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COHERENO
Collaboration for housing nearly zero-energy renovation

D5.4 Documentation report

Documentation report of 10 Business Collaboration Events

Business Collaboration Event The Hague

14.10.2014

Lead partner: TU Delft

**Organisation partners: Marktplaats Duurzaam Bouwen (ICDUBO), Duurzaam Den Haag
(Gemeente Den Haag)**

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Österreichische Gesellschaft für Umwelt und Technik, Austrian Society for Environment and Technology (ÖGUT), Austria

Susanne Supper, Franziska Trebut, Hannes Warmuth

Author:

Erwin Mlechnik, TU Delft

Moderators:

Erwin Mlechnik, TU Delft

Ad Straub, TU Delft

Henk Visscher, TU Delft

Martin Roders, TU Delft

Ferry Nitzsche, ICDUBO

Andreas Kellert, ICDUBO

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1 Introduction

This report is part of an Intelligent Energy Europe project, entitled “COHERENO - Collaboration for housing nearly zero-energy renovation” (www.cohereno.eu). The main objective of this project is to strengthen the collaboration of enterprises in innovative business schemes to develop nearly Zero Energy Building (nZEB) renovation in owner occupied single-family homes.

In order to counter the fragmentation of market players on the supply-side and to encourage collaboration along the supply-chain, Business Collaboration Events have been implemented. The events were intended to fulfil two main objectives: They should pave the way for the uptake of new business models (WP6) and furthermore they should have the potential to be a starting point for a long term B2B networking initiative - even beyond the COHERENO project - that is dedicated to the widespread offer of integrated, collaborative services for nZEB housing renovation across Europe, increasing both the quantity and quality of single-family housing renovations.

This report documents the general implementation of a Dutch national event (The Hague) with regard to the number of participants, the content of the presentations and the results of the group work sessions. The general structure of the respective events is based on the national action plans (D5.1), according to the interactive concept of the events. Due to different national characteristics and conditions of the nZEB housing market the concept of the Business Collaboration Events slightly differs from country to country in order to meet national requirements.

2 BCE The Hague

A total of 39 persons actively participated in the second Dutch Business Collaboration Event in The Hague (48 registered).

2.1 Organisational information

Location	Haagse Lobby, Stadshuis Den Haag, The Hague					
Date	14 October 2014, 14:30-18:15h					
Participants	39/ 48					
No.	Name	Surname	Area of activity	Experience in nZEB renovation	Seeking actor collaboration	Taking part
1	Henk	Bakker	Advisor, Policy Actor	☐	☒	☐
2	Paul	Bloemen	Advisor, Policy Actor	☒	☐	☒
3	Cees	Brandjes	Architect	☐	☐	☒
4	Pamela	De Witte	Insulation	☐	☐	☒
5	Hilbrand	Does	Insulation, Rewable, Advisor, Thermal imaging, ESCO provider, Energy agency	☒	☒	☒

6	Guido	Duba	Architect, Advisor, Interior architect	☐	☐	☐
7	Siem	Goede	Architect, Advisor, Calculation services, Project developer	☐	☐	☒
8	Wolter	Heijligers	Architect, Advisor, Engineer	☐	☒	☒
9	Walter	Jansen	HVAC, Electricity, Renewable, Integrated Services, Operation and maintenance, Advisor, Engineer, Calculation services, Project developer, Thermal imaging, Ventilation system assessment, Certification provider, ESCO provider, Energy agency	☐	☐	☒
10	Hans	Kamphuis	Project developer	☐	☐	☐
11	Miel	Karthaus	Renewable, Architect, Advisor, Engineer	☐	☐	☒
12	Maria	Kneppers	Policy actor	☐	☐	☒
13	Arco	Knoester	Renewable, Advisor, Engineer, Calculation services, Project developer, Ventilation system assessment	☐	☐	☐
14	Gea	Lentz	Advisor, Project developer	☐	☐	☒
15	Patrick	Leppers	Integrated services, Architect, Advisor, Interior architect, Engineer, Calculation services, Project developer	☒	☒	☒
16	Peter	Linders	Construction, Insulation, Electricity, Automation, Integrated services, Advisor, Engineer, Project developer, Thermal imaging, Policy actor, ESCO provider	☒	☐	☒
17	Henk	Marsman	Architect	☐	☐	☒
18	Koen	Meijerink	Advisor, Engineer, Project developer	☐	☐	☒
19	Erwin	Mlecnik	Event organiser	☐	☒	☒
20	Bart	Mulder	Advisor	☐	☐	☒
21	Mariëtte	Pol	Advisor, Project developer	☐	☐	☒
22	Kees	Reijnders	Advisor	☐	☐	☒
23	Martin	Roders	Advisor, Event organiser	☐	☒	☒
24	Peter	Rutten	Architect	☐	☐	☒
25	Tony	Schoen	Advisor	☐	☒	☒

26	Hugo	Schonbeck	Advisor, Calculation services, Project developer, Energy agency	☐	☐	☒
27	Ruud	Schuttel	Construction, Renewable, Project developer	☐	☐	☒
28	Marjolijn	Soelaksana	Construction, Insulation, HVAC, Electricity, Integrated services, Advisor	☐	☐	☒
29	Isabelle	Sternheim	Construction, Insulation, Windows/Doors, Renewable, Integrated services, Operation and maintenance, Architect, Advisor, Project developer, Homeowner association	☐	☐	☐
30	Ad	Straub	Event organiser	☐	☒	☒
31	Christel	Swarttouw	Event organiser	☐	☐	☒
32	Jacques	Vink	Architect, Advisor, Interior architect	☐	☐	☐
33	Henk	Visscher	Event organiser	☐	☐	☒
34	Liesbeth	Wassenberg	Advisor	☐	☐	☒
35	Marten	Wiersma	Renewable, Policy actor	☐	☐	☒
36	Carlinde	Adriaanse	Architect, Advisor, Engineer, Project developer, Homeowner association	☐	☐	☒
37	Ardo	de Graaf	Insulation, HVAC, Renewable, Integrated Services, Advisor, Engineer, Calculation services, Homeowner association, Experienced homeowner	☐	☐	☒
38	Martien	de Schepper	Architect, engineer	☐	☐	☐
39	Jacqueline	de Wijs	Policy actor	☐	☐	☒
40	Maud	van Oossanen	Homeowner association, Experienced homeowner	☐	☐	☒
41	Lars	van de Kamp	Advisor	☐	☐	☐
42	Louise	van de Worp	Construction	☐	☐	☐
43	Ferry	Nitzsche	Event organiser	☐	☐	☒
44	Andreas	Kellert	Event organiser	☐	☐	☒
45	Mary	Voskuil	Event organiser	☐	☐	☒
46	Berrij	de Bruijn		☐	☐	☒
47	Costja	Gontscharoff		☐	☐	☒
48	Raymond	Sneek	Renovation store	☐	☐	☒

