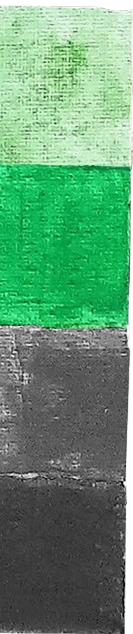


Green Building Certificates.

*'A study about the interests and impact regarding BREEAM-NL In Use certifications
for asset managers, investors and tenants of office buildings'*



Introduction



Introduction

Literature study



Introduction

Literature study

Empirical research

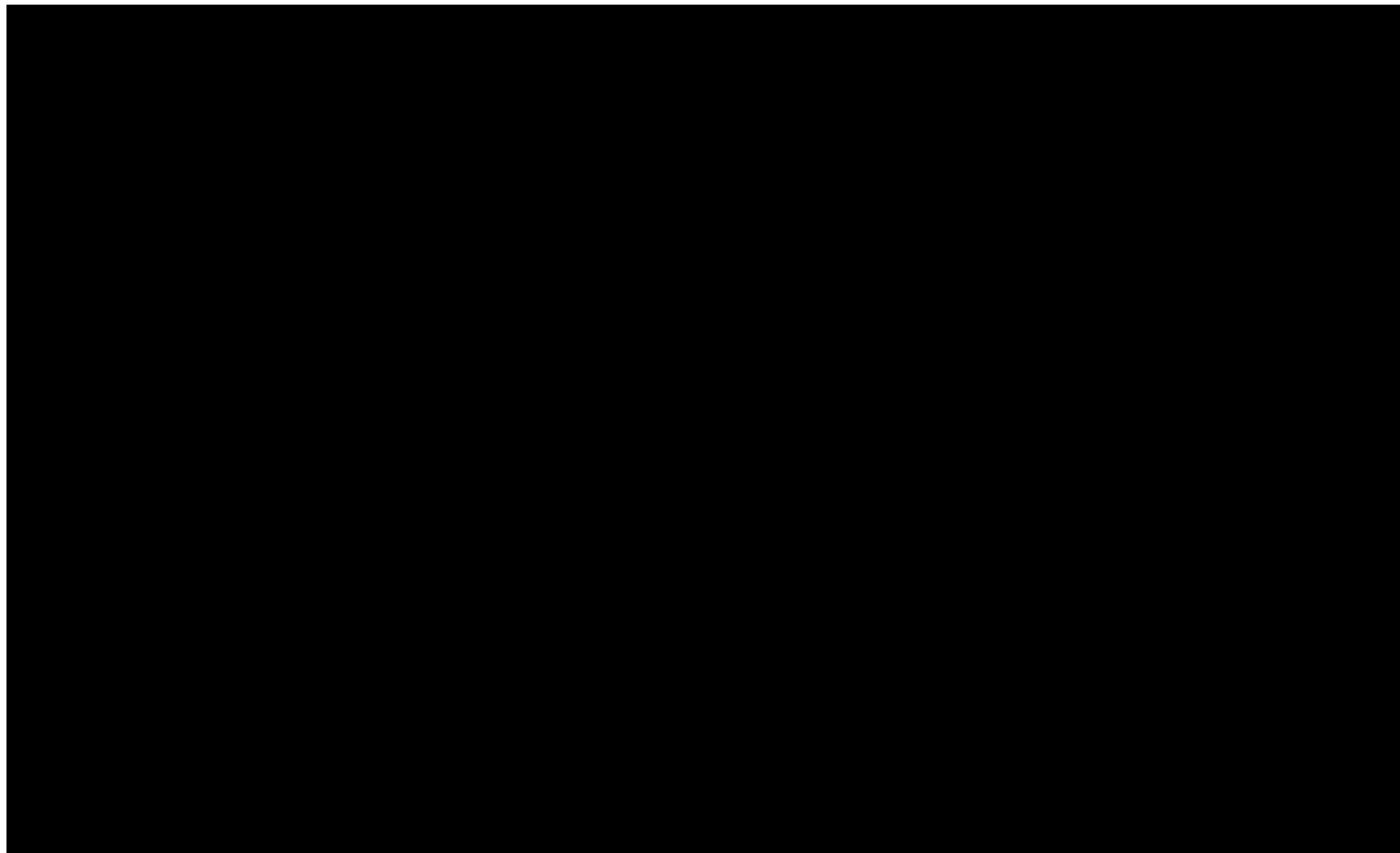


Introduction

Literature study

Empirical research

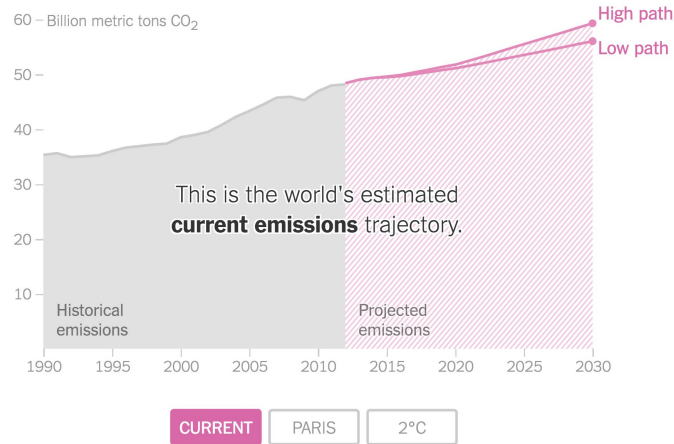
Conclusion



The New York Times

Here's How Far the World Is From Meeting Its Climate Goals

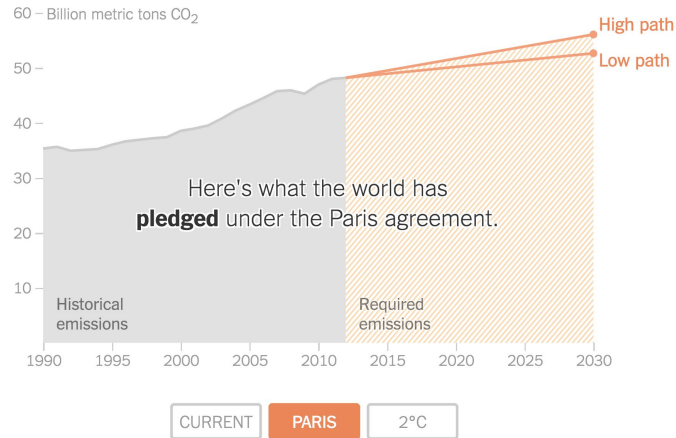
By BRAD PLUMER and NADJA POPOVICH NOV. 6, 2017



