guarantee that your neighbor will also maintain the same standards and not lower your value instead. And if all companies are striving to be sustainable and it becomes known as a sustainable business park that also profiles well and is of added-value.

But this step is perhaps lagging because of the lack of knowledge at municipalities and urban developers. Because they do not know how it entirely works.

Chiswick Park is long ago developed so BREEAM for urban scale was not applicable.

<u>Why the choice to certificate?</u>
BREEAM Urban does not exist very long, so keep in mind that not many business parks have been developed over this time period. BREEAM urban certificate has not been operating very long. The business parks which have been developed since 2010 are not many. And the business parks which already exist will most likely not obtain a certificate and therefore the costs to invest for the certificate might be too high afterwards.

Certificates can be especially great to use as guidelines for the development and especially when new to the type of development and decision-making. And to show of course with the label that you are being sustainable.

One thing municipalities can improve on is the way the different urban departments are organized within the municipality. Especially the department concerning land prices has an important role. Often what you see at municipalities is that they just want the land to be bought for a certain price- and in a short period of time- and sustainability is not really thought of- there is lack of vision.

We cannot focus only on the economics, but also the long term value creation. Then you get a whole other story.

There is on example where they started with a sustainable business park. The municipality decided they also want to actively participate and they did so by conducting their own studies for the area; including an inventory program

and stimulating knowledge and research for this particular area. So if you have a vision as a municipality you are able to position yourself within the development process. However, if everyone is doing this then it becomes less important but until that time you can position yourself well in urban developments. It has to become standard to make sustainable business parks- at a point that if you are not sustainable you cannot compete anymore. But we still have a long way to go before we get to that point.

And for construction companies it should also be interesting. But also in this sector you have different types of contractors. One reason they go for sustainability is because of the profiling, but if concerns about budget increase than sustainability is used as the argument. Yet, you can see in Ecomunitypark that it can work.

State support is however not really the right way to incentivize because there is a maximum of two ton per company and you can create market conflicts. Subsidies however are allowed, but these are also limited as they have to oblige to State and EU agreements. Ecomunitypark itself did receive the maximum of two ton subsidy from the Province of Friesland to help apply for the BREEAM certification so the province helped in this way and it sure did help the development as well.

BREEAM certifications is often said to cost a lot and is time consuming. This is one of the main barriers.

Another challenge is that investors actually invest in a building within a park and not the park itself, so what is the financial added-value for them? This is hard to indicate even though it can be easily made clear because a building in a urban certified area can more easily achieve BREEAM Outstanding. But not a lot of people know about this yet. Therefore we need more research on this topic to educate people.

I agree to develop more multifunctional areas within cities. The problem however is that you have to deal with multiple stakeholders; public versus private- and parts of cities can be in different development phases. Often a city is already finished so we talk about an expansion or redevelopment. BREEAM could assist well in such a development to bring all the parties together, but then the question is what the added-value is for the area and the stakeholders involved. Because they are already in the city and they already have buildings- so what is the added-value? Does it make the city a better place?
So one it is difficult to get all the stakeholders on the same line and two the added-value needs to be clear.

For example Locatie Valkenburg is a project which was interested for BREEAM because it was a new area and the scale of the project is large. Then BREEAM is interesting because it can be used as a marketing tool.

The added-value is difficult to pin point for stakeholders. We know it is there- the softer values too. But people still too often associate sustainability only with energy- leaving out the entire social sustainability aspect.

You have to use BREEAM to improve the urban area, but only a few people understand this and therefore is not so popular in the Netherlands. The label is relatively unknown and investors are interesting in buildings, but not necessarily areas. Who is waiting for that? Who sees the financial advantage of being the initiator of this type of development? That drive is missing.

So to sum up a lot of unknowns like too costly, not knowing how, where you end up, what it delivers are causing insecurities. Lots of unknowns about the process, goals, tools and added-value as well.
The hard numbrs are missing to give a better direction.

Sustainable urban developments could be more successful if it was led by a single party because this reduces the amount of stakeholders hence complexity. Especially housing associations could take on this role developing areas of about 3-5 ha.

In the end parties see more barriers than challenges.

We need to find a balance and the soft values also need to be of added-values for the cities. We know this is true, but it is hard to translate to numbers or even when that is done the investing party is not always the one who benefits from this added-value; leading to split-incentive challenges too.

We need to find people who want to do it because they want to be sustainable, but also know how to commercially. This group is still too small. And sustainability is still not entirely integrated in the economy.

10.9.2 PUBLIC

Bart Sieben – Gemeente Ooststellingwerf
Date: October 18, 2016

Rol: project manager vanuit gemeente Ooststellingswerf. Gezien als centraal punt binnen gemeente. Om samen met ondernemer te kijken hoe het concept verder uit te werken en duurzaam te zijn

Ambities: Ecomunitypark als boegbeeld in de gemeente voor duurzame gebiedsontwikekling. Kan dienen als voorbeelden voor andere locaties. Het kan ook helpen om andere bedrijven/particulieren aantrekken tot dit soort projecten.

BREEAM certificaat helpt hierbij. Hier zijn wij ook betrokken bij geweest. BREEAM laat je goed nadenken over onderwerpen waarvan je misschien nog niet eerder bij hebt stilgestaan. Het gaat ook niet alleen of water en groen, maar ook om de maatschappelijke context; veiligheid en werkgelegenheid. Je wordt op al deze verschillende elementen gescoord dus dan moet je er ook goed over nadenken. Dit levert een integraal kijk op gebiedsontwikkeling.

Het is een privaat-gestuurde ontwikkeling- privaat initiatief. En wel niet van een standaard ontwikkelaar. Hier ging het om iemand die eigenlijk nooit een dergelijk ontwikkeling heeft gedaan, dus wat wij hebben gedaan is onze kennis ingezet op gebieden van landschap, juridische zaken en nog alle aspecten die bij een ontwikkeling horen. Zo hebben wij min of meer hand in hand gewerkt- wel ieder in zijn eigen rol van publiek of privaat. En zo hebben wij meegeholpen om het concept en visie uit te werken tot een concreet plan en waar nodig was onze expertise ingezet. Zo zijn we gezamenlijk tot een plan gekomen waarbij van onze kant ook de publieke zaken zoals structuur, visie en bestemmingsplan. En dat heeft aangesloten op de masterplan die wij samen hebben opgezet. Hier hebben wij gekeken naar hoe het past in de omgeving; wat is de impact op bewoners en andere bedrijventerreinen.

Toegevoegde waarde: Voor de gemeente kan zo'n ontwikkeling een uithangbord zijn. Wij zien het als potentiele kansen om werkgelegenheid aan te trekken en het dient als voorbeeld voor onze gemeente. Dat is de reden dat wij het gefaciliteerd hebben. Wat ook anders ging was heeft met houding en cultuur te maken. Soms worden initiatieven lastig gemaakt, maar dat was hier niet zo- dit werd samen aangepakt.

In de eerste instantie was de provincie er niet voor omdat de provincie eigenlijk aanwijst waar bedrijventerreinen kunnen komen. Maar wij hebben laten zien dat dit niet zomaar een bedrijventerrein is. Daarnaast hebben wij de

financiële risico's genomen omtrent infrastructuur en we hebben ook veel tijd gestoken in de ontwikkeling en dat is ook een manier van financiële risico nemen voor ons. Juridisch hebben wij ook creatief moeten omgaan met bepaalde zaken. Want je moet duurzaamheid gaan juridifiseren en dat kan soms lastig zijn want hoe leg je in een regel uit wat wel of niet duurzaam is, dus dat was ook een experiment voor ons.

Openbare ruimte: wij nemen wel de hoofdwegen over als gemeente. Er werden gesprekken gevoerd over het in beheer nemen van de openbare ruimte, maar die gesprekken gingen meer over waar de gebouwen geplaatst moesten worden, wat groen blijft. Maar nooit echt over gehad om de openbare ruimte te gaan beheren. Wij hebben wel afgesproken dat er bijvoorbeeld geen hekken om het park geplaatst zullen worden.

Bij dit initiatief gingen de gesprekken over 55% water/groen en 45% bebouwd goed. Normaal gesproken gaat dit soort gesprekken lastiger en dat heeft ermee te maken dat groen geld kost. Tenminste dat is de oude gedachte. Je wilt natuurlijk zoveel mogelijk bebouwen omdat dat het meeste geld oplevert. Niemand wil groen kopen. Dit soort discussies zijn lastiger met gebruikelijke ontwikkelaars- zij willen zo min mogelijk groen want dat kost geld.

Ik denk dat het gaat veranderen; dit soort gedachten horen vooral bij de oude stijl. Dat zie je ook bij projecten van gemeenten- waar in het verleden eigenlijk zoveel mogelijk grond werd uitgegeven, omdat dat voor de gemeente ook het meeste geld oplevert. Maar in de huidige tijd sturen wij daar meer op; om een percentage groen aan te leggen. En om dit zeker verplicht te stellen voor nieuwe ontwikkelingen. Maar dit kost wel een omslag in denken. Sommige projectontwikkelaars kunnen daarmee omgaan, maar veel zitten nog in de conservatie rol van de ontwikkelaar.