2.2 Agenda

Time	Content	
14:30 – 15:00	Registration and welcome coffee	
15:00 – 15:10	Opening and introduction	Plenum
15:10 – 15:25	Kick-off presentation on “Creating customer confidence through quality assurance”	
15:25 – 15:50	3 pitch presentations on success stories drawn from the analysis of collaboration structures, at least one of these presentations with focus on QA issues	
15:50 – 16:00	Introduction to group work sessions	
16:00 – 16:05	Seeking groups	
16:05 – 16:20	Group work session: brainstorming on actor collaboration and specific problems / solutions to be dealt with, special focus on QA issues	Groups of 6-8 people
16:20 – 17:50	Business modelling	
17:50 – 18:00	Feedback questionnaires	
18:00 – 18:15	Concluding session: Outlook to the next steps, focus on future workshops	Plenum
18:15	Sandwich buffet and informal networking	

2.3 Presentations

The following presentations were presented at the Business Collaboration Event in The Hague.

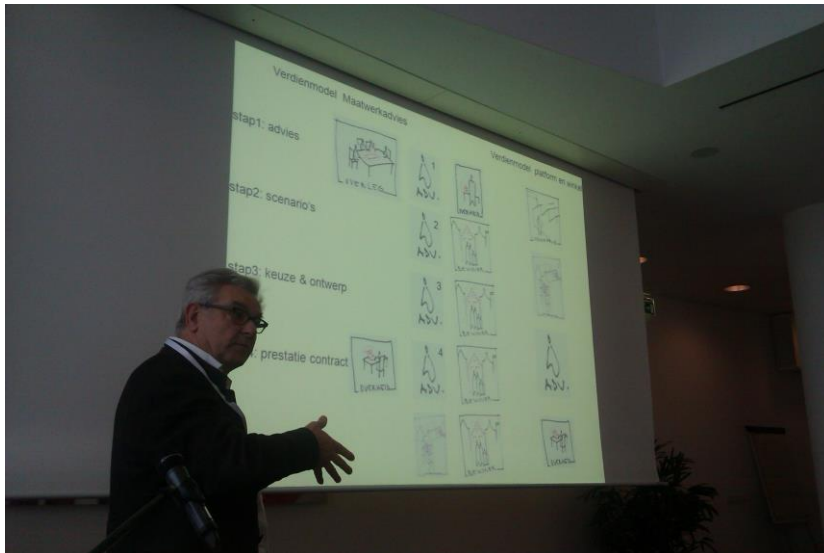
Title	Presenter	Type of presentation
BENG-renovaties particuliere woningmarkt	Ad Straub	Opportunities for business collaboration
Consumentenvertrouwen door kwaliteitsborging	Erwin Mlecnik	Creating customer confidence through quality assurance
Buitenlandse voorbeelden	Ad Straub	Opportunities for business collaboration
Renovatiewinkel Huis De Witte Roos Delft	Miel Karthaus (KBnG)	Collaboration structure
ComfortSprong	Wolter Heijligers (de Schepper Heijligers architecten)	Best practice renovation, Collaboration structure
De Duurzaam Winkel	Raymond Sneek	Collaboration structure

Ad Straub (TU Delft) sets the scope of COHERENO project and sketches the needed collaboration for nZEB renovation of single-family houses. An nZEB radar is presented to detect nZEB renovations on four levels. The investments for sustainable solutions increase in the Netherlands and research shows that 25% of owner-occupants are fans with a positive attitude towards sustainability. These owner-occupants are usually somewhat older, with high education and income, and living in larger more expensive houses. A lot of recent initiatives promote integrated renovation towards nZEB and quality assurance, such as 'More with Less', renovation stores - initiated by Platform31, for example the regional Huis De Witte Roos and De Duurzaam Winkel -, local coalitions and consortia and other initiatives – for example ComfortSprong. The Deal “Stroomversnelling Koopwoningen” (29 september) further gives impetus to the market. To reach a market of nZEB renovation of single-family houses, there is a wish or need from homeowners for independent advice (energy, comfort, technical, financial, quality assurance, costs), and guarantees. A trusted contact is needed during the whole process from initiative to after-care. Customer values have to be determined, as well as suitable communication channels.

Erwin Mlecnik (TU Delft) presents the Dutch results from the COHERENO project on reaching customer confidence through quality assurance. The TU Delft Solar Decathlon project shows that a fast renovation is a complex challenge, in which various parties are involved. What matters is delivering quality, i.e. delivering an end result that the client wishes by means of a consistent working method. Quality is the key to competitiveness and trust from the client. Various factors play a role to achieve quality: the definition of the end result (energy challenge), the knowledge and experience of the actors, the quality of the products and tools and the collaboration, coordination and teamwork. However, most Dutch homeowners who renovated their house to nZEB find that goals are not reached, that architects and consultants were not knowledgeable enough, and that independent energy advice is missing. Dutch frontrunner companies are struggling with offering guarantees, and with establishing lean project management and knowledge sharing between actors. Many companies acknowledge problems with coordination, but are not familiar with working with a project manager for nZEB renovations of single-family houses. For further information the COHERENO reports and leaflets can be consulted. Specific recommendations were formulated for the development of various business model building blocks.