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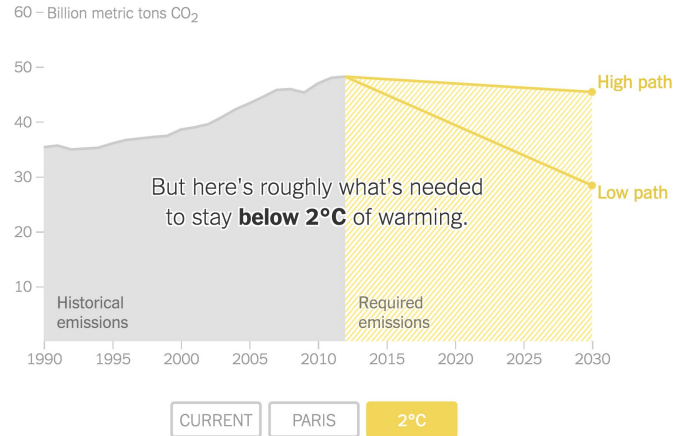
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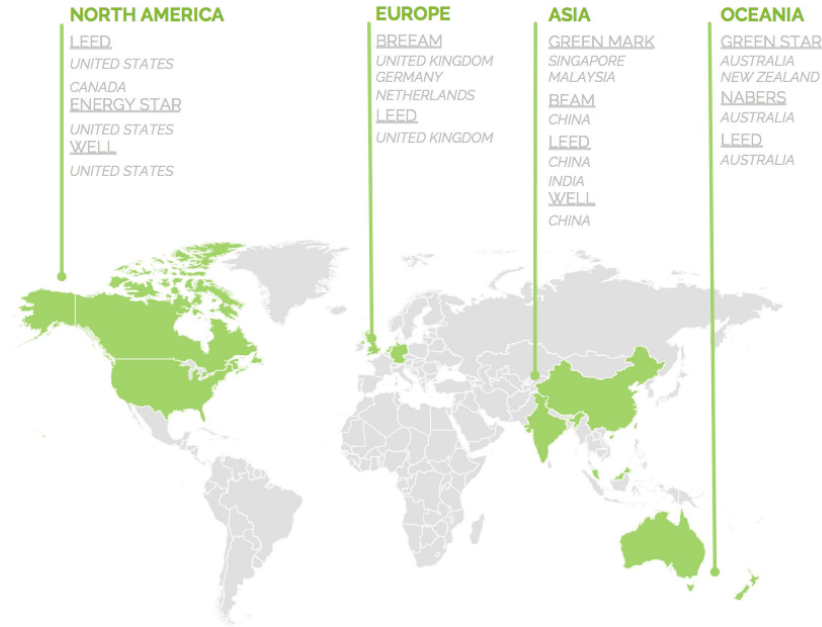
GREENEST CITY ACTION PLAN:

BE THE GREENEST CITY IN THE WORLD BY 2020



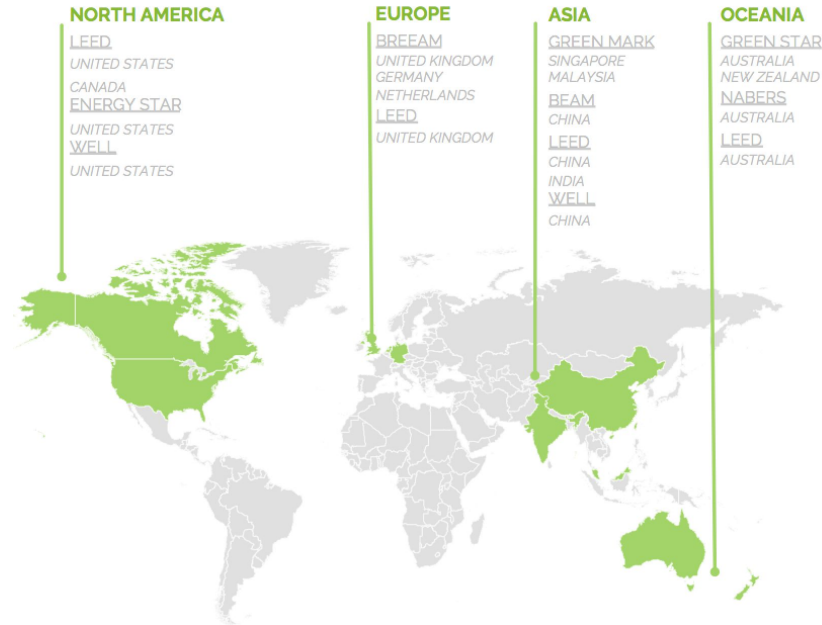
Green building certificates

Assess and verify the status of green buildings



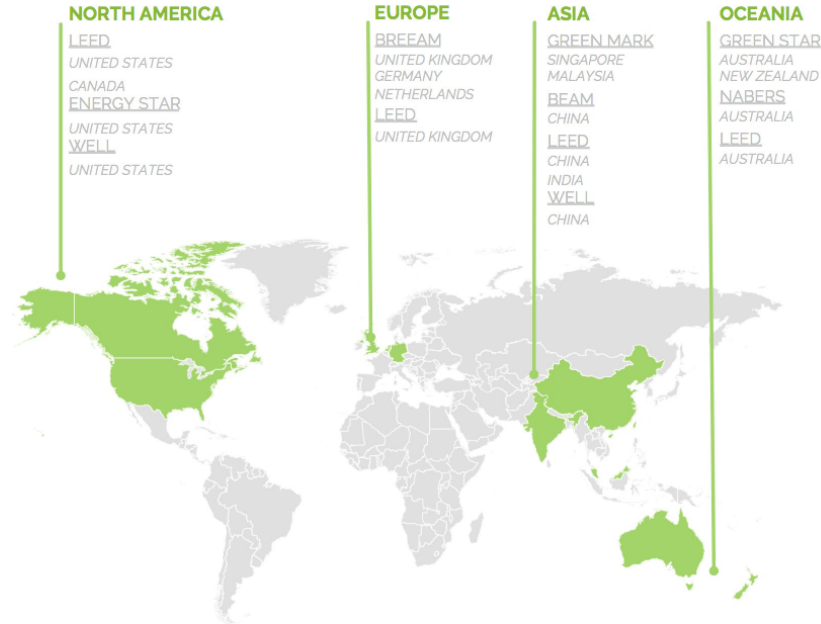
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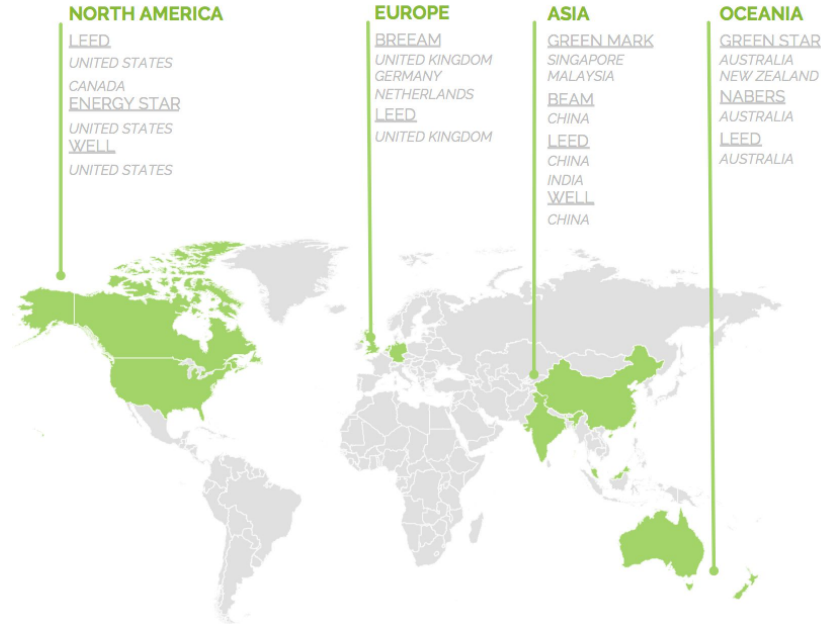
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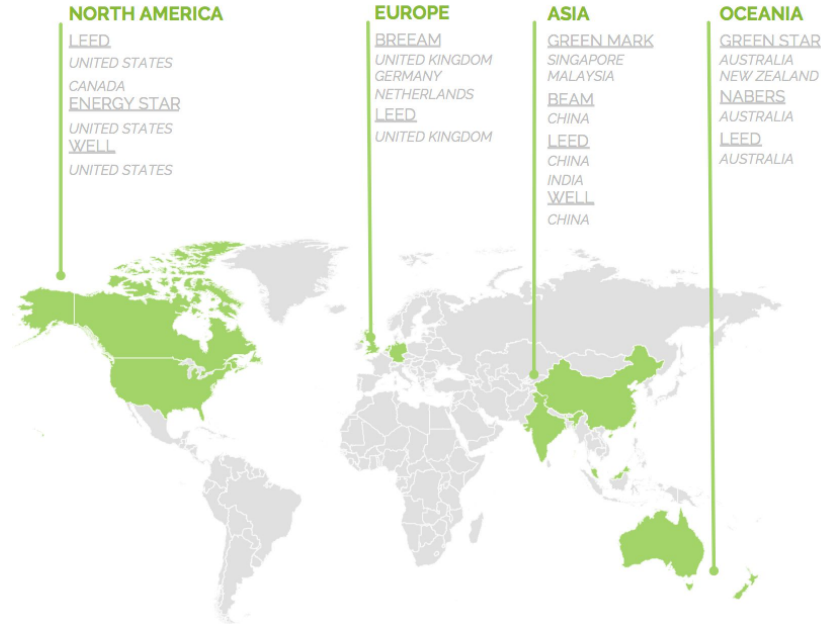
Green building certificates