Rekenmodel voor zachte waarden is lastig, want het zijn waarden die je niet om kan zetten in geld. Dus wat wij doen is meer kijken naar hoe het landschap aansluit en hoe je groen kan aanbrengen. Maar een meetmodel hebben wij niet. Het is ook lastig om te zetten dus dat moet je gaan doen met het verhaal en de waarde van mensen gaan zoeken.

BREEAM kan wel hierin helpen om dit meetbaarder te maken. Het enige lastige hiervan is dat dit ook weer geld zal kosten.

Als een gemeente een BREEAM gebied wil hebben dan moeten ze eigenlijk wel een ton voor uitgeven om de hele toetsing op gang te brengen. Dit werd wel niet gedaan bij Ecomunitypark omdat het een privaat initiatief was, maar we hebben wel middelen hiervoor beschikbaar gesteld.

Als gemeente moet je er wat voor over hebben als je groen wil zijn. Daar moet je wel de middelen voor over hebben- zo simpel is dat. En de juiste mensen uiteraard. Het is een cultuur omslag, een andere manier van denken en andere manieren van kijken naar gebiedsontwikkeling. En dat heeft wel kosten aan verbonden. Als je kijkt naar Ecomunitypark dan zie je nu ook wel wat de meerwaarde van is voor de mensen die daar werken en recreëren. De meerwaarde is wel te zien. Want je hebt een integraal gebied waar andere doelgroepen ook wat aan hebben dan alleen de functies die hier zitten.

Het lastige bij meerwaarde meten is ook dat je het altijd alleen pas achteraf kan doen. Dat doen wij door bijvoorbeeld te kijken naar hoeveel recreanten daar langs komen. Maar van tevoren is dat lastig te doen. Verder kijken we ook naar de ervaring van mensen. Maar ook dit kunnen we alleen achteraf doen door te vragen hoe de mensen het gebied ervaren.

Wel kunnen de metingen nu wellicht voor toekomstige ontwikkelingen gebruikt kunnen worden en daar kan BREEAM ook weer bij helpen.

Gemeenten moeten zowel een actieve als faciliterende rol hebben. Voor de eigen gronden en ontwikkelingen van nieuwe woonwijken, nieuwe industriegebieden bijvoorbeeld moeten zij zelf de investeringen doen door middel van infrastructuur, groen en openbare ruimten voor duurzaamheid. En voor private initiatieven moet je kunnen faciliteren. En niet met een rood pennetje zeggen wat allemaal niet goed is. Dus je moet meer stimuleren om aandacht te hebben voor de duurzaamheidsaspecten en niet alleen maar streng zijn door te zeggen dat er bijvoorbeeld zoveel groen aangelegd moet worden.

En streng zijn helpt niet alleen omdat je ontwikkelaars dan alleen aan de minimumeisen gaan voldoen, maar als je als gemeente niet meewerkt dan kunnen ontwikkelaars gewoon natuurlijk overstappen naar een andere gemeente. Dus als je strenge richtlijnen wil neerzetten dan zal dat gezamenlijk met alle andere gemeenten moeten.

Hogere overheden kunnen een rol spelen om een gezamenlijke visie te bepalen en structuur aan te brengen en belemmert algemene ontwikkeling van duurzame gebiedsontwikkeling. Want je kan een gemeente hebben die alleen maar veel bedrijven willen trekken, dan zit er qua duurzaamheid niet veel gedachte in omdat ze gewoon zoveel mogelijk bedrijven willen aantrekken.

De bouwsector is heel traditioneel dus dat gaat niet heel snel innoveren. Die moet je toch gaan stimuleren-financieel stimuleren.

Financieel hebben wij zelf geen subsidies verstrekt. Wel hebben wij financieel gestimuleerd door het aantal uren en we bouwen een onderwijscentrum op het terrein. Dus we doen aardig wat financieel.

Andere stimulansen: innoverende, creatieve bedrijven aantrekken en ook zelf een goed voorbeeld zijn als gemeente in eigen infrastructuur, openbare ruimte en ontwikkelingen.

Er zijn plannen om het eigen industrieterrein van gemeente te renoveren en meer groen aan te brengen. Deze heeft geen BREEAM omdat het 6 jaar geleden al ontwikkeld is en toen was er nog geen BREEAM gebied.

Multifunctioneel versus bedrijvenparken: qua energie zijn bedrijvenparken interessanter omdat zij de grootste footprints hebben en ook grotere oppervlaktes. Maar zeker ook interessant om te kijken naar winkelcentra, woonwijken en andere gebieden. Daar zijn wij ook als gemeente mee bezig. Maar dan gaat het ook om de gebouwen zelf, dus niet alleen gebied. Ook hier proberen wij te stimuleren en mee te denken.

Het gebeurt nog niet echt snel omdat de markt ook weer langzamerhand op gang moet komen na de crisis. Er zijn niet veel gebieden ontwikkeld de laatste jaren. Maar ik ben wel bang dat de meeste gemeenten straks weer op de oude stijl zullen vallen en gewoon zoveel mogelijk grond proberen te verkopen.

Banken zoals Triodos hebben groenfinanciering en zij kunnen groene gebouwen en gebieden stimuleren door gunstige voorwaarden te stellen. Dat is wat banken kunnen doen om te stimuleren. Geld blijft toch wel de grootste drijfveer.

BREEAM helpt mij om na te denken over de verschillende aspecten die komen kijken bij gebiedsontwikkeling. Gebiedsontwikkeling bevat al veel complexe onderdelen. Bij Ecomunitypark hebben wij ook niet ervaren dat het proces door BREEAM extra complex is geworden. Eigenlijk juist het tegendeel, omdat je gaat denken hoe je met de omgeving omgaat, veiligheid, water ,groen enz. Normaal gesproken moet je dit ook doen, maar BREEAM helpt door richtlijnen hiervoor te geven, dus een handige tool hiervoor.

Je moet wel veel bijhouden, maar het is ook niet zo gek dat je deze verslagen moet opleveren. Het is eigenlijk ook niet zo bezwaarlijk dat dit de reden moet zijn om niet voor BREEEAM te kiezen.

De gemeente heeft de initiatiefnemer moeten overhalen om voor BREEAM te kiezen door te zeggen dat we het gebied meetbaar moeten maken. Toen wij eraan begonnen was het ook BREEAM Gebied versie 1. Dus we hebben ook met Dutch Green Building Council moeten kijken. Dit is dan wel de taak van de overheid, omdat de private partijen te informeren, omdat er op dit gebied nog veel onbekendheden zitten bij private partijen. De expertise bij de gemeente kan daarbij zeker helpen. Communicatie is hierbij ook belangrijk.

Een concreet eindbeeld helpt ook bij de ontwikkeling om niet te lang vast te blijven in conceptfase. Maar er moet wel enige flexibiliteit behouden blijven over bijvoorbeeld de specifieke locaties van gebouwen.

10.9.3 INITIATOR

Deborah Goeree – Ecomunitypark
Date: October 18, 2016

Initiatief voor Ecomunitypark is begonnen bij Anne Jan Zwart. Hij was toen directeur van ECOStyle. Nu hebben zijn kinderen het overgenomen. Hij is nog wel als aanhouder betrokken. Ecomunitypark is nu zijn taak- zijn bezigheid. Hij is echt de initiatiefnemer ervan.

Ecomunitypark is een bedrjiventerrein met als doel dat bedrijven hier naartoe komen en dat er samen wordt gewerkt en veel aandacht besteed wordt aan natuur en ontwikkeling van biodiversiteit. En ECOStyle is in dit verhaal een van de bedrijven die op het park zit. ECOStyle en Ecomunitypark lijken qua naam heel erg op elkaar en zijn beide begonnen door Anne Jan Zwart, maar het zijn wel twee verschillende dingen.

Als projectmedewerker aangenomen bij Ecomunitypark. Ik zit hier al ruim 1 jaar. De werkzaamheden zijn divers; van het geven van presentaties tot rondleidingen in het park, communicatieavonden, een stukje onderwijs, studenten begeleiden met projecten, het organiseren van bijeenkomsten en nog andere praktische zaken.

Het hele initiatief begon met de gedachte van duurzaamheid. Op het moment dat de eerste ideeën ontstonden voor Ecomunitypark was Anne Jan als directeur ingesteld. Op een gegeven moment begon ECOStyle qua omvang en personeel enorm te groeien en we hadden behoefte aan een nieuwe locatie met wat meer ruimte ook. Dus we waren op zoek naar mogelijkheden; als we gaan verhuizen, waar gaan we heen? We gingen oriënteren naar nieuwe plekken en toen kwam het idee dat we niet op zo'n grijze, blokachtige bedrijventerrein willen gaan zitten. ECOStyle als bedrijf en visie zelf zijn erg gefocust op natuur, biodiversiteit en ook duurzaamheid vinden zij belangrijk. Dus met dat in het achterhoofd, waren ze op zoek naar zo'n plek.