Ad Straub (TU Delft) describes by means of examples from abroad how collaborations for nZEB renovation can be initiated by various actors. For example, in Norway energy advisors are pushing homeowners to such renovations, including quality assurance and support for requesting financing. In Austria, architects offer redesigns of houses with quality assurance. In Germany, small contractors work together as shareholders offering project management.

Miel Karthaus (Huis De Witte Roos) looks back at his experience of developing a renovation store. He emphasizes the need for a platform for consultation that is linked to the inhabitant, the government, the contractors and industry. An advisor can provide tailored advice and connections with such actors in each step of the decision process of a client, from advice to (performance) contracting. It is important to develop a good revenue model for each step of the process.



Wolter Heijligers (ComfortSprong) illustrates how much money is wasted using energy. The next 30 years about 390 billion euro is being 'burnt'. As an architect he showed the feasibility of realising 22 EPC=0 houses in Etten-Leur and 12 nZEB solar houses in Goes. ComfortSprong takes the experience further and offers zero-on-the-meter comfort renovations during mutation of houses. To realise this offer DSH architects works together with COMEG, Teamwerk, BJW duurzaam wonen, WEBO and Hogeschool Utrecht. There is a market for a lot more actors, since about 200.000 houses per year in the Netherlands need a renovation to NZEB. Providing extra comfort for no extra cost appeals to clients. For row houses from the period 1950-1980 an energy bill of about 175 EUR per month gives an investment space of about 45.000 EUR incl. VAT. A challenge is to seriously reduce the costs of installations by mass production. An integrated make-over during mutation is possible in 10 days per house on site – the work on site is less then 5% of the works. The client can choose from various façade options (ventilation channels incorporated in the façade), does not have to design and gets free services and advisers. Financing and guarantees are obvious offers and the social cohesion of neighbourhoods is promoted.



Raymond Sneek (De Duurzaam Winkel) is a business developer who started a renovation store together with two project developers and an installer. The renovation store answers to needs of the market and demand for innovation and collaboration with other contractors (e.g. Zonwering Westland, Kingspan, Hillgerbergsche, Albedo, Aleo, Qsolar, Remeha, R-vent, DDWP, product suppliers). Working from the 'trias energetica' it brings together various expertises from advice to execution. The clients gets an offer based on product groups including solar shading (internal and external), insulation (glazing, façades, roofs, floors), roof systems (green of white roofs), energy generation (solar panels), installations (heat pumps, ventilation, heating, high efficiency kettles) and automation (applications and control). The adviser informs the clients based on his/her questions and techniques are selected based on the client's comfort and quality wishes, and available time and money. A reference project includes the Ban and Heemwonen project in Kerkrade, where nZEB was reached in 10 days with pleased inhabitants. De Duurzaam Winkel also signed the 'Deal Stroomversnelling koopwoningen' because they believe it is possible to renovate houses for approximately 45.000 EUR to 'zero-on-the-meter' within 10 days, using three concepts. Their showroom can be visited in Vlaardingen.



Erwin Mlecnik (TU Delft) introduced the exercise for business modelling. The aim is to develop a business model to deliver quality and to unburden homeowners who want to renovate their house towards nZEB. Better coordination is challenged between first-line consultants, advisors, architects, contractors, quality assuring actors in order to respond to real needs of a specific customer segment. Two renovation cases are proposed for reflection: a renovation of a semi-detached single-family home towards passive house standard in a more expensive neighbourhood in The Hague (older people, higher budget, to be renovated when is use, insulation can be done from the outside), or a renovation of a monumental terraced house in the historical city centre of Delft (younger people, low budget, not inhabited, insulation from the inside).

The participants are split in six groups. Six moderators support the groups (Erwin Mlecnik, Ad Straub, Henk Visscher, Martin Roders, Ferry Nitzsche, Andreas Kellert). After the exercise (1,5h) each moderator briefly presents the developed business model in his group.







2.4 Barriers and opportunities of business collaboration

Each participant in each group reflected shortly about the barriers and opportunities that are encountered in daily practice.

Amongst other, the following barriers were experienced:

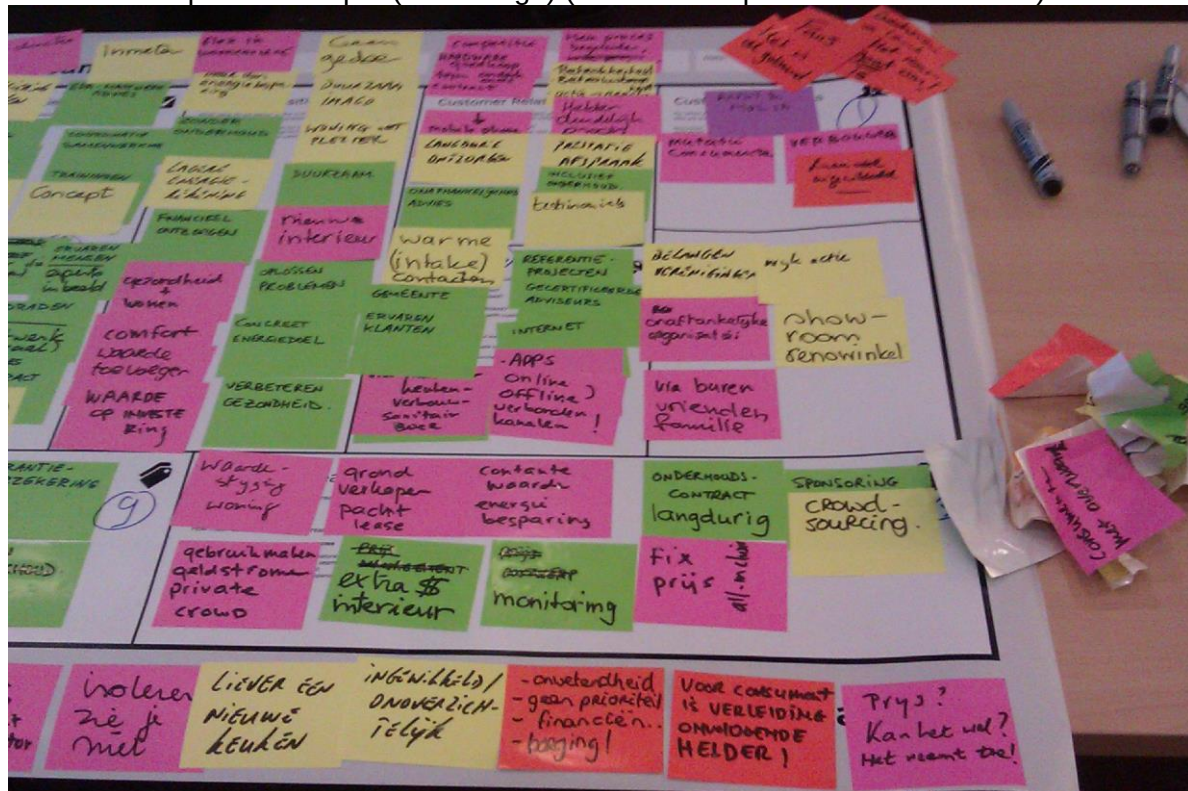
- Barriers for organizing/planning collaboration in general
- Difficulties to maintain timing and planning
- Difficult to stay within the promised budgets because innovative products are expensive
- Different perceptions or lack of knowledge of collaboration within the team