Assess and verify the status of green buildings



Green building certificates

Assess and verify the status of green buildings





BREEAM-NL

Assess and verify the status of green buildings

BREEAM[®] NL

BREEAM-NL

Assess and verify the status of green buildings



Dutch
Green Building
Council

BREEAM-NL

Assess and verify the status of green buildings

BREEAM-NL New Construction



BREEAM-NL

Assess and verify the status of green buildings

BREEAM-NL New Construction



BREEAM-NL In Use (since 2014)





BREEAM-NL

Assess and verify the status of green buildings

'Asset' assessment

'Management' assessment

'Use' assessment

BREEAM-NL

Assess and verify the status of green buildings

'Asset' assessment

'Management' assessment

'Use' assessment



MATERIALS



ENERGY



WASTE



**HEALTH AND
WELLBEING**



MANAGEMENT



LAND USE AND ECOLOGY



WATER



TRANSPORT



POLLUTION

BREEAM-NL

Assess and verify the status of green buildings

Score		%
★	Pass	≥ 25%
★★	Good	≥ 40%
★★★	Very Good	≥ 55%
★★★★	Excellent	≥ 70%
★★★★★	Outstanding	≥ 85%

'Asset' assessment

'Management' assessment

'Use' assessment



MATERIALS



ENERGY



WASTE



**HEALTH AND
WELLBEING**



MANAGEMENT



LAND USE AND ECOLOGY



WATER

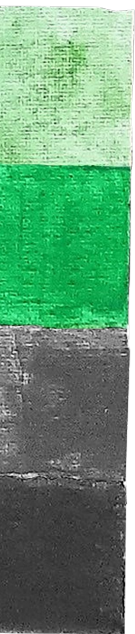


TRANSPORT



POLLUTION







Literature study

Certified office buildings versus Non-certified office buildings



Literature study

Certified office buildings versus Non-certified office buildings

Benefits of certified office buildings are:

- 11% higher asset value (*Miller, Spivey & Florance, 2008*)



Literature study

Certified office buildings versus Non-certified office buildings

Benefits of certified office buildings are:

- 11% higher asset value (*Miller, Spivey & Florance, 2008*)
- 4% higher rent price (*Fuerst & McAllister, 2011a*)



Literature study

Certified office buildings versus Non-certified office buildings

Benefits of certified office buildings are:

- 11% higher asset value (*Miller, Spivey & Florance, 2008*)
- 4% higher rent price (*Fuerst & McAllister, 2011a*)
- 8,5% higher occupancy rate (*Devine & Kok, 2015*)



Literature study

Certified office buildings versus Non-certified office buildings

Benefits of certified office buildings are:

- 11% higher asset value (*Miller, Spivey & Florance, 2008*)
- 4% higher rent price (*Fuerst & McAllister, 2011a*)
- 8,5% higher occupancy rate (*Devine & Kok, 2015*)
- 14% lower operating expenditures (*Devine & Kok, 2015*)
- Decreased risks (*Fuerst & McAllister, 2011a*)
- Reputational benefits (*Van der Voordt & Koppels, 2013*)



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- Social Responsible Investments
- Corporate Social Responsibility
- Better tenant satisfaction
- Better tenant retention
- GRESB rating
- Insight in sustainable performance



Literature study

Certified office buildings versus Non-certified office buildings

Benefits of certified office buildings are:

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- **Missing: New Construction versus In Use**
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Literature study

Certified office buildings versus Non-certified office buildings

New Construction versus In Use

- Existing buildings are not designed according to design principles of BREEAM



Literature study

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New Construction versus In Use

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Literature study

Certified office buildings versus Non-certified office buildings

New Construction versus In Use

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- Existing context of stakeholders consists of (long term) agreements



Literature study

Certified office buildings versus Non-certified office buildings

New Construction versus In Use

- Existing buildings are not designed according to design principles of BREEAM
- Sustainability measures are not required, the building sustainability is only assessed
- Existing context of stakeholders consists of (long term) agreements

Why are existing buildings being certified?!



Research question

Main question and research objectives

‘How do green building certificates affect the building and organisation of asset managers, investors and tenants of in use office buildings’



Research objectives

Main question and research objectives

Research objective 1

- Analysis of the interests of stakeholders regarding green building certificates



Research objectives

Main question and research objectives

Research objective 1

- Analysis of the interests of stakeholders regarding green building certificates

Research objective 2

- Providing insight in the certification process of BREEAM-NL In Use and determine the involvement of each stakeholder



Research objectives

Main question and research objectives

Research objective 1

- Analysis of the interests of stakeholders regarding green building certificates

Research objective 2

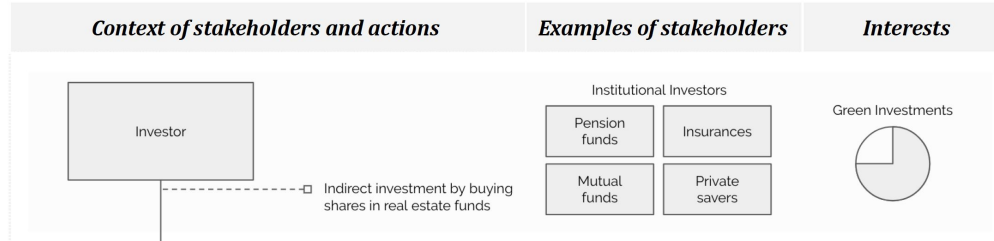
- Providing insight in the certification process of BREEAM-NL In Use and determine the involvement of each stakeholder

Research objective 3

- Determine the applicability of the interests and impact of BREEAM-NL In Use certifications for asset managers, investors and tenants