Wij zoeken eigenlijk wel een plek wat omgeven is door natuur waar we ons verhaal kunnen vertellen als ECOStyle zelf en waar dat dan naar voren kwam. Dus in die zin was het voor ECOStyle heel belangrijk dat- en daar past de Ecomunitypark dan wel- ze op plek kwamen die niet grijzig was maar een plek die spreekt voor waar zij ook voor staan als bedrijf zelf zeg maar.

Vanuit de behoefte voor ECOStyle is het idee voor Ecomunitypark uitgewerkt. Zo zit het in elkaar.

Het hele parkmanagement, het hele beheer van het terrein, dat doet Ecomunitypark nu. ECOStyle doet nog steeds gewoon haar eigen business. Maar de behoefte, die kwam echt van ECOStyle en dat zij op zoek waren naar een nieuwe plek.

Het bezit van deze grond is van Anne Jan Zwart. Die heeft de grond hier zelf gekocht. Dus 17 hectare- dat heeft ie toen in 2008 gekocht. Ze waren toen op zoek naar mooie ideeën, naar juiste grond. Toen kwam de gemeente- en

daar was hij ook al veel mee in contact- en die zeiden hier hebben wij twee stukken grond van voormalige boeren die alles willen verkopen.

Anne Jan is akkoord gegaan om deze gronden te kopen. De boerderijen die erop stonden zijn inmiddels gesloopt en het gebied is nu in ontwikkeling voor de Ecomunitypark.

Risico's geassocieerd met grond kopen hebben gezorgd voor een uitdaging. De grond die we hebben gekocht was 20 centimeter zwarte grond en met daaronder keileem en deze heeft de eigenschap dat het geen water doorlaat. Dus als het heel hard gaat regenen, kan het water niet wegspoelen in het grond- dat blijft op de keileem liggen. Dus bij harde regen wordt het een drassig gebied. Dus dat was sowieso een uitdaging; ook in de keuzes die gemaakt moesten worden voor biodiversiteit.; welke soort gaan we wel of niet aanplanten.

Een andere uitdaging waar we nu tegenaan lopen is dat het een privé-terrein is en eigendom van eigenlijk Anne Jan Zwart. We hebben bijvoorbeeld een bordje bij de ingang van het gebied: graag uw honden aan de lijn. Veel hondeneigenaren laten hier hun hond uit. Die rennen door het park poepen hier natuurlijk. En dat is niet wat willen- dus hoe ga je dat handhaven? Want het is een privé-terrein dus als het openbaar is dan mag de politie daarop afstappen, maar als het privé is mag dat niet. Dus daar doen we nu ook onderzoek naar; hoe zit die verdeling van openbaar/privé op duurzame bedrijventerreinen. Er wordt zo ook bijvoorbeeld afval op ons terrein gestort, jongeren gaan hier skaten of hangen. Dit soort dingen gebeuren hier dan wel. Dus mensen zijn hier wel graag, maar niet met hetzelfde doel dus hoe ga je daarmee om? En we kunnen ook geen hekken om het terrein plaatsen, want we hebben juist gezegd dat we willen dat het een open gebied blijft waar iedereen zich welkom voelt. Maar dat is dan wel een uitdaging waar we nu mee bezig zijn. Dus hoe kunnen wij het communiceren/goed invullen/wat wij willen overbrengen, maar ook dat het het effect heeft wat wij willen.

We hebben nu wel afgesproken met de gemeente dat zij- want er loopt hier wel een asfaltweg doorheen- de gemeente die gaat het beheren en bezorgen van de openbare infrastructuur hier. Het gesprek met de gemeente over die verdeling in handhaving- dat moeten wij nog gaan voeren. Dus welke afspraken gaan we maken op het gebied van handhaving? Dat gesprek gaan we nog binnenkort voeren. Het is natuurlijke een bijzondere situatie.

Wij houden ook contact met het Waterschap. Want we gaan hier een watergedeelte doorgraven. Dat contact verloopt wel heel goed.

ECOStyle is nu een van de eerste bedrijven die zich heeft gevestigd. En nu loop je tegenaan van nou-en dat is zo bij elke groeiende bedrijvenpark- wat praktische punten aan van hoe ga je nu communiceren naar elkaar toe, hoe ga je elkaar op de hoogte houden van wat er gebeurt. Dus nu zijn we echt bezig met de uitdagingen van het parkmanagement. Maar dat doen we door zoveel mogelijk met elkaar in contact te blijven en bij elkaar langs te gaan.

Ecomunitypark is opgericht als duurzaam werklandschap en daar hoort ook park management bij. We hebben ook een beeldkwaliteitsplan opgesteld en omdat het privé-terrein is, is het zo dat we hebben gezegd; we willen juist als parkmanagement een eenduidige uitstraling hebben, dus daar gaan we wel voorwaarden voor opstellen en dat hebben we ook gedaan. Dus de gebouwen moeten natuurlijke materialen gebruiken en een natuurlijke kleur hebben. Maar dat ook het onderhoud als een geheel is, want stel je zou eigen bedrijf een eigen stukje tuin geven, dan zal iedereen dat anders doen. En dan krijg je niet dat uniforme- het moet een geheel zijn.

En met parkmanagement kan je ook uitstralen waar je als park voor staat. Het is niet gewoon het beheer, maar ook de visie die we mee hebben. Dus eigenlijk kan het bijna niet anders dat je zelf het parkmanagement beheert.

De gedachte van Ecomunitypark paste zo in BREEAM en ook het ontwikkelen van een duurzaam gebied. Dat we daarmee bezig waren en dit dan interessant vonden. En met zo'n certificaat, met een keurmerk, kan je het hard maken. En met BREEAM kan je certificeren en dat geeft meer waarde.

We zijn veel bezig met het spreken op congressen, zoveel mogelijk onszelf bekend maken en laten weten van goh jullie kunnen hier ook vestigen als bedrijf als je geinteresseerd bent. Wat kan het concept aan jouw business model

toevoegen ten opzichte van als je op een regulieren bedrijventerrein gaat zitten? Want het moet natuurlijk wel iets toevoegen aan jouw bedrijf. Wat de toegevoegde waarde is- daar hebben wij geen harde criteria voor. Het zou iets moeten toevoegen aan jouw business model, maar jij- als bedrijf- zou ook iets moeten toevoegen aan ons concept. Wij vinden het natuurlijk belangrijk dat wij hier duurzaamheid, natuur en biodiversiteit kunnen uitstralen en als je daar niks mee hebt dan is het lastig. Ik denk dat je dan ook niet met ons in gesprek zult gaan. We moeten elkaar wel kunnen versterken. Dus dat is eigenlijk wat centraal speelt.

Het vertalen van toegevoegde waarde is iets waar we nog mee worstelen. Want we zijn er zelf van overtuigd dat de kwaliteit van de ruimte- de werkomgeving- dat heeft echt invloed op de werksfeer en werknemers waardoor die productiever kunnen werken en fijner kunnen voelen. Dat verdient zich terug, maar het is niet hard te maken. Dus dan moet je het maar geloven op de blauwe oog, maar dat werkt natuurlijk niet voor iedereen. Dus wij hebben wel heel erg baat bij de uitkomst van dit soort onderzoeken want dit is precies waar wij ook tegenaan lopen.

Dus het is niet zo dat men zegt oh als er geen cijfers zijn komen wij lekker niet, maar het is natuurlijk wel een extra onderbouwing en het maakt het verhaal wel sterker.

55% van water en groen.

Wij hebben met de gemeente nauw contact gehad en dat is wel echt een voorwaarde om een project zoals deze uit te kunnen voeren wat wij merken. Wij hebben ook binnen de gemeente een contact vast persoon die zich echt hiermee bezighoudt om verschillende zaken te regelen en daar hebben wij wekelijks contact mee en ook overleggen. Dus dat is wel heel mooi.

Dat het een duurzaamheidsinitiatief is heeft ook zeker geholpen met de gemeente. Dat heeft echt zeker geholpen, want als je zelf als ondernemer je weg moet vinden binnen gemeente. En Bart Sieben als ons contactpersoon kan ons aan de juiste personen koppelen en bepaalde zaken/ontwikkelingen in werking stellen. Dus dat is zeker een succesfactor geweest voor deze ontwikkeling. En dat de gemeente zelf erg enthousiast was over de ontwikkeling van Ecomunitypark en daar ook de voordelen van inziet.

Wij zitten tegen de achterkant van een andere industrieterrein en daarnaast zijn er ook allemaal bewoners en toen wij met de plannen begonnen voor Ecomunitypark hadden al die bewoners zoiets van ja hallo, we hebben al een bedrijventerrein in de achtertuin en nu komt er nog zoiets. Daar hebben we helemaal geen zin, dat willen we helemaal niet. Dus wij dachten wat moeten we daarmee doen? Uiteindelijk zijn we wel met de bewoners in contact gebleven en ook wel op de hoogte gebracht van waar we allemaal mee bezig waren. En door zo in gesprek te blijven bleek het dat het helemaal niet zo erg was zoals ze dachten. Maar wat ze wel als voorwaarde hebben gesteld is- tussen hun woonwijk en de weg naar ons toe- dat de autoweg een stuk fietsweg wordt zodat wij geen last hebben van vrachtwagens of andere overlast naar en van het bedrijventerrein door hun woonwijk. En dit is ook weer samen met de gemeente gebeurd.