Amongst other, the following opportunities were experienced:

- Offering total unbundling for a fixed price
- Customized solutions
- Convincing groups of customers
- Phased approaches
- Development of patents

2.5 Business Model Generation

Flipchart Group 1 (blue badge) (Moderator/reporter: Andreas Kellert)



Summary Business Model:

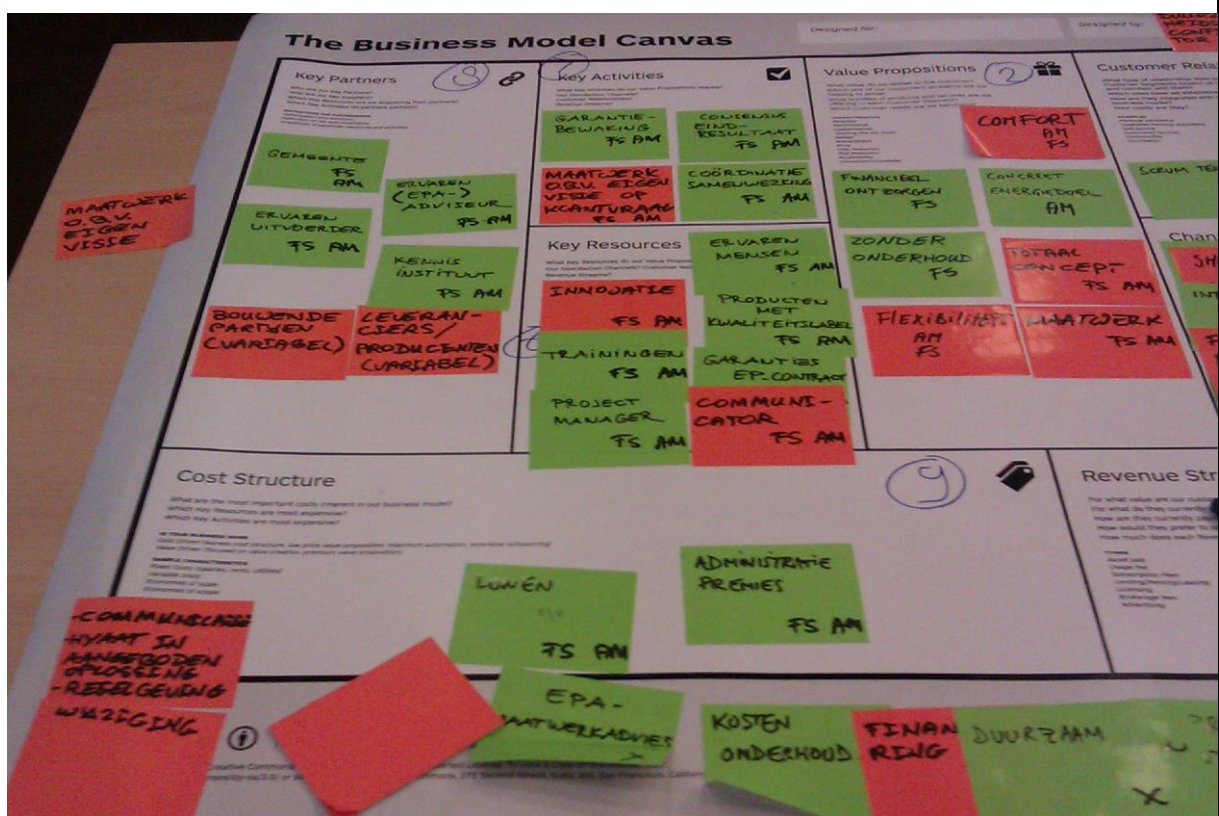
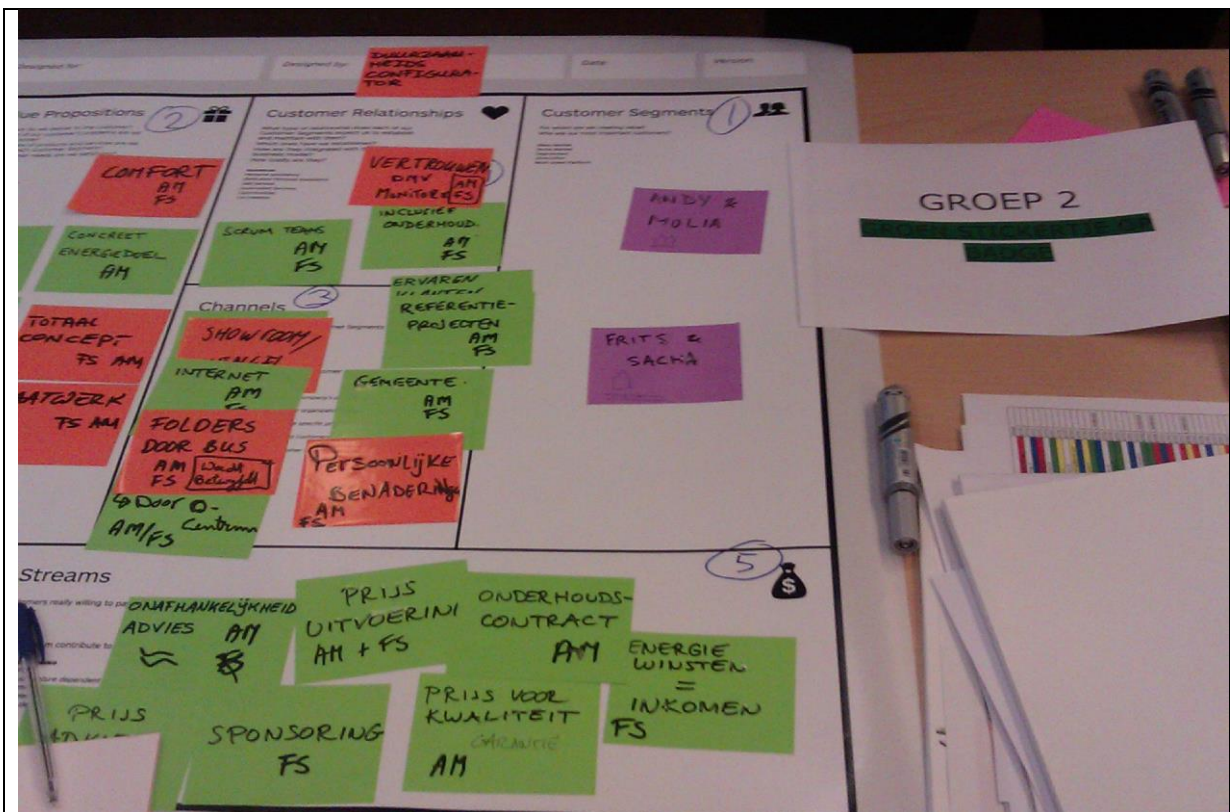
1. Customer segment: The chosen customer segment has a low budget and is a young couple.
2. Value propositions: Energy saving is not seducing enough for extra investments. There needs to be a total approach including interior and comfort increase which makes the owners willing to invest. 100% unburdening is offered.
3. Channels: People, social media and the municipality are important to form a decision. The opinion of friends and family counts.
4. Customer relationships: get to know the customer very well to be able to offer a sexy and convincing package according to their wishes and needs.
5. Revenue stream: Offer including financing and long-term maintenance contract, all for a fixed price.
6. Key resources: The team at the table is considered to be incomplete
7. Key activities: Customized work
8. Key partnerships: needed
9. Cost structure: note the need for investment in innovation