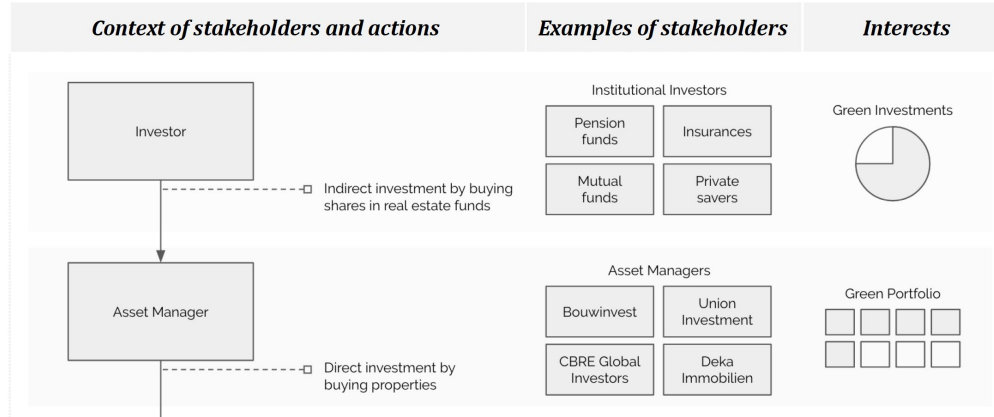
Conceptual Model

Context of stakeholders: investor, asset manager and tenants



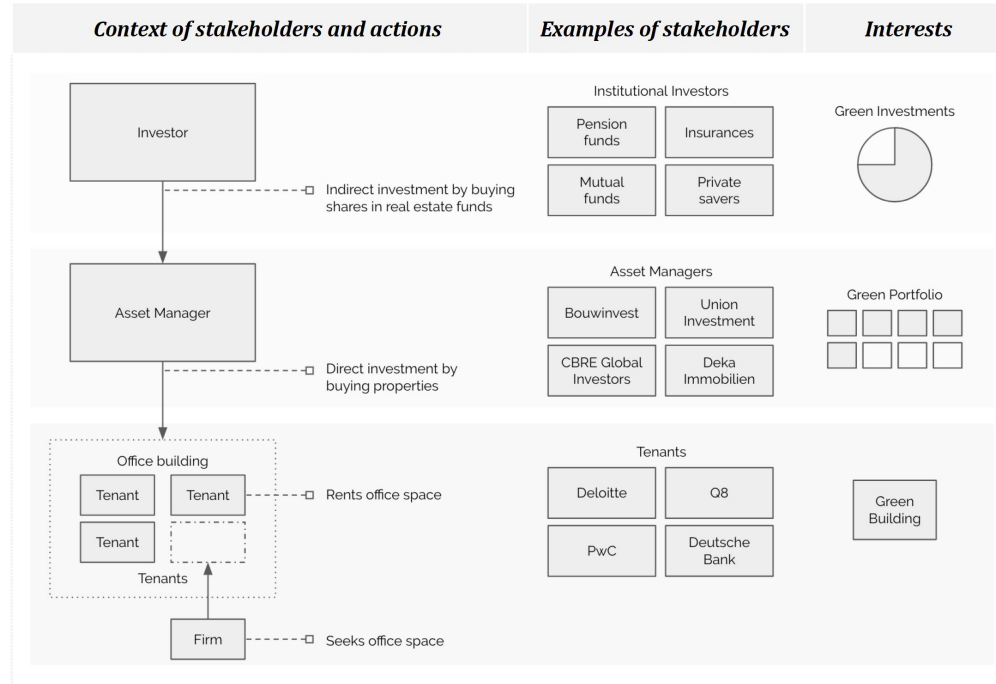
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Conceptual Model

Context of stakeholders: investor, asset manager and tenants

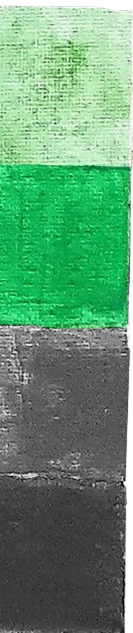


Theoretical Framework

Interests and applicability

<i>Interest</i>	<i>App.</i>	
Achieving sustainability ambitions or CSR (Eichholtz, Kok & Quigley, 2016)	I	✓
	A	✓
	T	✓
Decreased risks (Fuerst & McAllister, 2011a)	I	✓
	A	✓
	T	✓
SRI (Eichholtz, Kok & Yonder, 2015)	I	✓
	A	✓
	T	X
GRESB rating	I	✓
	A	✓
	T	X
Reputational benefits (Van der Voordt & Koppels, 2013)	I	✓
	A	✓
	T	✓
Increased asset value (Fuerst & McAllister, 2011a; Wiley, Benefield & Johnsen, 2010)	I	✓
	A	✓
	T	X

<i>Interest</i>	<i>App.</i>	
Lower CAPEX (Fuerst & McAllister, 2011a)	I	✓
	A	✓
	T	X
Increased rental income (Devine & Kok, 2015; Fuerst & McAllister, 2011a)	I	✓
	A	✓
	T	X
Reduced OPEX (Devine & Kok, 2015)	I	✓
	A	✓
	T	✓
Increased occupancy rate (Devine & Kok, 2015)	I	✓
	A	✓
	T	✓
Insight in sustainable performance	I	✓
	A	✓
	T	✓





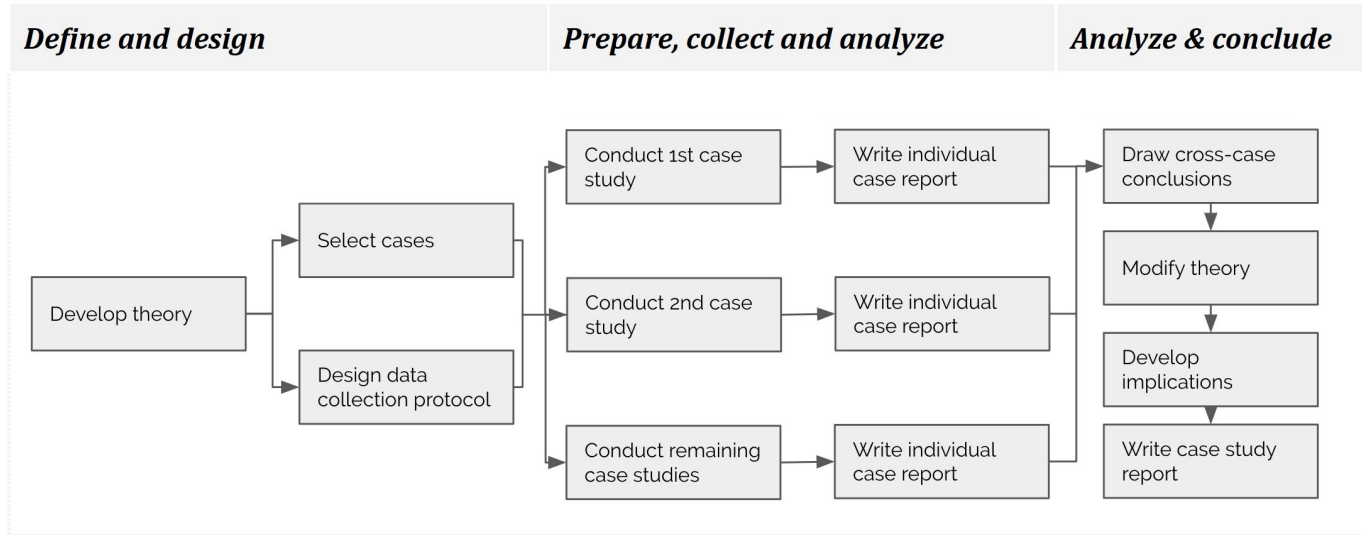


Case study research

Visualization of method based on Yin (2014)

Case study research

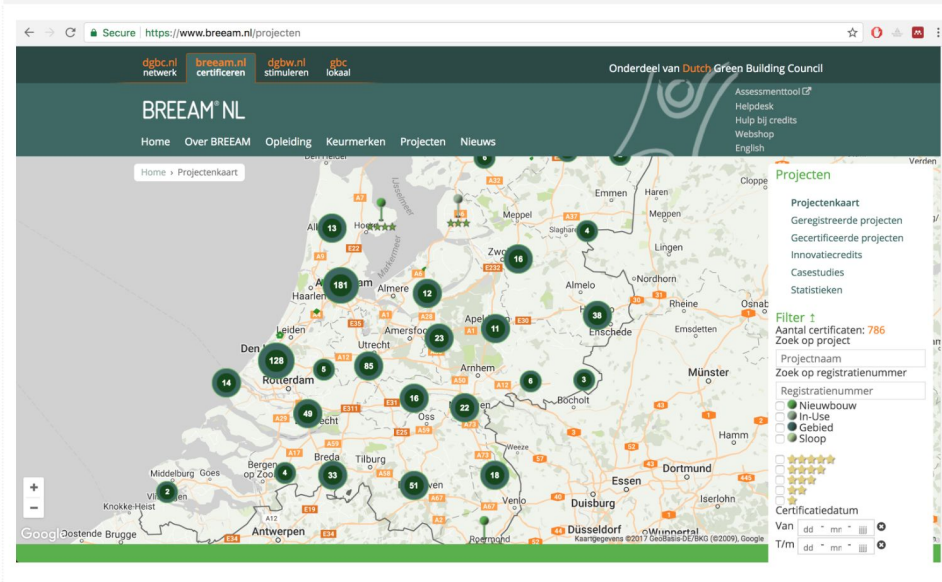
Visualization of method based on Yin (2014)