Subsidie voor BREEAM zelf ontvangen door de provincie. En door middel van subsidies konden we bepaalde onderdelen wel onderbrengen. Dat heeft wel bijgedragen. Dat voegde wel erg toe.

Het faciliteren van was een goede ondersteuning; het hebben van een vast contactpersoon bij de gemeente. Dat was zeker een toegevoegde waarde geweest. En dat zoiets kan. Dat die mogelijkheid er is gesteld door de gemeente. Dat was wel cruciaal- dat je maar een centraal punt hebt waar je op terug kan vallen binnen de gemeente.

Dit project is op een geheel andere manier ontstaan dan reguliere projectontwikkeling. Het is echt ontstaan vanuit een visie dat het gebied zelf onderdeel is van wat wij willen uitdragen. En daardoor werd het ook van belang dat het werd ontwikkeld en dat we voor BREEAM gingen.

Ecomunitypark heeft gekozen om naar een eindproduct toe te werken.

10.10 CASE-STUDIES INTERVIEW MASTHUSEN

10.10.1 PRIVATE

Anna Barosen – Skandia Fastigheter (Skandia Fastigheter)
Date: October 21, 2016

For new buildings you can choose which level. But for existing buildings you have what you have and not all issues can be changed afterwards. Like size of windows for example. If you have small windows and you can't make the windows 10cm bigger. So we can't choose which medal we want, but we can see where can we improve and you put everything on the table and you see what's cost effective and what is possible and reasonable to do. And then we do those changes. And then we see what medal it gives us. because if you choose the medal first it will not be cost effective. If you build a new building you can choose. you can build it right. but for existing building it's not the case.

Sometimes when you buy new land if you buy land from them they can have requirements. but we own our own properties and if we have like flat land somewhere and we want to build we say at least silver medal when we can chose by ourselves.

Yea, because we own this area. And it was just like long time ago it was this like heavy industry here. So in like 2010 they started tearing land down and starting developing the structure like where can we put streets together with municipality?

Yea. I mean we bought it. The brown field wasn't used like heavy industry when we bought it. It was like for big events and stuff so it was just a big hall that was used to gather people. But we tore it down and we higher the level of the ground. So we took all the pieces apart like the concrete and we made like gravel out of it and put it so we could higher the land.

Municipality yes, you are not allowed to do it. We develop it together.

I mean in the project like this it was just one piece of land, just like sand, nothing, except for these two buildings. They were kept. Because you could use them again. And when you develop a city, you have blocks with like houses. But then you have roads. And the roads are never private. Because that would be very inconvenient if we own this part of the road and you know the city owns everything else. So we already knew from the beginning that all the roads would be owned and maintained by the municipality. So therefore we developed it together and that's always how it is.

Squares are also theirs, because they want to be in charge of public spaces. I mean we have a small pocket park and you see like small things that could be attached to a block. So they develop the big squares.

Yea exactly. I think if we would have done this, we would have done it differently. Because we wanted more like art and more interactive things but we couldn't maintain it. We could maintain it but then then there are so many rules.. I mean if you have a space or street you need to follow the rules of the municipality. And they want to own that space. So it is complicated but they do it really good. It's a high standard but it would be nice with more vibrancy and you know more feeling to it. Because the standard is high but it's not interesting, I would say.

I don't know if you can choose that. I don't think we could own it.

This is an old building, this still stands there but this will be torn down in the future. In like 10 years or so. Because this was built very quick and not high quality. But this is new. It's residential. We sold a few blocks to other developers. So other developers have bought this 1,2,3,4. They started but I don't know far they are now. But his is moved in already and this is on their way-so in construction. And then we sold 7 and 8. And this is also on its way up. It's not moved in yet i think. We build this. It's actually 1 block but we build it as 2 separate entities. So 1 is

residential and 1 is senior complex. And then we build this office and the square also and then this is finished already, its residential too. and then we own this 4 and the master plan is being developed for these now. And so we will start building in May 2017. So in 5 years let's say you probably see it done.

I think someone else started it. I don't know if they certified it. But we were one of the first with certification. Well when we started this we thought that we would like something with sustainability.

Because that is essential i guess when you have such a chance to. You are developing such a big area at that time we own the all the blocks. So we were like, how do you secure that we will do the right thing? Because we will build here during so many years, it will affect so many people, people living here working here, so we need to take care, develop this area in a good way. How do we do that?

The value is one thing but you have also the responsibility when you are a big company like this. So we started looking through the certification systems for buildings we already know, we already tried that. But this is so much more complex. Because this is between the houses too, it is another scale. And I have just been to London to do this bream accessor course and then they mentioned that we would just launch the bream communities. So I had heard this, so we start looking it up and this was 2009 I think and LEED had a similar thing. LEED Neighborhood Development. So we check that out but that was more for preventing urban sprawl.. This is more for us I would say. And then we have found something in Australia I think it was, I don't really remember but it didn't feel like the right thing. So we decided to go for this. We started the process to do this project specific requirements and everything. And we had this bible that was this thick with all the demands.

If you ask me know I would say it is very heavy to do all that administrative things. Because 1 thing is to do the entire thing for the environment the social life here and you know all the good things. That's one part of it and we could have done it a bit easier. I mean we could have done the same result physically because the administrative was heavy. It was really heavy. And also we were like working in Swedish and reading these demands in English. Even though they were like adjusted to our country and you know there is always like when you dig deeper and when you need to prove a demand then you realize that this is not usually how we do things. So it is like can you accept these documents instead, because this is how we usually do it.

Wow, good question. For example the building permission and the master plan that's called..... in Swedish. It is like the hierarchies, what does it mean to have a building permission. How fixed is this? If we have a building permission for us it means that this is what is going to be built. Small adjustments. For us it's really strong document. And also that .....plan which is not the same thing as a masterplan but almost. The master plan is another thing in the UK, so when they spoke about if you have this and the masterplan, we said yea but for us the detail plan is much more detailed then your masterplan. So detail plan would we think this good for. So this is an example. And then you need to understand what is the masterplan and they need to understand what a detailed plan is. You know this discussion feels a little bit unnecessary because it doesn't really improve the area. It is just for getting the certification. It's just formalities. But I think the good thing of doing the certification is that you know that you need to do this and you need to push all the time to actually to get the credits and otherwise it's kind of easy to... someone starts to negotiate and then the demand is gone. Now you can't negotiate the actual environmental issue here. That's not negotiable. You have to do it. So that was the good thing. Because we could always have strong arguments and also especially since we sold the few blocks we could also put demands on them. We had something to communicate, like around with other developers.

This for example is the office that is BREEAM. This residential is BREEAM... but the residential like our residential here is for example is Swedish label... so you were allowed to use one of the Swedish or bream certifications.

I mean they have no choice. If you build here in this area, this is what you need to do. And we developed this together too. So buildings must be certified.

We didn't have a choice. That was mandatory from bream communities. Maybe that changed that now. Because they changed the manual.

But I think it's also for us as a company it's really strong thing. i mean why did you contact me now? I mean I get contacted a lot. This is not for the area but for us as a company it's worth something too. Because were like get a lot of attention in media, publicity. That is worth something too. And that is also something you can use when you discuss with other developers that you cooperate with, the municipalities and so on. They know that you mean something. It's like if we are going to do that, we do that. And you can prove what you have done with the certification. So that is worth something. That is one incentive too. I mean of course getting better area is one thing but there is lot of things.

They were involved in the whole process. But it was new for them too. This municipality is actually, I would say, one of Sweden's most progressive municipalities. They are really brave. I am really proud of this municipality actually. Like the people working there, they really want to make a change. So I think that we were lucky. It would have been much more harder in Stockholm. They are much more conservative in Stockholm. If you have a lot of old buildings in Stockholm for example, a lot of people, also it is much bigger. You know the democratic process is that you can always say no if you don't like this building next to you being built. You can say no I don't want this. And then the process stops because yea someone said no. why do you say no? And then they start doing research: ok you said this may be the sun wont shine on your balcony anymore. So people have so big influence. And which is nice as a democratic process but I think sometimes that it can be too much. You know because there can be like 100 and 100 of people, experts there doing research, there doing like is this may be for people or for families who have less sun on their balcony. But we can build 1000 new residential homes for new people moving into Stockholm and then you know you get a balance. This doesn't count in the system we have. Because each individual is so strong- so all voices should be heard.

The process takes so long and almost nothing is being built- in Stockholm at least. Because there is always someone saying no. And they don't realize- most of the times they don't realize how many hours so many people have put in the project- doing research and more- it's not just the sun.