Discussion:

A weakness of the model is that one might not know the client well enough, so that the client aborts a process in an preliminary stage. It is important to attract the surrounding (people) of the owners. Awareness raising is needed for a whole team and external experts need to be attracted.

A strenght of the model is its focus on total unburdening and customization for a fixed price. The main customer value is not energy related, but based on interior, comfort and value of the house. Working as a team has the benefit to be able to learn from each other.

Flipchart Group 2 (green badge) (Moderator/reporter: Ferry Nitzsche)



Summary Business Model:

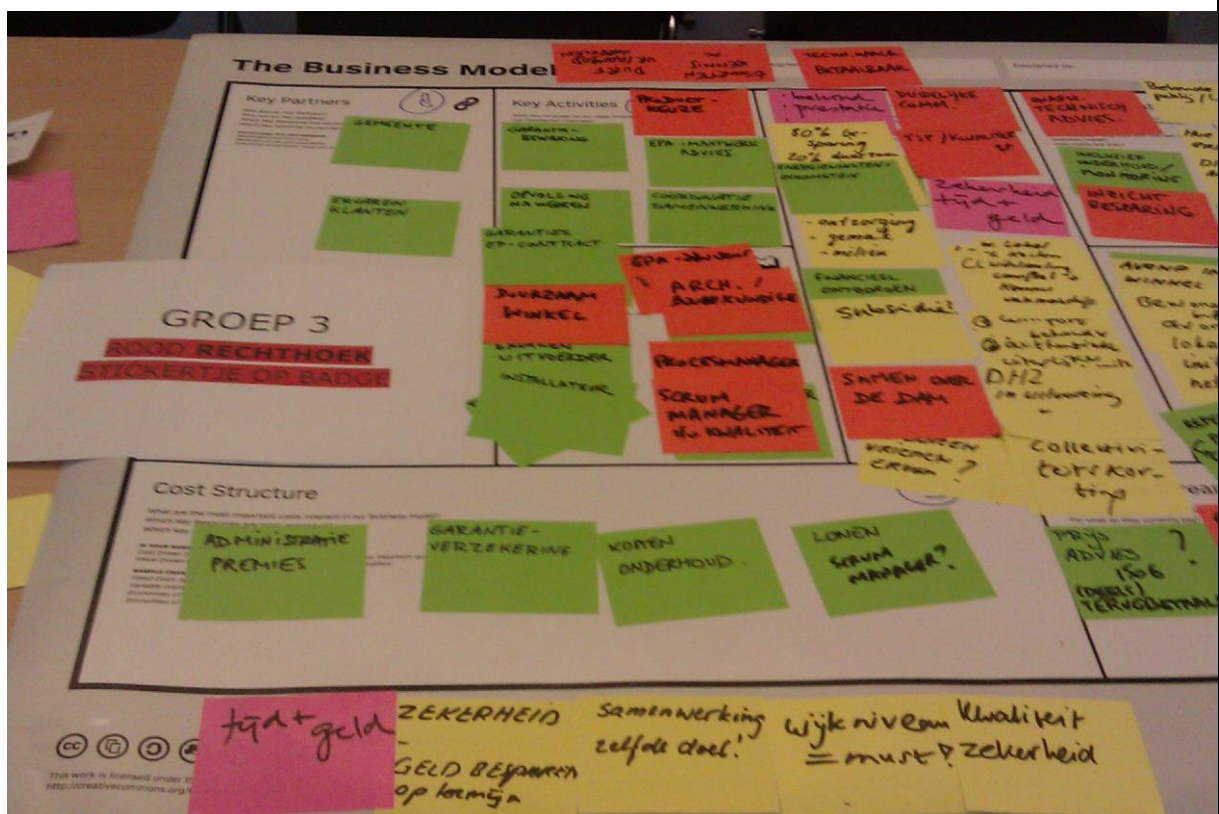
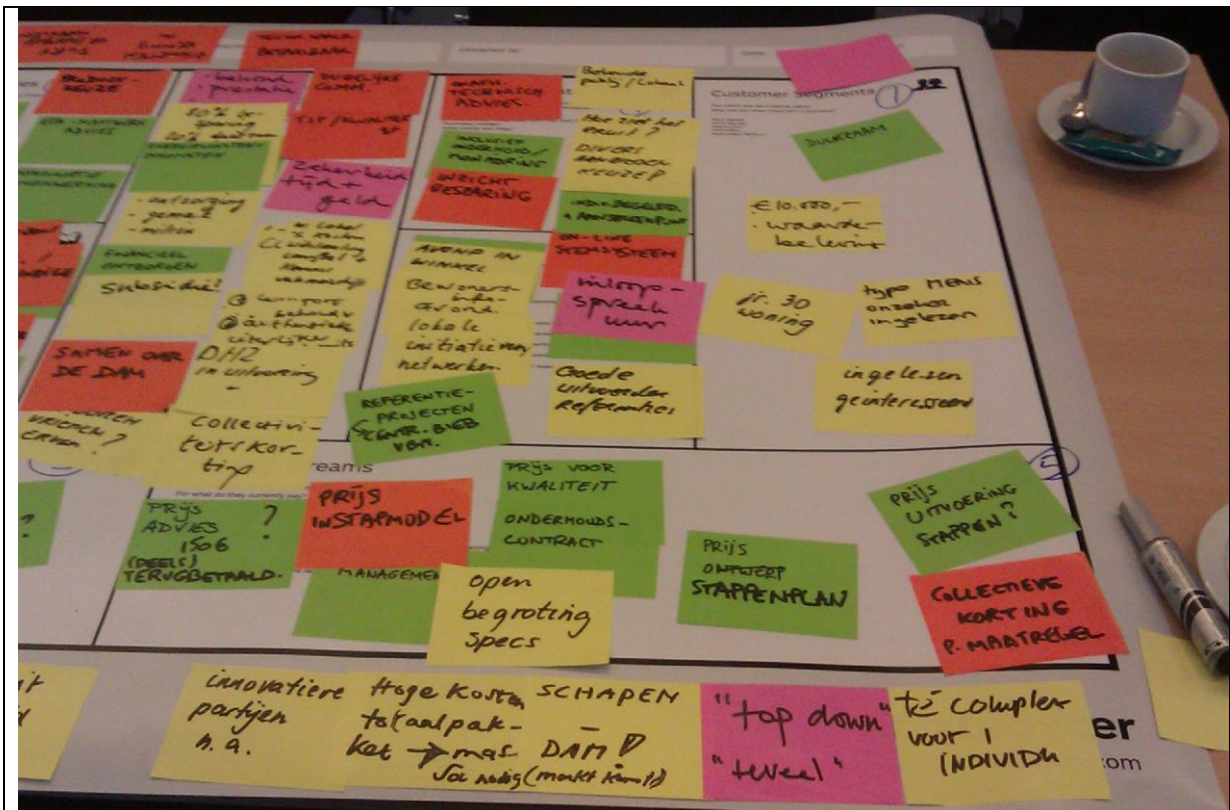
1. Customer segment: The group chose both target groups as customer segments.
2. Value propositions: Comfort is one of the most important value propositions. Total concepts for a specific energy goal are offered (customized). Independent advice.
3. Channels: A show room for sustainable concepts, internet and personal approach.
4. Customer relationships: Developing trust with the customer by offering after-care (for example monitoring).
5. Revenue stream: Differentiate marketing strategy according to customer segment. High budget clients might be willing to pay for a maintenance contract or independent advice. Low budget clients benefit from energy gains as additional income and are willing to pay for a good price/quality offer
6. Key resources: Mainly experienced project consultants
7. Key activities: Customized work
8. Key partnerships: Collaboration is needed with municipality (as a channel), an experienced (EPA) adviser, a knowledge institute, construction partners and suppliers/producers. These relationships are not fixed as the group offers independent consultancy.
9. Cost structure: Mainly wages of the actors. Also administrative grants are to be paid to offer financial unburdening. The maintenance contracts relate to costs for monitoring.

Discussion:

The groups sees various hindrances: communication, the offered solutions and policy. Next to that it might be difficult to reach the client.

A main strength of the developed model is the offer of client-based custom-made work, in combination with generating customer trust.

Flipchart Group 3 (red badge) (Moderator/reporter: Erwin Mlecnik)



Summary Business Model:

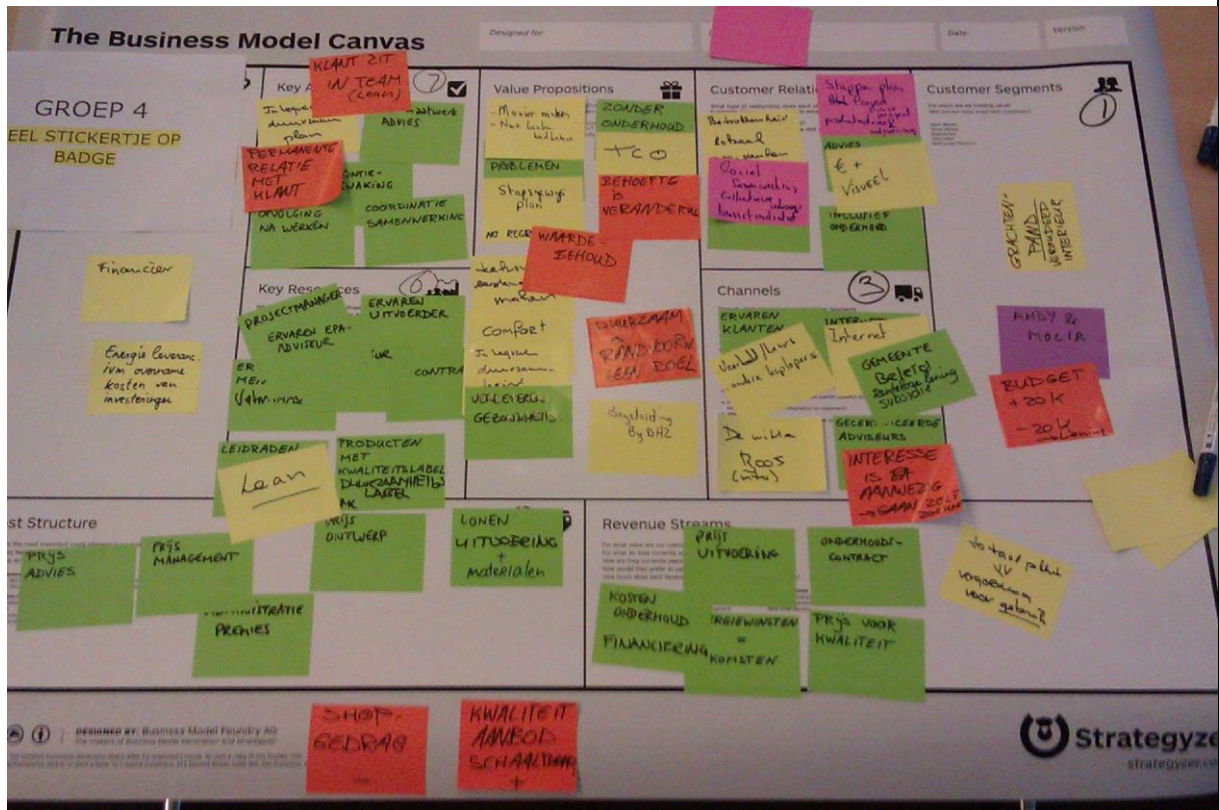
1. Customer segment: The client is well-read, interested in sustainability and lives in a house from the 30ies. The customer can make an own investment of 10.000 EUR.
2. Value propositions: The main proposition is joint buying. The client is offered certainty regarding timing and planning.
3. Channels: Local initiatives and reference projects, homeowner workshops and a walk-in consultancy hour.
4. Customer relationships: Good technical advice and insight in savings.
5. Revenue stream: The customers pay at entry level for a master plan or phased measures. Price for consultancy might be offered in return. Options for increased quality and maintenance contract.
6. Key resources: Renovation store, architect/engineer, process manager, scrum manager (guarding quality), EPA-adviser, installer, contractor
7. Key activities: Helping to choose products and solutions, customized EPA-advice, care after works
8. Key partnerships: Municipality, experienced reference homeowners
9. Cost structure: Mainly wages of the actors. An insurance might be needed for offering guarantees. Costs of maintenance.

Discussion:

The model is developed too much 'top-down'. The offer might be too complex for an individual person, leading to a high barrier. The total approach will have a high cost and needs a high mass of customers from the start. Innovating parties are missing.

A main strength is that customers are approached at a neighbourhood level. Offering certainty (time and planning guarantees) and quality are considered a very good approach to convince customers. All partners are also forced to work together to reach the same goal.

Flipchart Group 4 (yellow badge) (Moderator/reporter: Martin Roders)



Summary Business Model:

1. Customer segment: Young couple with double income, living in the city of Delft in a house with an outdated interior. The customer segment has savings up to € 20.000 or is willing to take a loan of € 20.000. The budget is relatively small.
2. Value propositions: There is a need to improve (change) the dwelling. Energy efficiency is not the main purpose, but a general condition, 'if you do it, you do it right'. The clients want to be in control and because of their small budget, a total solution is offered, but it is not necessarily carried out at once. A number of activities can be carried out by the clients themselves on a Do-It-Yourself (DIY) basis.
3. Channels: Local institutions like de 'Witte Roos', friends, internet. The clients are expected to actively look for solutions.
4. Customer relationships: Due to the scalability the consortium maintains contact and guides every step the clients are willing to take, if they have enough money for the next step. Collectivity, developing a project and working together with other neighbours is also a means to build a relationship. From the beginning a total plan including designs and visual images are offered as well as the price.
5. Revenue stream: Payment for the total offer, according to the steps that are completed. Optional are a financing plan (financiering) and a maintenance contract.
6. Key resources: All technical parties (main contractor, sub-contractors and advisors) have to be present in the consortium, they work according to a 'lean' planning. The client is also a member of the team.
7. Key activities: Provide quality assessment, follow-up after completion of a phase, providing an integral sustainable plan.
8. Key partnerships: Financier, Energy company to transfer the saved energy costs

9. Cost structure: The parties within the consortium are paid according to the costs they have made.

Discussion:

A weakness of the model is that because of the stepwise offer people can start 'shopping' for the cheapest offer for each step, not necessarily within the consortium.

A main strength is the flexibility of the offer, people can carry out one activity at a time, if they are ready for it. Each step is a relatively small investment.



The image shows a business model canvas for 'The Social Canvas' project, created using sticky notes on a large sheet of paper. The canvas is divided into nine main sections: Key Partners, Key Activities, Key Resources, Value Propositions, Channels, Customer Relationships, Customer Segments, Revenue Streams, and Cost Channels. The sticky notes contain various ideas and notes related to the project, such as 'gebruiks dorps gevoel', 'warmte voeten', 'hulpvrije muziek', 'levensloop', 'soziale lijn', 'buurt bank', 'prijs advies', 'energie advies', 'vertrouwen', and 'prijs uitwerp'. The canvas is surrounded by other papers, including a 'GROE' (Growth) section and a 'Geen stickertjes' (No stickers) note. The Strategyzer logo is visible in the bottom right corner.