BREEAM-NL

Analysis of the BREEAM-NL project database

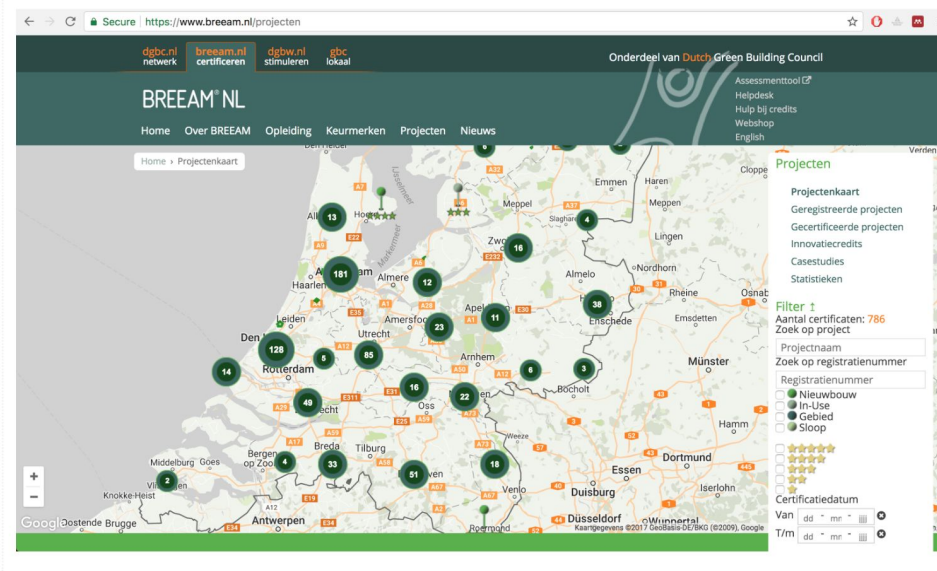
Overview of BREEAM-NL project registrations in The Netherlands



BREEAM-NL

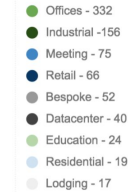
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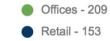


BREEAM-NL Certificates per Building Function

New Construction - 445 certificates



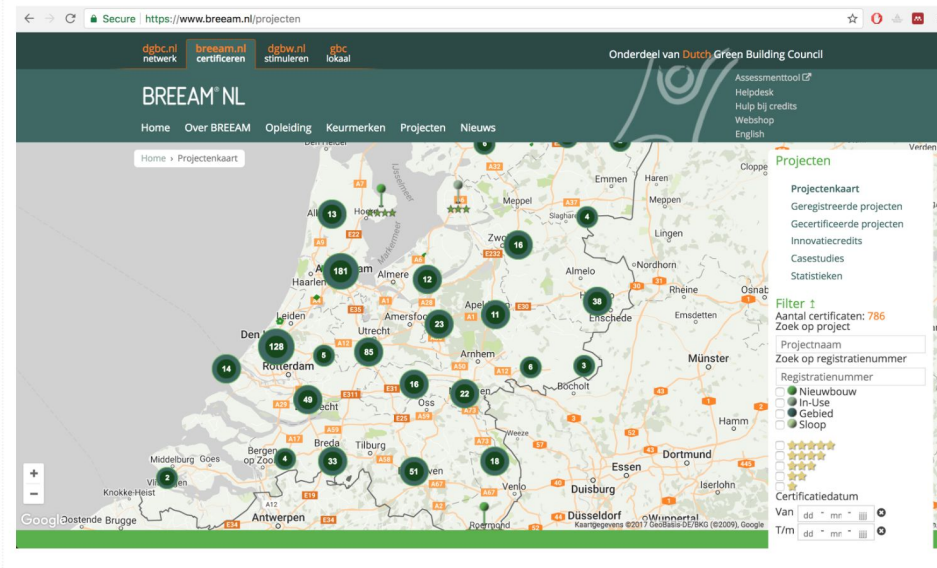
In Use - 327 certificates



BREEAM-NL

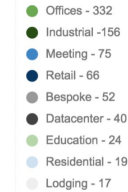
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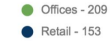


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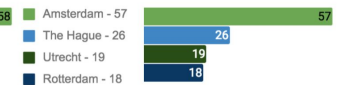


Distribution of BREEAM-NL Certificates over The Netherlands

Top 4 Cities - New Construction



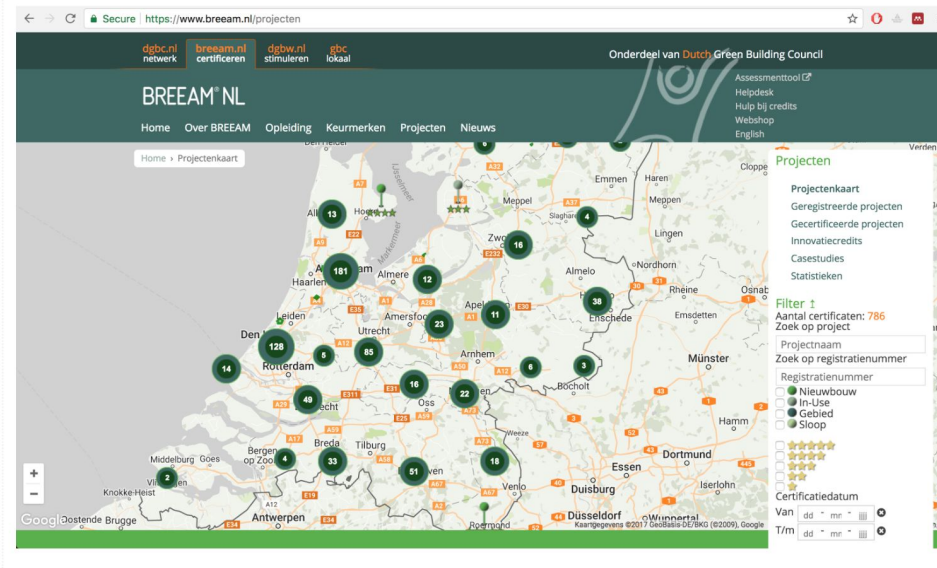
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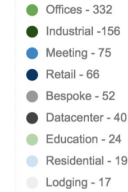
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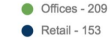


BREEAM-NL Certificates per Building Function

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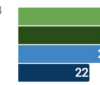


In Use - 327 certificates

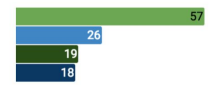


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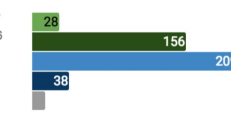
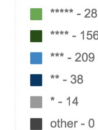


Top 4 Cities - In Use

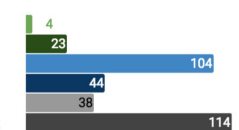
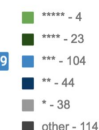