I heard in one project they actually invited this guy who had said no like three times, he sent this message. That was like in court- higher level. Because they wanted to build this building. So they thought one day let's just invite him and we can have a discussion face-to-face. They were sitting in a room- I think about 25 people, the 25 closest (developer, municipality, architects). So they tell him welcome and ask what his feelings and thoughts are and he was like why are there so many people here? And then we say we are working like this; he said all of you are working on this project? And then we said we are just like a tenth of all the people involved- there are also the consultants and others. And then he was like oh I had no idea…

So people have the opportunity to have lots of influence, but they don't have the knowledge so they don't really know what consequences their actions actually do.

The good thing with this area is that- the whole Vastrahammen- is that it was empty. So they started developing this area and now almost everything is being built. All the people living here are new to this area and they don't have all the history of like 'when I was a child…'. I think it is so much easier to develop a new area than doing infill projects within the inner city. I think even in Malmo that would be difficult.

The best solution is not maybe the best for everyone- but should be good enough for most stakeholders.

During the process we had lots of discussions. I was the project manager for the BREEAM Communities so together with three other developers and the municipality, the assessor, the consultants, we gathered. We had a vision together and then we started going through all this-the bible I talked about- chapter by chapter, and then we divided into groups because we realized there were too many specific issues; we developed it into these 5 headlines; climate, stadsmilieu (urban environment/place-making), and then we had experts; one expert and one project leader leading the team. And we had all the different parties in this. And also resources (materials) and then the houses (flexible buildings) and how you behave (how should you behave when you work or live there). So divided into groups and had a lot of workshops. This is we, as the urban planners, we had two different roles as the company. This was one role and then there were developers- so that was us but also the other three developers.

So it's easy to mix- but we had different roles. And municipality was… development of the streets, the infrastructure and the squares. Other developers had their own contractors.

Not normal to have private-led developments in Sweden. I don't know why. It started as just one company with one area, and then we suddenly sold a few blocks because we couldn't develop it all on our own. And then everything just evolved into this. It wasn't a strategy from the first day. If we had known from day one, maybe we should have made it differently- but we didn't. Things changed during the way. And then it was like oke now we have three more developers, how can we work with them and get them engaged and get them on the train. We just met a lot- workshops and meetings, video conferences. And then we produced a document like this (Haalbaarheidsstudie). This was like can we do this? It's kind of a feasibility. And this is what we require and this is who needs to follow this. And then we actually started building the first two blocks- and then we evaluated if it was possible to do this. We realized mostly yes, but some issues no- this had too high requirements. We couldn't really do all this. So then we had to lower our ambitions a little bit. But it was really good to…when you print something, I think for your brain it is very easy to actually have it with you and bring it to a meeting and read it, and then it's like this is what we are going to do, you do this and I do that. You have it as this was the day we chose this level and otherwise it is just floating; maybe we will do like this, maybe we do like that…

Swedish municipalities chose not to continue with BREEAM Communities for other projects. Because now they have developed a Swedish version of it and took away all the tricky parts- it's called CityLab- and that was recently launched so I will attend a course in a month to actually see what it's like. I mean we were also a big part of developing this- since five years ago- we were in a lot of workshops together with Swedish Green Building Council, to see if BREEAM Communities was good based on our experiences. There were too many differences with the British version.

No subsidies from the municipality. For us it was more; we had to have an agenda for developing this area- that was our main incentive I think, because we choose to use a certification system- we have like the bible- we need to follow this. I think all the environmental issues in this company was really you know, not really worked into our- we weren't mature before- it was new to us then. I mean when I was hired, I was the first person in this company with this competence- ever in the company. They had never worked with this before. So it was very new- and I think that was one of the easiest ways to communicate. Because if you have a certification system, then it's like oke we do this and then you just start working instead of getting people involved and engaged- which can take time- I think to have something to lean back on.

Making it attractive for developers by municipality: I think Citylab is this new…so there are lots of municipalities running Citylab projects- you don't run it as a private company. It is always by municipalities and then they say oke this is a Citylab area and then they can attract developers.

I think all of us- including the people in our company- that before said we shouldn't work with environmental issues, it costs money…All of them now say it was worth it. Actually all of them. And it's been causing us a lot of money to do this, I mean the consultants and everybody…I mean also my time- I spent three years just doing this- which is also a cost. So it was worth it, but it took a very long time and I don't think we should do the same thing again. A lot of things have developed; in the knowledge, in the society…It's just seven years since we started this- but seven years is like big change. People know more, they require more, our clients who rent the place have higher demands (for office space) on us and we know what to do more, and lots of the certification systems have been developed too, so we wouldn't do the same but I don't think it would be possible to do the same either because that was then and we did the best out of that situation.

We monitor all the hard components like energy, we haven't been discussing the softer values actually and how we can monitor that- it should be very interesting.

I think as a private person, we are not there yet (paying more for sustainability and/or selecting sustainable houses/ housing market) but like a company, they are starting to be that- they would pay more for a good building-

if they have the money. But that wasn't the case seven years ago either. That has changed too. So in another seven years you don't know.

10.10.2 PUBLIC

Tor Fossum – City Council of Malmö
Date: October 14, 2016

Because they have this focus on BREEAM certification we from the city wanted to participate and we were also called from the company in to workshops. In the initial phase we were in the workshops concerning the actual BREEAM certification, how to translate these things, because it is a British system. Later on we had meetings where they brought up difficulties and different documents that needed to…

BREEAM is a British system. If you want to translate that into the Swedish planning system some other things in the BREEAM system they will evaluate very high. That's normal procedure here ……. Not that compatible. So these kinds of issues were in initial workshops.

Then there was a form group from the city that the environmental department was a group of Sweden parkdepartment. And in environmental department we had meeting with developing also the other developer that was thinking about doing the same thing in their project. So we had meetings every six weeks or something. If there were difficulties in the process that needed some certain documents which were not part of the normal planning procedure for documentation. Fulfilling all these is quite a lot … you have to fulfill …such a certificate. These kinds of things

First to be correct, it was the first BREEAM certified project outside UK. But also together we went the only one I think that time which was in the UK which was in Stratford, The MediaCityUK

We thought that it was an interesting thing. Because 10 years earlier we had the Bo01 the development in the western harbor and then the city was doing similar thing and we had a quality and environmental program for that development which was not a certification process but it was actually very similar in structural focus. It was interesting to see how a developer was using certification system. If they could reach the same goals as we as a city try to reach prior developers 10 years earlier.

Yea, the biggest difference is the amount of documents and things you have to show …. To get certified. This is quite a lot of paper work to be honest. When we did the other thing, that was a few documents following the planning process and then we put some extra things in that, that had to look category in space factor for the green areas and then we had the property look at the energy efficiency and this kind of things. But that was not a certification at all. So it was much simpler.

Well, it is still being built. So I think it is a little bit early to evaluate it if it is added much. But the interesting aspect we thought was also that a private developer that is having the same roles we have as a city that's good and this is a system supporting them to see that goal. What was also interesting is that they have been selling of blocks to other developers and if they were able to contract them to also follow the BREEAM certification. This is something that we as a city don't have the ability to do. That is quite interesting. So we will see how it turns out.

It is not specialty to have a private run development. It is a private also land. They run the development anyway, the city, the local municipalities have the planning monopoly in Sweden. So we will always have local plans. What was different here was that the actually the certification process which there was a number of documents which was added to the normal planning process.

..And were there during the process with documentation, this type of collaboration with the private party owning so much land and taking the initiative with bream and everything. Did you encounter any barriers any obstacles during the process.

Not really. The BREEAM itself have they also have kind of different investigations and then some of them will be overdue if you have a bigger area you have to do. You have to look at sound pollution, you have to look at traffic issues, which we have to do anyways, but they also had consultation process with the neighboring area which we also have in a normal planning process but they have in a direct context with the developer.

They are in the middle of a big area and the city owns the most of it. When we own the land and they developed then we say to other companies, and there are a lot of companies established in the area. It could be housing cooperation so all the properties which are owned by the private developers so they consulted with all of this. This we do in the normal planning process anyway but this had to with other issues. There is some public consultation which they had to.

Not from the city, no. What they found was the certification process itself save them a lot of money at least in initial phases. And then they were down an old factory and an exterior hall which was used to recycle material and thing like this.

They had to pay for all planning process we make a deal with all private developers within the city. We had just the normal procedure in this case as well.

I am not so sure about that. In that case it should be national incentives not from local governments.

No, not that I know of. There are always different issues that you have to discuss with other parties but I don't know them. You have to talk to the company.

Well I think that's key that the area, the whole that a sustainable urban development project which we wanted to create interest to learn from expectation of and we have a lot of developers on small shops who also build pilot projects in this area. We have an environmental program with quite high environmental goals and that they actually have to adapt to the program and ….. For their project. That was interesting.

Yea that's what we want. In most developments but in this area has a special focus as well in the last 15 years.

Because this was the first for new development back in 2000-2001. This development in a former industrial area. It is kind of a starting point for reutilization of the city basically.

So that also played a role; that this area was a land for new development.

Yea we had the quality program in the first two phases and then we had the logical developers dialogue where we invited the market to table to realize max block and the third block to give the same thing and in some of the cases we have been working national European funding to be able to raise ambitions in different aspects: could be energy efficiency, could be green issues.. So when we sell the land we try to find actors that will work towards the same goals as us.

