

# MY PLAN —

A planning tool for renovations and active governance in housing companies

## PROJECT REPORT BY

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# EXECUTIVE SUMMARY

The project described in the following report was commissioned by the Ministry of Environment and carried out in the course "Design for Government", Aalto University, spring 2016. The brief given was titled: "Energy and maintenance in Finnish housing companies".

Starting from the original brief, the first part of the report concentrates on research and synthesis of the material and data found.

Housing companies are an important factor of the total energy consumption in Finland as the built environment uses 30% of all energy produced. Renovations and especially energy efficient renovations are therefore a highly relevant step towards meeting the EU climate change mitigation targets.

Gaining an overview over this vast topic of Finnish housing companies and understand the needs of the various stakeholders required different channels of research which are described in the research part. This part includes interviews with experts in the field as well as field research and the review of desk material. It helps to create a general, empathic understanding of housing companies, the issues within housing companies and which problems could be possible and fruitful to tackle in the continuation of the project. The research aims to cover a variety of different approaches and channels to provide a broad, solid foundation for the later refining and focusing on the brief as the project group aims to proceed with it as well as the possible solution.

The second part of the report focuses on the pathway to the final proposal which will be delivered in the third part of the report. In this part the possible problems to tackle are channeled into the description of the urgency of the issue as the project group sees it. Furthermore this part describes the starting point of the ideation and solution finding process in stating and explaining the leverage point for the further development: the owner and what keeps owners from renovations.

In the end of this section of the report possible approaches to reach the set goal are discussed.

The following part is dedicated to the proposal. The concept "My Plan" is described in detail and the report also covers the question of beneficiaries of this solution and the ownership of it.

"My Plan" that is a website that provides the necessary information apartment owners to understand entire

renovation processes and issues related to it easily. It is a collection of existing information that can be found in the materials of different stakeholders identified in the research section. "My Plan" also provides a timeline of the house that suggests when certain maintenance or renovation issues are recommended to be taken care of. It helps owners to understand when and why to renovate.

The report will be concluded with a discussion about the process of the project. Past and next challenges will be addressed as well as needed competences of stakeholders and considerations about the (future) workflow.



“Create a strong case –  
a sense of urgency so that  
people start telling each  
other “Let’s go, we need to  
change things!”

– Birgit Mayer

# INTRODUCTION

“Let’s go, we need to change things!” – that is what we aim for. It describes our group’s aims on a personal level as well as the aim of the Design for Government studio course. We believe that this is the attitude we and other professionals need to have – to address, to deal with and to design solutions for the complex challenges in the public sector. The urgency of implementing design in the public and governmental sector exists in Albert Einstein words: “You can’t solve a problem with the same mind that created it.” The Design for Government course is based on this urgency. Design thinking can help challenge existing frames and is open to input from outside. It bridges contexts and helps moving between problem and solution. It emphasizes intuition and visual thinking. [1] Design solutions are, unlike science which is based on facts, closely connected to linking existing information, an empathic understanding of events and issues as well as own experience. Therefore, combining the governmental challenges with design helps to change the point of view and opens up new solutions and pathways to existing, urgent issues. It leads to creating a sense of future in the here and now which again can foster change in the future.

Projects which can be tackled with this mindset are formulated by some of the Finnish Ministries. The project with its particular brief discussed in the following pages was given by the Finnish Ministry of Environment. The first part of this report – research and synthesis – includes research, findings and problem descriptions of both groups dealing with the same brief: “Maintenance and energy in Finnish housing companies.”

The groups will further continue with their two projects in separate second parts of the report titled as following: “My plan – a planning tool for renovations and active governance in housing companies” by Andre Vicentini, Anssi Laurila and Simone Menge and “In good company – motivating strategic upkeep in housing companies” by Marija Erjavec, Veikko Isotalo, Jutta Menestrina and Ekaterina Perfilyeva. Both projects were embedded in the Design for Government course at Aalto University in 2016.

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[1] Nigel Cross, 2011. Design Thinking

# PROJECT BRIEF

Our project was based on the brief titled “Energy and maintenance in Finnish housing companies” given by the Ministry of the Environment. The brief tackled two big problems: first, the “renovation era” that is underway for the housing stock built in 60s, 70s and 80s and how to deal with this in a sustainable way, and second – the government being demanded to improve energy efficiency to meet the climate change mitigation targets. As 30% of carbon dioxide emissions are caused by the built environment, housing sector is an important source to look into. The following description is based on the original brief.

## Current situation

Reducing energy consumption of the existing housing stock is a major policy issue in Finland. Housing built in the post-war period (1960s-80s) consist mainly of housing companies (taloyhtiöt) and will enter the so-called “renovation era” within the next 20 years. This is a challenge and opportunity when it comes to climate policy as it would be essential to integrate energy improvements within forthcoming renovations.

Finnish housing companies play a strong and unique role in Finland, taking a significant share of the building stock. Their management is based on The Finnish Limited Liability Housing Companies Act [2] that entitles non-professional owners to decision-making often with the help of professional housing manager (isännöitsijä). Decisions related to renovations need to have an agreement on what, when and how to renovate, including the issues of cost, quality and sustainability. Decisions are valid through the majority or unanimous voting which makes it even harder for all stakeholders.

The state of maintenance in buildings can be quite low - there is lack of expertise, competing interests and difficulty in having a long-term view. Very few housing companies have a long term plan. There is a clear lack of strategic or systematic approach in housing companies. Improving long term systematic maintenance of buildings in housing companies already spurred some tools and projects, both mandatory and voluntary.