Distribution of BREEAM-NL Ratings

New Construction



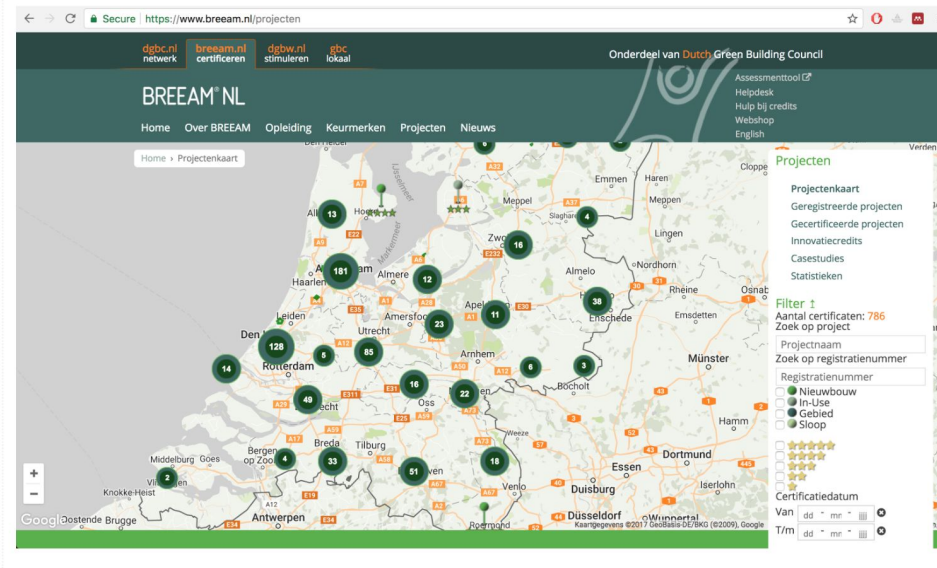
In Use



BREEAM-NL

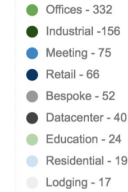
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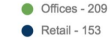


BREEAM-NL Certificates per Building Function

New Construction - 445 certificates



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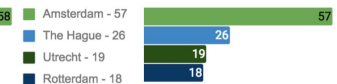


Distribution of BREEAM-NL Certificates over The Netherlands

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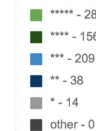


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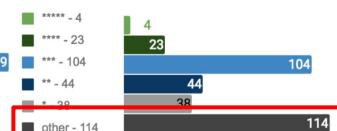


Distribution of BREEAM-NL Ratings

New Construction



In Use





Case study selection

Selection criteria and final three cases

Selection criteria

- Office building in The Netherlands, located in the top four cities
- BREEAM-NL In Use certified, with at least a 'Very Good' rating
- Stakeholders include a tenant, asset manager and investor
Additionally, these stakeholders were already committed to the building when it was being certified

Case study selection

Selection criteria and final three cases



Case study selection

Selection criteria and final three cases



Case study selection

Selection criteria and final three cases





Design of data collection protocol

A3-formats for the project analysis, certification process and interests

Project analysis

- Analysis of the building, certificate and stakeholders



Design of data collection protocol

A3-formats for the project analysis, certification process and interests

Project analysis

- Analysis of the building, certificate and stakeholders

Certification process

- Reconstruction of certification process based on narrative reports and timelines



Design of data collection protocol

A3-formats for the project analysis, certification process and interests

Project analysis

- Analysis of the building, certificate and stakeholders

Certification process

- Reconstruction of certification process based on narrative reports and timelines

Evaluation of interests

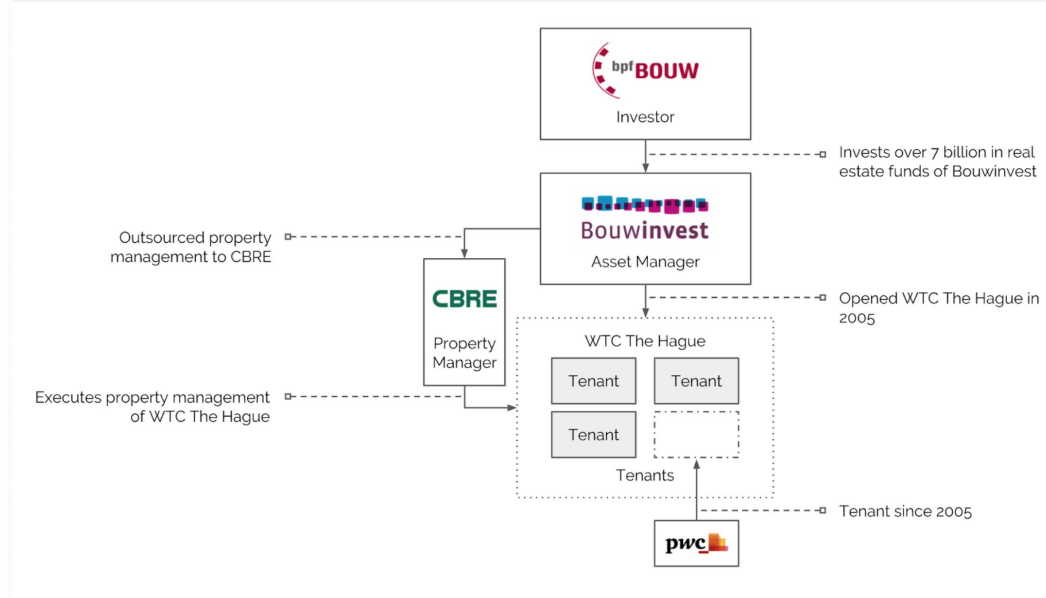
- Interests regarding BREEAM based on interviewees and organisational policies