In Sweden there will be no more. I think the same company is doing something with bream up in Stockholm. We are working with Swedish Green Building Council- I think firstly they are translating the BREEAM community to a Swedish kind of document but conclusion was no we just have to find our own certification which they are working on. The BREEAM itself is crap. Some buildings are still certified and will be. The other developers were choosing …. and we have 2 other Swedish systems which could be applied. So there is kind of a structure in place for a Swedish similar system.

It will be another label. And this will have to do with legislation. What's the situation in different countries? It is very difficult to use an international system based on countries way or thinking, legislations or experiences, when you come to somewhere very different. Well… things are very different from country to country. Some countries there are a lot of water and some not so much and then you have the focus on saving water on one country and may be not in the next. And maybe different legislation and different ownership of land and etc.

I would say that's the biggest problem; that they are certifying the process and not the project. So there is no certification on the follow up to see what is actually happen. I know that BREEAM has been looking into that but I am not sure what they are thinking. The biggest weak point is you are actually certifying a process not the project. And you don't follow it up.

Yea it is complicated of course. The process is one thing. The product is what is important to be honest. The really important thing is what is actually there when it is finished.

No, not for business parts. You can say that certification buildings are mostly certified according to international standards. That is business buildings. Mainly residential much less. If you build a office building then mainly customers they want to have a quality stamp or sort of certification lead or bream what it could be.

Well we work in these things also but not on certifications. But we call industrial…… which is ….. so we are working on this aspect as well.

Because a lot of money sometimes. And there is often a long process.

I can't really answer for that. I think for a business building it is not a problem. But when it comes to residential, the customers are not prepared all the time for this.

.. And there has been an issue of split incentive

Well it should be a sustainable area when its concerning the bill of material, energy, sustainable energy green issues… that should be good to live in. to be honest I haven't walked through the area for 1.5 years. Not sure how it looks. The starting product is good but I would like to evaluate the finished product at the end. How it is actually going to be.

What is built first, that has been sold to other companies. They have been built on themselves. Other companies bought plots and built and these are all sold or rented out. You don't build a residential building if you don't coverage of 50-60% of people who are already wanting to move in or signing pre-contracts. So what's being built is filled up with businesses and residents.

The city is involved all the way till the finished and when it is finished the city street and parks department takes over the public space and there are still local plans being taken forward so what is not built yet is either plan that has been taken over in progress. As long as this is going on of course the city is involved.

I don't know how this agreement exactly is but we do an exploitation bill with all developers and then that can regulate many things. It could be parking spaces, pay for parking in parking housing nearby. In this case this has to do with the taking over the public spaces. So the developers basically pays for what is being built but then comes and go back to the city and then the city is responsible for maintaining it afterwards.

10.11 CASE-STUDIES INTERVIEW MEDIACITYUK

10.11.1PRIVATE

Mark Robinson –MediaCityUK
Date: October 24, 2016

Head of asset management of Peel Media- developers of the long term investor MediaCityUK, My role is to work with the construction team, the operations and asset management team.

Involved for a period of 6 years. I joined the scheme back in July 2010 just at the point that it was moving from the construction to operation phase. So my job was to implement and create the operational processes to help MediaCityUK keep moving forward.

The original development was under the single investor Peel and supported by Lloyds Banking Group (as debt provider) and they later on luckily became the investment funder. Two years ago we did an equity raise and Peel sold 50% of MediaCityUK to Legal and General- who is a big UK institution fund. So since 2015 Peel Media Limited has two shareholders each owning 50% of the business; one being Legal and General and the other Peel Holdings.

We decided Legal and General could help us move forward past phase 1 of MediaCityUK development. Phase two is to expand MediaCityUK with about shy of two million square foot- which almost means the doubling of the MediaCityUK in size. This was just too much for a single developer/investor. So we felt like we needed a strategic partner to go to this scale. The partner could help us drive the development forward and so we went to the market to raise equity and to find a partner who could help us do that. And after undergoing a process we felt that Legal and General were the best partners to help us move this ambition forward to the 2025 goal of further expansion.

Salford City Council has also been massively involved. A scheme like MediaCityUK can only come forward with a public-private partnership. So even though we have been the main developers, it has been in partnership with public bodies. One of which is Salford City Council which have been huge supporters- whether that is from a planning context all the way to working with us to create what is now called the Landing which is an incubator for SME businesses, helping us with applications, loads of funding for certain public realms etcetera. So they are a strategic party too.

MediaCityUK was the first development to achieve BREEAM Communities certification- which was huge. That was done very much in partnership with Bovis Landlease who was the main contractors of the scheme. We worked very much in partnership with them. During the period of 2006-2009 I think sustainability really was valued with getting BREEAM accreditation. It was becoming more and more talked about. We felt it was important to take the first step- to be the front runner and driving forward.

The initiative came from the partnership. That pretty much drove it. We are a developer and investor so that means that when we are developing something we take time to see what is the most cost-effective solution from day one. We are not walking away when it is developed; we are investing back into it. So we have the whole operational asset if you like. The result of that is that we start seeing the cradle to grave scenario of the impact of making wrong decisions in the development stage and the impact that has operationally. So we have the benefit to see that whole lifecyle. This means that we have to make decisions that are not just for short term solutions. We need to make sure they can stand the test of time. And we all know sustainability is huge- it's a huge talking subject at the moment and has been for a while. So it is on the agenda because it is not going away, it is only going to evolve even more. So it is important that we try to build a community here that is going to last for a hundred plus years. We have to bear that in mind; that we are building for the future as well as now.

How to attract end-users: There is still much of an educational process to go through, but in those discussions – and we have a large diversity of businesses going on here-; we go well-recognized big corporate entities like BBC, MTV, Ericsson and such. These are big corporate businesses. And then we go down through that cornerstone of SME community- which is pretty much the light bulb which sits around the corporates. So your discussions range widely between corporate and SMEs as SMEs sometimes have a very short future time span of three months and that's when our focus really went to big corporates more and more and more. If I look at the journey you can see that sustainability is now much higher on the agenda for these corporates. And our role is -whilst it isn't necessary the decision-maker role- it is part of the process and to be able to play that in through facilities team, facilities team in their financial reporting. So to have core credentials around sustainability absolutely. As I sit here now they are more powerful than they were back in 2009.

One of the interesting things first is to make sure the construction team doesn't work in isolation from the operational team- and particularly around sustainability. Because a construction team has the life of a project so it

is very easy to say it will cost us a bit more if we take that route, so actually let's not do that. But actually if you look at the whole holistic lifecycle of that asset, it probably is worth paying a bit more then when you link it to the operational team. You will then start seeing the benefits of cost-saving around greener forms of energy and well-designed buildings take account of the urban heat effect. So that is our approach. And I think that is a really important link to make- you have a team that looks across the whole lifecycle as opposed to just the construction phase and move on to the next project.

As part of our operational process is to enhance what we delivered under the phase built to really build on the BREEAM Communities sustainability accreditation. Each building having its own BREEAM Very Good or Excellent rating. We've laid in the operational team to get accreditation for energy management. So we very much buy into that- so each of our assets now have an action plan where we basically- some of these buildings are already 6-7 years old, the world changes in terms of what lightning you use; the technology doesn't stand still- say that we cannot stand still now, we haven't just built something and not do anything for about 15-20 years. We've got to revisit. So when we are revamping let's look at what is the most efficient LED lightning on the shelf at the moment. These are all the things that we have started doing. Last year we started rolling out carbon literacy program as part of the Wider Greater Manchester area which is basically about educating individuals about the effects of carbon on our world. So we are trying to take the corporate approach and we almost gone bottom-up to say to help make decisions in the corporate world we need to drive individuals, train individuals on what carbon literacy is and what it means, what are the impacts of our everyday existence? So we do take it quite seriously.

The reason for behaving this way is a combination of many things. You have to have a bit of different elements to help make it stick. For sure there is marketing approach to it, no doubt about it. Sustainability is on the agenda now and it has been for a while and it is not going to go anywhere. You look at all the news programs and the GA conferences- they are all about bringing reduction in energy use. There is a real practical level; more and more taxation, levies are coming to start in to penalize businesses who are not reducing their energy. So there is certainly a financial game. Consequences to that is the attraction to the market; if you are a sustainable asset and it is demonstrable, then for a (corporate) business it has got to be a better place to locate for over a ten year period, because you are buying into something- all those businesses are going to be affected by all these charges applied for use of energy. So I think it is a bit of everything. And it comes to the conclusion that for us sustainability is important- as a business we have a sustainability policy, it is part of the construction process, we encourage all our supply chain to come to the table with ideas about what are sustainable materials. And I don't mean that we go with them all, but we encourage looking at these things so that we can sit around the table and have a debate. And then it just comes down to you cannot do everything- we have to make the decisions that are right. One of the key things that we decided is that MediaCityUK is part of the principles of BREEAM Communities. We have future-proofed the scheme to develop and grow with the growth of MediaCityUK. So we tried to deliver something in 2010 which can continue to deliver in 2025.