Summary Business Model:

1. Customer segment: Elderly couple without children (or the children have left the house). They have a surplus value on the house. The house is terraced, or more probably semi-detached.
2. Value propositions: Comfort is important. Warm feet and a healthy indoor environment! The characteristic features of the 'beloved house' where the customers live for years will be handled with care. The course of life and getting old in the 'beloved house' could be addressed in a holistic offer. Also user-friendliness of the renovated dwelling is important. Already in the value proposition the local community feeling has to be addressed: an attractive, energy-efficient community (street, neighbourhood, village).
3. Channels: A 'social local community approach' should stand central. This could be done by neighbourhood activities like a barbecue, local associations and societies. The value propositions can be shown by a transportable market place. Of course also internet is an important channel.
4. Customer relationships: The model makes use of the collective power of the local community. The advice should be objective and independent. Local workshops are organised to inform and to arise awareness, to work together on solutions and also to offer collective discounts.
5. Revenue stream: First of all the price for the independent holistic advise¹.

¹ Discussion were held about revenue streams on a macro-economic level, based upon the costs for costs and life insurance. However, that is out of the scope of the developed business model for the process management office.

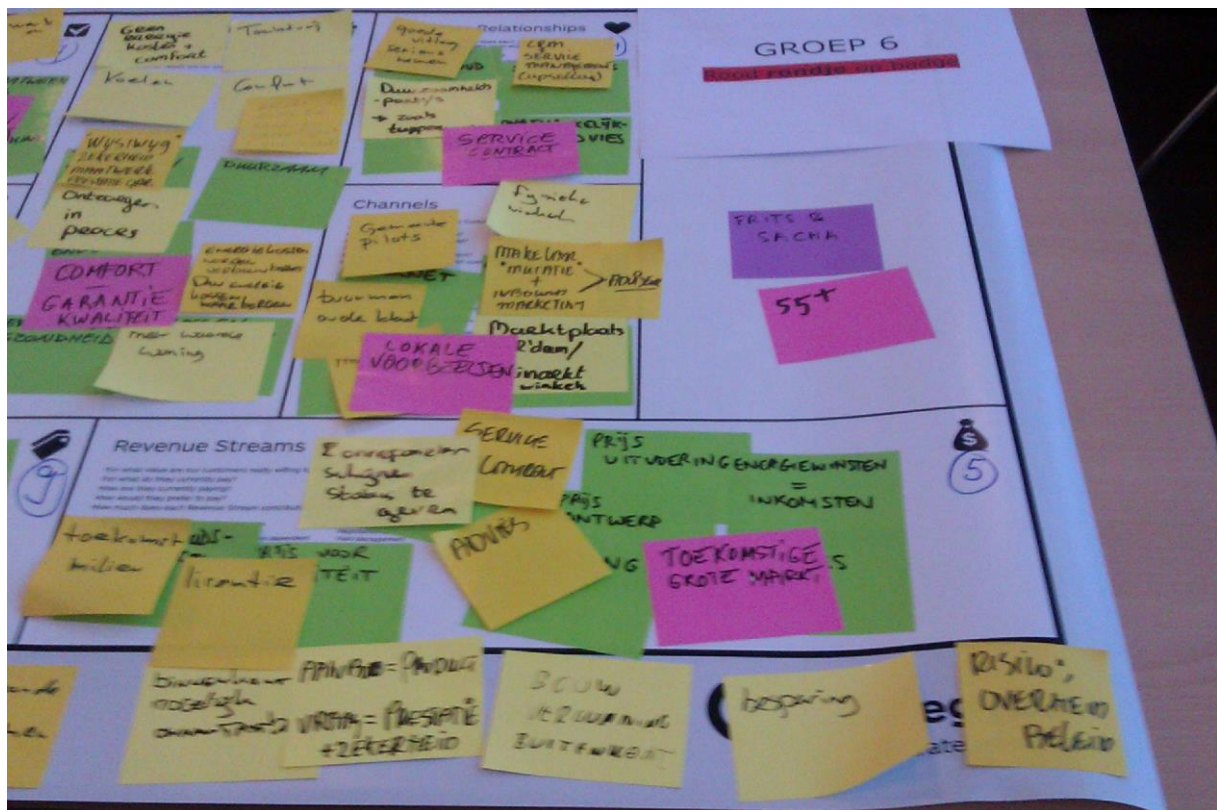
6. Key resources: Technical expertise, knowledge of customer behaviour, proven healthy products and materials.
7. Key activities: The creation and bundling of the local market demand is first appearing key activity. Related to this is independent advise, design, process management and supporting care of the customer. One should be 100% approachable.
8. Key partnerships: Key partner of the process management office is the architect with design and technical skills. All other partners can be engaged on a project basis. The municipality could be seen as a key partner because of the local community approach.
9. Cost structure: Predominantly the wages of the key partners.

Discussion:

A weakness of the model is that maybe the customers don't want to pay for independent advise, process management and supporting care.

A discovered strength is that for the customer segment a social local community approach and holistic offers are important.

Flipchart Group 6 (red dot badge) (Moderator/reporter: Henk Visscher)



Summary Business Model:

1. Customer segment: Middle-aged couple who has more opportunities to invest to renovate.
2. Value propositions: Mainly comfort and quality assurance.
3. Channels: Experiences of neighbours and acquaintances are important. A kind of Tupperware party might be an interesting channel.
4. Customer relationships: Trust has to be built.
5. Revenue stream: Various. Including patents.
6. Key resources: Mainly craftsmen. Construction teams have to include experts.
7. Key activities: Various actions. Steering by an information model?
8. Key partnerships: The normal contractor is regarded as an intermediate person.
9. Cost structure: Predominantly the wages of the key partners and the cost of materials. Development costs.

Discussion:

A detected weakness in this model is that the financing model has to be more future oriented. For the developed concept, the revenues might be too low.

In this group the notion of 'contractor' was questioned, as a contractor merely becomes a broker. The group thinks there is a substantial market and an opportunity for patenting. Patents might offer extra income in the future.