Case study reports

Example of WTC The Hague - project analysis



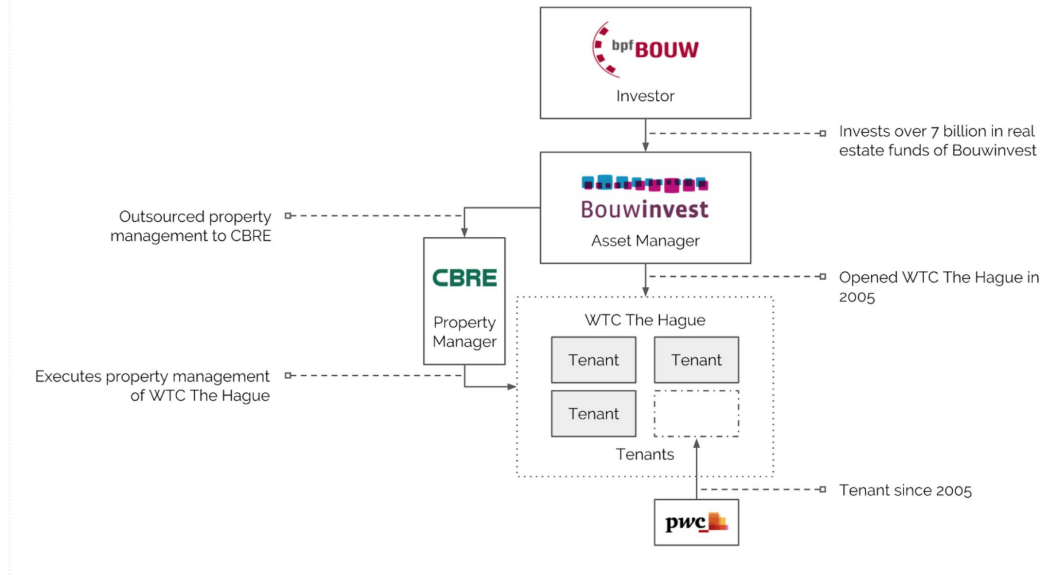
Context of stakeholders



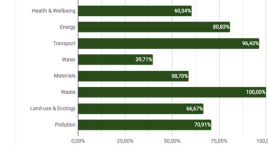
Case study reports

Example of WTC The Hague - project analysis

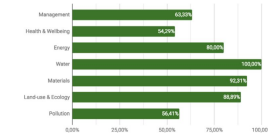
Context of stakeholders



Asset

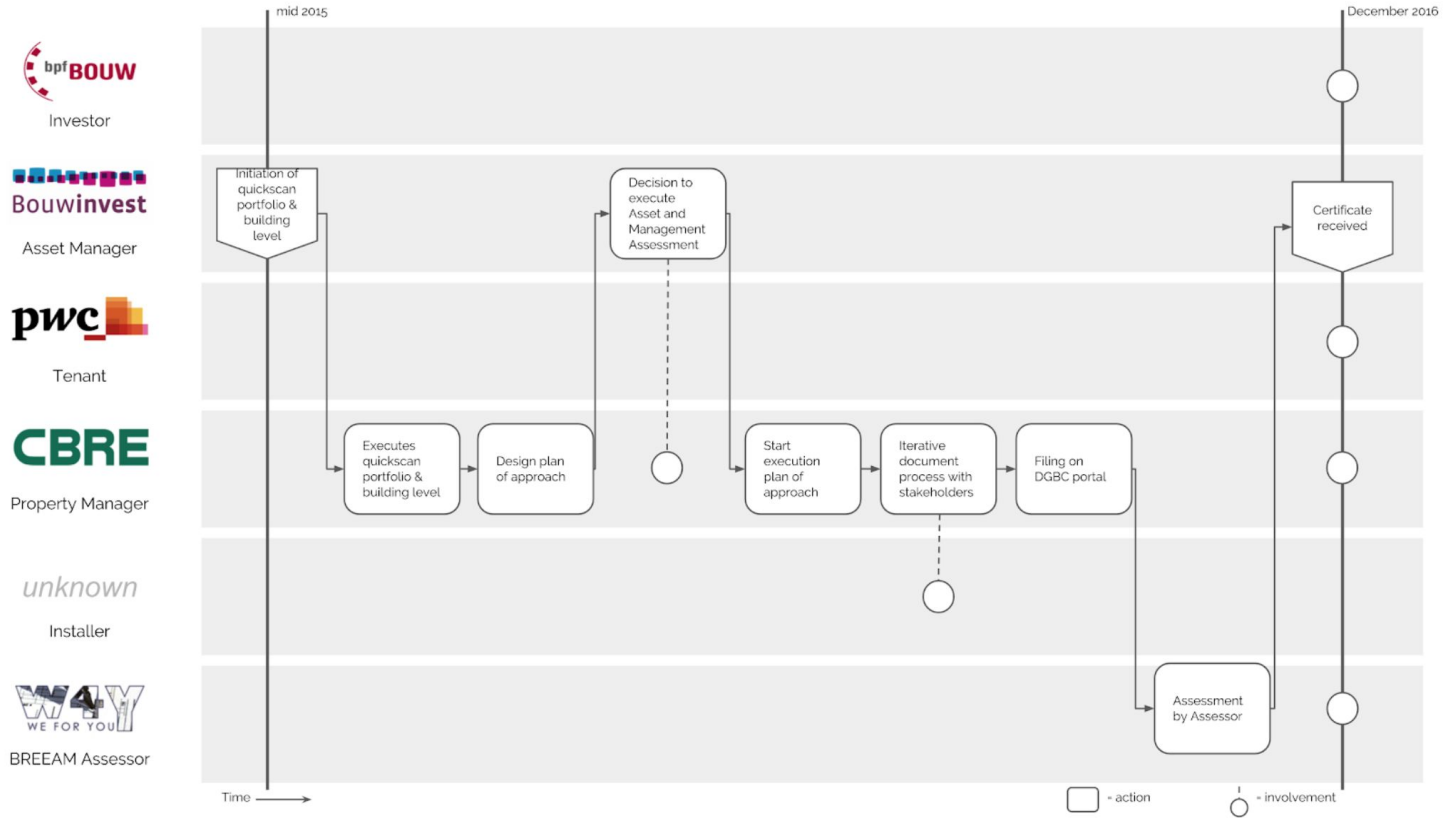


Management



Use

Schematic overview of certification process based on stakeholder interviews






Case study reports

Example of WTC The Hague - Evaluation of interests

Evaluation of interests

Applicability of interests and their impact from a stakeholder perspective

Interest	Asset manager  Bouwinvest	Tenant  pwc	Investor  bpfBOUW
Achieving sustainability ambitions or CSR (Eichholtz, Kok & Quigley, 2016)	<p>Bouwinvest developed a CSR strategy wherein it incorporated Environmental, Social and Governance (ESG) criteria in order to invest responsible (Bouwinvest, 2016). It aims to achieve long term performance, building value for stakeholders and sustainable partnerships with stakeholders. Investment in sustainability improves the competitive position of the funds and adds value for investors and tenants. Targets and tools are formulated for four scopes (Bouwinvest, 2016). The target for the fund is retaining the Green Star GRESB-rating. For assets, BREEAM and EPC are used to create transparency, improve quality and reduce operating costs. For tenants, Green Leases and Energy Panel are used to increase awareness. For property</p>	<p>PwC NL has the ambition for achieving zero waste by 2020 and being circular and climate neutral by 2030 (PwC, 2017). To realize these and other sustainability targets roadmaps are developed and executed by the departments, including facility management. PwC always communicates directly with asset managers when there is a need for office space. Thereby, it requires a minimum of energy label A and BREEAM certificates for 'Asset' and 'Management'. During the tenancy it is aimed to increase the BREEAM rating with one level. Also asset managers must have performed an European Energy Efficiency audit. The BREEAM certificates give PwC insight in the performance of the building and measures that can be taken to increase</p>	<p>bpfBOUW developed its own Environmental, Social and Governance (ESG) policy. This policy is aimed to contribute to a broad consensus amongst our clients for our investments. In 2017, sustainability targets for 2020 were formulated which will be published in 2018. Examples of these targets are related to GRESB, emission reductions and investment in sustainability. The condition is that it may not influence the yield and risks negatively (bpfBOUW, 2016). The targets are measurable and are used as key performance indicators (KPI's). With KPI's progress is measured as well as the representation of the interests of our clients. Sustainability targets and ESG are communicated to clients via the website, annual reports and policy documents. In the</p>

Case study findings

Cross case analysis - Certification process

	<i>Haagsche Zwaan</i>	<i>WTC The Hague</i>	<i>Hojel City Center</i>
Stakeholder involvement			
Investor	X	X	X
Asset Manager	✓	✓	✓
Tenant	X	X	✓
Property Manager	✓	✓	✓
BREEAM Expert	✓	X	✓
BREEAM Assessor	✓	✓	✓
Allocation of actions			
1. Initiative	Asset Manager	Asset Manager	Tenant
2. Quicksan	BREEAM Expert	Property Manager	BREEAM Expert
-scope	Building level	Building & portfolio level	Building level
3. Design plan of approach	BREEAM Expert	Property Manager	BREEAM Expert
4. Decision to execute plan	Already done in step 1	Asset Manager	Tenant + Asset manager
5. Execution of plan	Property Manager	Property Manager	Tenant + BREEAM Expert
6. Collection of documents	Property Manager	Property Manager	Tenant + Property manager
7. Filing on DGBBC portal	Property Manager	Property Manager	BREEAM Expert
8. Assessment	BREEAM Assessor	BREEAM Assessor	BREEAM Assessor
-client	Asset Manager	Asset Manager	Asset Manager

Case study findings

Cross case analysis - Certification process

	<i>Haagsche Zwaan</i>	<i>WTC The Hague</i>	<i>Hojel City Center</i>
Stakeholder involvement			
Investor	X	X	X
Asset Manager	✓	✓	✓
Tenant	X	X	✓
Property Manager	✓	✓	✓
BREEAM Expert	✓	X	✓
BREEAM Assessor	✓	✓	✓
Allocation of actions			
1. Initiative	Asset Manager	Asset Manager	Tenant
2. Quicksan	BREEAM Expert	Property Manager	BREEAM Expert
-scope	Building level	Building & portfolio level	Building level
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6. Collection of documents	Property Manager	Property Manager	Tenant + Property manager
7. Filing on DGBC portal	Property Manager	Property Manager	BREEAM Expert
8. Assessment	BREEAM Assessor	BREEAM Assessor	BREEAM Assessor
-client	Asset Manager	Asset Manager	Asset Manager