That's the problem with accreditation around sustainability. How do you measure that? One of the tools we measure it in is that MediaCityUK buildings started coming online in 2010 pretty much at the phase 1 and we wanted to try to achieve BREEAM Communities when going through the process. And six years on we have over 7,000 people live, work and enjoy their leisure time around MediaCityUK, we have gotten over 250 businesses- all thriving from the SMEs to the big corporates, we have driven huge employment focus on the local economy. So that in mind is that there are various components. The fact is we are sustainable and assessed sustainability; we brought a new tram station in partnership with TFGM (Transport for Greater Manchester) and funding bodies who brought that in, so we have improved the public transport networks. We have fantastic cycle routes to and from MediaCityUK, we are building residential communities so that live and work balance can be managed and that has an impact. We encourage car sharing. There are the technological sides of sustainability which translate to financial savings.

It is really difficult to assess the real true measures because everyone has their interpretation of that. What I do know from the initial phase is that the danger with sustainability is you make the decision during the construction process but it doesn't stop there. That is just the start of the journey. The important thing is that you really have to

continue to work hard and drive that through in an ever-evolving world to keep sustainability at the top of the agenda. And we have to keep educating people so that they think about it in every business decision.

It is really hard to assess the real hard tangible benefits of BREEAM Communities has given us. But I think if we were to do another development we would definitely use it again. It drives what I believe is the right mentality; it makes people think about the decisions they are making. And I think it is a good work-in-practice to have that. And we would encourage all the people we work with to come on this journey with us.

Challenges: There is a cost side to it. You are going to have to make decisions that at day one seem like a more expensive approach but that is the point I made about long term approach. But this can be a thing when you are trying to manage costs and budget. Part of the decision-making process is the timeline in which you are working as well. We delivered 1.6 million square foot in MediaCityUK in three years period; which is a huge achievement. When you are moving that quickly, you don't always have the time to sit and try to work out what is the best way to go forward.

When we were working with BREEAM Communities, it hadn't been done before. So we were pretty much living the journey with BREEAM. We working mostly through it all together. So were trying to do within the knowledge we had, but we didn't have the luxury of time because the project had to be delivered. We have some really positive sides to it though. We sit on Manchester's waterfront so we have the Manchester Ship Canal so it made sense that the materials should be delivered by water. Those are the type of things we tried to look at. So there were some challenges but I don't think there were a huge number of negatives for us to not work with BREEAM Communities. And I think like in every situation where you are an early adopter it is much easier to integrate them into your processes and systems than when you are trying to retrospectively fill them in.

With anything if it becomes problematic, costly or time consuming, you move away from it. So I think it is much more about making it part of the early principles of the scheme. To understand what you can do, how you can do it and how to work with it.

Public bodies helped in the sense of planning process and control process- all these process driven things and decision-making you have to deal with the local municipalities on. I think the municipalities need to deal better with developers- to try to push them to go into a more sustainable approach. And we started building in 2006, planning processes are nowhere near to as advance as they are today.

We do surveys to monitor the car use and see what impact we made. So that is all positive stuff and so the local authorities are keen to work with you on that. TFGM also brought in the tram for public transportation which was hugely important. There wall these different assistance we got.

MediaCityUK is a private estate. We have this sort of system for a development of the size of MediaCityUK. Like the highways are being adopted by the council and then they maintain that, we are not operating that. We are an open estate though; we do not have a fence. So this is a private estate open to pretty much the public. All of the stakeholders at MediaCityUK are contributing the park to manage the external area. And I don't see that changing even if individual buildings are being sold out. Those businesses or investors buying those assets would take a share of the estate. The estate would have some sort of common management team. Part of the reason I think it is important for us is that the external areas, the link to each of the buildings, those are sort of areas we all use every day to walk through. We feel it is better under our control, we can manage it, we can deliver what people want. Maintain the quality, the environment that we have and we have a vast interest in doing that.

Peel Media effectively owns the state and all the buildings in it, so we just got one common entity that manages everything so what then happens is, is that each of those individual buildings contributes a proportion to the maintenance of our estate. That is what we call the estate service charge. And a sort of weighting applies for those assets which we find deliver a huge proportion. Through the estate service charge we manage the landscape, bring in initiative to become more energy-efficient and all that sort of stuff.

Dealing with softer values: That is part of the evolution where we are going. There's still this symbol of challenge in the UK in terms of associating hugely successful sustainable communities into hard pounds. Sort of like a premium on the value. I think it is not as obvious as that. Ask what percentage of that value applies to the assets is associated to the fact that sustainability is key in everything that MediaCityUK does. I am not convinced it is there yet- far from it. And that is the challenge. That is the link I made earlier- when you're assessing projects you cannot only look short term during the construction phase. And actually we are not entirely convinced that we are going to get a premium going into the other route. We managed our way through that by taking our approach with a long term investor and anything that can be more efficient in driving operational costs down or running of assets etcetera- can only be positive. But outside that I don't think there is a hard correlation yet- and I do use the word yet because I think it is going to come around sustainability. I mean obviously through the energy performance certificate you have in the UK- they are beginning to drive that. I think next year you will basically not be able to let buildings until you have brought the energy label up. We are obviously delivering buildings that are levels A and B. So we will not necessarily be affected by that. But then if you have an A building and a C building, does that mean that the A building can drive a better premium? It is not quite that sophisticated at the moment. And again it is all part of the educational process we are going through. You are trying to educate people in that; you will see a more efficient building, it will drive you year on year savings on energy bills. But it is not easily translating to values at the moment.

It's got to be a partnership, to put it on the agenda rather sooner than later. I think the public sector has to start driving the criteria to do that. I think if you left it just to the private sector you could start seeing the tip over towards sustainability drive and long term value enhancement. You won't probably move it as quick forward because there is premium to drive down sustainability route at times. I think it has to be a partnership, no different than we are doing with the carbon literacy program. That is part of the Greater Wider Manchester scheme public-driven. It is a public funded scheme. We, just as a private sector, decided to take it on board. So it has to be a partnership. You cannot do it in isolation of one or the other- otherwise you will not get the scale and the drive to take this forward.

It is a mix of a lot of things that need to be thrown in there. Helping to fund or provide access to funding or to give some sort of rate reduction for developers who are driving sustainability in their projects. I think that has got to help because we've got to somehow keep encouraging this. There can be things done like offering developers some sort of incentives to keep going down that route.

The system in UK is very much driven down to local councils to sort of place and collect money once they got it. So they got an opportunity to use that mechanism to drive developers to take on a more sustainable approach.

MediaCityUK's success has been driven off the partnership approach. And the banking sector have been important in that as well; it supported us through funding so it supported the development. There needs to be a little bit of care taking when you are talking about funders and how they fund things- what they say no to etcetera. A lot of these institutions now and to some extent the banks, they have shifted their responsibilities and they are setting up specialists for what they call green fund. That is something that 7-8 years ago didn't really exist. So absolutely, the education is working and it's important we keep working on that. But also remember it is a partnership-partnership across everything really; process, the responsibilities of architects, responsibilities of cost consultants, maintenance and engineering consultants, all the way to building contractors, the developers themselves, the banks and public sector. Everybody has a role to play. It is becoming more and more important that sustainability sits on the agenda at the commencement of a development project.

If we had to do it again we would bring in more sustainable means like solar panels and wind turbines. The technology has developed over the last years. We also looked at things like water taxi to create a better means of using the water to bring people to and from the Manchester, but there are some external barriers to take into account like the width of the waterways because it can be too time-consuming for business people. But yes, so looking at these types of things.

Chris Findley – Salford City Council
Date: November 1, 2016

In terms of MediaCity the stimulus for MediaCityUK development was …this department from London to the regions in particular like Manchester. That was all part of a bit of a bidding process which the BBC commenced. So they wanted to look at where would the best site for them be, they wanted to be near the heart of the city region, the originally started off looking at the Manchester City Centre, then they began to understand that because of the administrative geography of Manchester-Salford- as Salford was also part of the center, so that process was opened up to both local authorities areas. So they were looking at both Manchester and Salford and they've started a bidding process which effectively started off as a focus on five potential locations. Three of which were in Manchester and two of which were in Salford. The site at Salford Quays, which BBC eventually re-located, where MediaCity was developed, the site at Salford Quays was therefore developed as a proposal, jointly by Peel who owned the land- and also by Salford City Council and the Salford Regeneration Company which was a private company although Salford City Council had members on the board. So a lot of effort went into making the proposal at Salford Quays. And that proposal was different than the ones in Manchester. As I understand those were much more focused on the re-location of BBC, and the Salford proposal was about developing something much bigger.