Case study findings

Cross case analysis - Certification process

	<i>Haagsche Zwaan</i>	<i>WTC The Hague</i>	<i>Hojel City Center</i>
Stakeholder involvement			
<i>Investor</i>	X	X	X
<i>Asset Manager</i>	✓	✓	✓
<i>Tenant</i>	X	X	✓
<i>Property Manager</i>	✓	✓	✓
<i>BREEAM Expert</i>	✓	X	✓
<i>BREEAM Assessor</i>	✓	✓	✓
Allocation of actions			
1. Initiative	Asset Manager	Asset Manager	Tenant
2. Quicksan	BREEAM Expert	Property Manager	BREEAM Expert
-scope	Building level	Building & portfolio level	Building level
3. Design plan of approach	BREEAM Expert	Property Manager	BREEAM Expert
4. Decision to execute plan	Already done in step 1	Asset Manager	Tenant + Asset manager
5. Execution of plan	Property Manager	Property Manager	Tenant + BREEAM Expert
6. Collection of documents	Property Manager	Property Manager	Tenant + Property manager
7. Filing on DGBC portal	Property Manager	Property Manager	BREEAM Expert
8. Assessment	BREEAM Assessor	BREEAM Assessor	BREEAM Assessor
-client	Asset Manager	Asset Manager	Asset Manager

Case study findings

Cross case analysis - Certification process

	<i>Haagsche Zwaan</i>	<i>WTC The Hague</i>	<i>Hojel City Center</i>
Stakeholder involvement			
<i>Investor</i>	X	X	X
<i>Asset Manager</i>	✓	✓	✓
<i>Tenant</i>	X	X	✓
<i>Property Manager</i>	✓	✓	✓
<i>BREEAM Expert</i>	✓	X	✓
<i>BREEAM Assessor</i>	✓	✓	✓
Allocation of actions			
<i>1. Initiative</i>	Asset Manager	Asset Manager	Tenant
<i>2. Quicksan</i>	BREEAM Expert	Property Manager	BREEAM Expert
<i>-scope</i>	Building level	Building & portfolio level	Building level
<i>3. Design plan of approach</i>	BREEAM Expert	Property Manager	BREEAM Expert
<i>4. Decision to execute plan</i>	<i>Already done in step 1</i>	Asset Manager	Tenant + Asset manager
<i>5. Execution of plan</i>	Property Manager	Property Manager	Tenant + BREEAM Expert
<i>6. Collection of documents</i>	Property Manager	Property Manager	Tenant + Property manager
<i>7. Filing on DGBC portal</i>	Property Manager	Property Manager	BREEAM Expert
<i>8. Assessment</i>	BREEAM Assessor	BREEAM Assessor	BREEAM Assessor
<i>-client</i>	Asset Manager	Asset Manager	Asset Manager

Case study findings

Interests regarding asset value, occupancy and rent

<i>Interests</i>	<i>App.</i>	<i>Findings</i>
<i>Increased rental income (Devine & Kok, 2015; Fuerst & McAllister, 2011a)</i>	<i>I</i> - <i>A</i> X <i>T</i> -	Asset managers do not increase the rent price after certification
<i>Increased occupancy rate (Devine & Kok, 2015)</i>	<i>I</i> - <i>A</i> X <i>T</i> -	Asset managers could possibly benefit from certification because of an increased occupancy rate
<i>Increased asset value (Fuerst & McAllister, 2011a; Wiley, Benefield & Johnsen, 2010)</i>	<i>I</i> - <i>A</i> ✓ <i>T</i> -	Asset managers could possibly benefit from certification because of an increased asset value

Case study findings

Interests regarding decreased risks

<i>Interests</i>	<i>App.</i>		<i>Findings</i>
<i>Decreased risks (Fuerst & McAllister, 2011a)</i>	I	-	Asset managers can use BREEAM as a tool to indicate risks
	A	✓	
	T	X	

Case study findings

Interests regarding OPEX, CAPEX and insight in sustainability

<i>Interests</i>	<i>App.</i>	<i>Findings</i>
<i>Reduced OPEX (Devine & Kok, 2015)</i>	I - A X T X	Asset managers and tenants do not experience lower OPEX after certification
<i>Lower CAPEX (Fuerst & McAllister, 2011a)</i>	I - A X T -	Asset manager do not use certificates to reduce CAPEX
<i>Insight in sustainability performance</i>	I ✓ A ✓ T ✓	Asset managers, investors and tenants use BREEAM as a tool to provide insight and improve sustainability performance

Case study findings

Interests regarding CSR and reputational benefits

<i>Interests</i>	<i>App.</i>	<i>Findings</i>
<i>Achieving sustainability ambitions or CSR (Eichholtz, Kok & Quigley, 2016)</i>	I A T	✓ ✓ ✓ Asset managers, tenants and investors can use BREEAM as a tool to set and achieve sustainability targets
<i>Reputational benefits (Van der Voordt & Koppels, 2013)</i>	I A T	✓ ✓ ✓ Asset managers, investors and tenants can use BREEAM to communicate sustainability as a brand value

Case study findings

Interests regarding GRESB and Social Responsible Investments

<i>Interests</i>	<i>App.</i>	<i>Findings</i>
<i>GRESB rating</i>	I - A ✓ T -	Asset managers that use GRESB can receive points for BREEAM certified assets
<i>SRI (Eichholtz, Kok & Yonder, 2015)</i>	I ✓ A ✓ T -	Asset managers and investors can use BREEAM as a tool to indicate and stimulate Social Responsible Investments







Discussion

Limitations

- Representation of stakeholders
 - Interviews were held with 3 tenants, 2 asset managers and 1 investor
- Findings of a case study research cannot easily be generalized
- The findings of this research are only applicable for the cases that were studied



Conclusion

Main question

‘How do green building certificates affect the building and organisation of asset managers, investors and tenants of in use office buildings’



Conclusion

Certification process and interests

Certification process

- During the certification process the building sustainability is rather measured than improved
- Asset managers initiate the certification process, tenants and investors are usually not involved
- 'Use' assessment is almost never performed because of unclear responsibilities and complex process



Conclusion

Certification process and interests

Certification process

- During the certification process the building sustainability is rather measured than improved
- Asset managers initiate the certification process, tenants and investors are usually not involved
- 'Use' assessment is almost never performed because of unclear responsibilities and complex process

Interests

- The following benefits are confirmed for BREEAM-NL In Use
 - Asset value, decreased risks, insight in sustainability performance
 - CSR, SRI, GRESB and reputational benefits
- Not confirmed:
 - Rent price and occupancy rate
 - OPEX and CAPEX

Conclusion

Vicious Circles of Blame

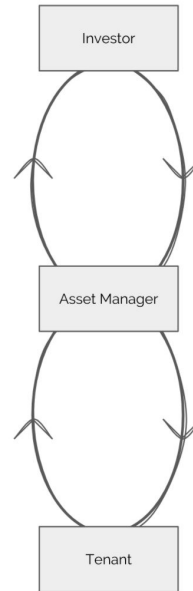
Stakeholders regarding In Use certifications

Asset manager

'The sustainability of our funds depend on the interests of the investors'

Tenant

'The influence of one tenant in a multi-tenant building is very small'



Investor

'We invest in sustainability as long as it does not negatively influence profit and risks of investments'

Asset manager

'A certificate shows the quality of a building, but it does not mean that users will operate it in a proper way'



Recommendations

- Questionnaire amongst clients in the DGBC database
- Confirm findings for other green building certificates
- Further research about recertifications

Green Building Certificates.