And the BBC selected the Salford bid, which then had to be turned into reality. Part of that bid was about environmental excellence as well. That came from the bid. Bear in mind that this was a sell to the BBC. But the BBC were impressed by the sell..so when the BBC selected the Salford bid, they wanted to ensure that everything they heard about actually happened. So if you like, the bid was turned into a contract between in particular Peel and the BBC. Peel was going to develop this. Bear in mind that one of the things of MediaCity is that BBC didn't want to own anything in particular- because television and media are changing. They were stung by the White City development in London years ago, where they did own and been heavily criticized for that. So they wanted MediaCity to lease the buildings, so the buildings were actually owned by Peel Media, so Peel set up a new company. But part of that sell, to BBC but also to others to come along as well, were the environmental excellence and BREEAM was all part of that. That also made sense to Peel because clearly for example the energy center, which is a part of MediaCity, the on-site energy regeneration, was a sell to BBC- an important sell actually because one of the requirements for the BBC- bearing in mind that they operate mainly from London- was that if London went down for any reason- the systems in London didn't work- they wanted to ensure that they could rely on MediaCity to provide back-up. Also if there is a problem with power supply, there's a second and third power supply. So there's a huge amount of resiliency build in. So really the whole BREEAM thing came out of that. The BBC was not interested in iconic buildings, because there would be a lot of criticism that they were wasting money on flashy buildings. So it was actually quite key that the architecture was reasonably modest. So what is iconic about MediaCity isn't the individual building, but the place itself. But the environmental excellence of BREEAM is all part of that component really. And critical to that, is that the whole site was owned by Peel and it's still owned by Peel and it will continue to be owned by Peel. So if you like, there is recognition, that if you are environmentally excellent, over the long term, it saves you quite a lot of money.

Without the BBC deciding to re-locate out of London, it wouldn't have happened. Because there has to be a major investor. And Peel wouldn't have built MediaCity speculatively, they wouldn't build MediaCity unless they were confident that- now they got the BBC- which is the major operator in Britain. They wouldn't have gotten any other company as well. On the back of BBC they also secure Itv (major commercial television company), they also secured Salford University Media department, but also lots and lots of other companies have also located there so that was all part of the original concept- to create a heart of media and television production.

But that decision of the BBC to re-locate was absolutely crucial and critical. Without that, Peel would not have taken the risk.

Role of Salford City Council: First of all SCC has a range of functions and range of responsibilities, so in terms of the actual bidding process, Salford was a partner in that because after all we are the local authority for the area.

Because the city council itself had the vision for the future of Salford. Salford Quays were MediaCity is located, the SCC bought a lot of the old docks and turn it into what now is accessible. And the BBC and other media organizations would not have come to Salford Quays if they thought that the local authority was not going to be very positive and essential part of the whole process. Half of the reason for that of course is that is having BBC identified that MediaCity as the bid they wanted to go with- one of the first contractual requirements were that Peel had to get planning permission. And of course Salford is the local planning authority so they actually have to apply to Salford for planning permission. So that requirement major planning application, and the BBC time scales were extremely tight. So my big role if you like, was part of the planning process, was making sure with the planning application that- were also the highway authority including all the transportation issues- so working together with an organization called Transport for Greater Manchester (TGM) who have major responsibility on public transport. One of BBC's requirements were that they wanted a metro link extension into MediaCity. So that Salford working together with TGM- so without the local authority support and active involvement, again MediaCity wouldn't have happened. It is very much partnership and all the organizations working together.

To be frank about it, I don't think that the BREEAM made things either more difficult or more easier, because Peel- because it was part of a bid, because it was put for BBC as one of the attractions of MediaCity, bearing in mind that BBC wanted a location which was environmentally attractive, it was essentially all wrapped up for the planning application. So effectively, the whole item of BREEAM wasn't a big item for discussion, it was just taken for granted that that was part of the development. So MediaCity was a lot easier than other developments, we cannot insist on full BREEAM planning process, we have the advantage with this scheme that we have an end-user, the BBC, who wanted an environmentally sustainable location. And we had a major land owner and developer who wanted to create a development which was BREEAM compliant, so for a local authority point of view, or planning authority point of view, that made things easier. So it wasn't a big talking point through the planning process, there was a lot more focus on the design of the buildings, the use of space, and making sure that everything worked on a planning scale.

I would say there were not any barriers because the BBC wanted to re-locate facilities, because through the bidding process we knew what the bid was, we knew what the proposals were, Peel knew what the proposals were, BBC knew what the proposals were, There were no real difficulties/barriers. When planning permission was granted in October 2010 and the implementation and development started soon after that, only half of what was granted planning permission in 2010 has so far been built, the other half lies on so-called reserve method application, being permitted within ten years, so those applications have been submitted this year, and we have been actually working in close collaboration with Peel on that second phase- a lot of which is residential and commercial. But what we agreed between ourselves and Peel was that Peel would sign up to a planning performance agreement, we would work very closely to them and all their architects to ensure that the actual developments would be successful. It has been very much the partnership process, and those planning permissions which have now been granted for the second phase have also been about close partnership working and understanding. Compared to other developments, this one has been quite easy because they put in the resources, they got the right people involved, they got good architects on board, they have a commitment to deliver a product which on both sides- both Salford and Peel- can be proud of.

What clearly became important then- after BBC was known to be the end-user- was securing other companies there's been a lot of work involved in that. Where we are now- looking forward, the second phase has both residential and commercial functions, and most importantly there's a market for all this. We very much see this as how you embrace potential at a destination within Greater Manchester. We're working with Peel to move the whole thing forward and that's where we have been right at the beginning- working in partnership with parties. It's all to achieve that vision of a successful Salford Quays.

We obviously do what we can (to secure more companies)- we actually invested ourselves in MediaCity, putting quite a bit of financial support. So part of the deal with BBC was to re-locate staff and BBC Symphony Orchestra so SCC has provided funding to help underpin all of that and then again that was all part of the original contractual arrangements. We also put money into a facility called the Landing, which the concept around that was digital

start-ups looking for cheap places for their start-ups and that has been very successful. We got European funding for that in the first stage, but we won't receive in the second stage as we continue. So now we are looking how to secure the long term sustainability of the Landing as this has been an important part of MediaCity.

Not for Peel but as part of the overall package; the public and governmental funding, European funding all helped support the developments, there were also many private funding from Peel but also SCC making contributions. So quite a complicated package and bear in mind that the development includes quite extensive areas of public realm which doesn't make a lot of money. But bearing in mind that we wanted this to be a very public area and not a privatized space, and indeed BBC were sold on that idea. They sat in an area which was very public and where people come and enjoy, so they'd be part of a new quarter.
All the public realm is owned by Peel. So the whole of the public realm is managed by Peel Media and that has been quite important because since 2010 local authorities budget have been reduced significantly and thus there would be no way we would be able to look after all that space and the quality it requires really. So from Peel's point of view, making sure that they can do that, as well as ensuring the overall quality of the commercial is important.

How to steer as local: Well clearly in terms of what is being granted in the planning permissions, it is public realm it is not gated- we wouldn't allow it to be gated. And actually it wouldn't make sense for Peel to gate it because they want the public to have full access to it otherwise- because commercially you will have retail developments, bars and restaurants, people are living there- so it has to be fully opened. But it does have to be managed properly, it has to be managed by a high standard- and that is actually in Peel's own interest. Because if they are going to ensure it to be a fantastic location for businesses and place to live, then high quality public realm is just part of the overall package.

What about other developer/development: each proposal has its own unique characteristics and MediaCity is unique. Where we are dealing with other locations- it is easier where we have a single land owner because land ownership is critical, and that they actually want to retain it- that is important- then that makes life a lot easier. Because then it's that long term commitment which becomes important too, working with developers who have a commitment to work in an area over a number of years could be very important. Where it gets more difficult is where you've got speculative development or developers with a particular track record or they want to make a reasonable fast profit and then run elsewhere. So you are dealing with lots of different types of developers throughout the city, so it is not easy to transfer experience from one to another because the characteristics of each might be very different. With Peel we've gotten a land owner which not only wanted to develop but also continue to be there as the operator- because they had to because BBC didn't want to own any building. Also the type of development can make it different- even with Peel we are working on a project called Port Salford- but that's a concept based on a new port and logistics and there won't be public realm, so that development will again be very different.

If we are the land owners and we are looking for a development partner, then we are in a much stronger position than instead of using our strategy tools. One of our biggest is the planning authority and planning policies, but we are constrained by national planning policies in terms of what we can ask for. So there can be an issue of how far developers want to go in their own interest.

Financial crisis has led to change in perspective in companies to become more commercially focused. We can try to push, but the other side has to want to go in that direction as well.
It is much more difficult to link different developers in one area, the advantage of Peel with MediaCity was that it was a big big site and it will take decades to actually deliver so they can have that long term view. Where otherwise you have developers who want to make their returns in three to five years. So again, it depends on where the individual developer/owner is really.

It's all been positive (for SCC) and it has been positive in a very significant way; clearly it has put Salford on the map and having all these media and television companies here have been really good for the city. We didn't have that kind of profile before. I don't think there are any downsides at all. In terms of expanding the whole BREEAM approach elsewhere, it was fortunate that Peel wanted to do this with BBC and BBC required it as part of the whole overall development where they were going to sit. I think trying to promote it elsewhere is extremely difficult, and I think there's also an issue of government policy and how helpful that has been in the last few years.