Another project related to the problem of energy efficiency was the implementation of Energy Experts by Tampere-based energy agency Ekokumppanit. Energy

Experts are residents trained in improving energy efficiency in their housing company. The project has been so far piloted in Tampere only; the use of tools and the range of the work of Energy Experts are however, not enough to achieve impact on larger scales required by energy efficiency targets in policies.

## Key questions from the Ministry of the Environment

Based on previously explained facts, there are two key questions:

***How to motivate housing companies for more systematic and foresightful maintenance and renovations planning (considering also energy efficiency and sustainability)?***

***How to develop the “energy expert” role in housing companies in order to better serve the needs of housing companies and sustainability?***

Besides governmental stakeholders as receivers of the project’s outcomes, the ministry also sees the boards of housing companies and housing managers as important stakeholders.

## Outlook for the future

Ideally, in the future all the stakeholders around housing companies would have a common understanding of their buildings’ condition and long term view on future renovations. This could possibly be ensured through a revision of various tools. Nevertheless, possible solutions and concepts should not only concentrate on housing companies but emphasize the bigger picture of their operations context.

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[2] <http://www.finlex.fi/fi/laki/ajantasa/2009/20091599>





# RESEARCH

*In order to understand the context of the problems we were tackling, we have done a lot of research using different methods of obtaining information. In our research process, we focused on understanding stakeholders, analyzing existing solutions and getting expert data on concrete matters. Our objectives for the research part of the project were to find out 1) what stakeholders are involved in this context; 2) how Finnish housing company system works and 3) how are the problems of achieving energy efficiency and managing renovations currently solved in that system. Thus, we have explored two main themes - stakeholders and housing companies as described in sub-chapters below. Based on the brief, we also looked at energy experts to widen our understanding of energy efficiency efforts in housing.*

# ENGAGING STAKEHOLDERS

## Atlas Workshop

To engage our key stakeholders in a dialogue, we have organised a workshop based on Atlas design game that facilitated an open discussion related to our brief. The objective of the workshop was to bring key stakeholders together, reveal more underlying meanings and motivations behind the commissioner's brief and touch base on what solutions have been out there, what worked and what did not.

The workshop was attended by the representatives of the Ministry of the Environment, Environment Centre of the City of Helsinki, Prime Minister's Office and Tampere-owned energy agency Ekokumppanit, who pioneered the energy expert project.

The objective of the workshop was to bring key stakeholders together, extend our understanding of the brief and research questions as well as identifying further stakeholders. The workshop was also an opportunity to find out about the most visible frustrations stakeholders see in their work that are related to energy efficiency problem in housing.

The Atlas game helped us kick off a long and fruitful discussion full of qualitative judgement about values related to housing and living and the work of multiple stakeholders on different levels. The main insights gained from the workshop were: 1) easy living and saving money often mean more to residents than any sustainability or energy efficiency values; 2) information flows and knowledge on managing buildings are key and must be facilitated; 3) there have been a lot of projects aimed at improving energy efficiency awareness and an array of various tools but they were rather scattered and not coherent enough to be used well together.

## Interviews with stakeholders

After we have established the common ground with our stakeholders at the Atlas workshop, we planned several interviews to dig deeper in certain themes. The interviews were mostly semi-structured where we prepared questions in advance but also engaged in an open discussion on spot. To present different angles to our problem, below is a digest of our key interviews and insights gained from the stakeholders on governmental level as well as two key unions related to housing and real estate.

## Interviews with the Ministry of the Environment

It was important for us to reach an in-depth discussion level with the commissioner of the project. During the three times that we met for an interview, we have discussed the Ministry's view on the energy efficiency targets and their opinion on how they should fit into the current Finnish "taloyhtiön maailma" ("world of housing companies"). The Ministry is greatly concerned with finding ways to positively motivate people to save energy rather than engage in creating new legal tools. Previously, they have run awareness campaigns aiming at changing the everyday habits of residents but they were aware of their limitations and inability to change the whole system.

Another issue that popped up often in the discussion with our key stakeholder was strategy. As a governmental body, the Ministry creates strategies to reach the climate change mitigation targets. They would also like to see a more strategic approach in the way housing companies are managed.

A lot of work has already been done to help manage housing companies and energy consumption. However, that work had resulted in a multitude of tools produced by different companies that are not user-friendly and created more burden and unnecessary routines. The Ministry would like to see a tool that fits well in the current system, is user-friendly and really understood by its users (whether residents, energy experts or housing company boards and managers).

One of our original questions was whether renovating the 1960s-1980s houses on a big scale makes sense at all as these houses will reach end of the lifespan in few

decades. The Ministry has assured us that renovating is indeed the only option rather than building new estate with a lot of embedded energy. Moreover, they see a great opportunity in promoting the improvement of energy efficiency before the next wave of renovations.

## Interview with the Finnish Real Estate Management Federation (Isännöintiliitto)

To begin our exploration of the taloyhtiön maailma, we turned to Isännöintiliitto, the umbrella organisation governing the majority of housing companies in Finland. This union is responsible for educating housing managers and facilitating the operations of housing companies and their insights were key for our research.

The most common frustration of the union is the fact that housing managers and board members are mostly not professionals and must be educated to perform a good job. Moreover, board members lack motivation as often they are chosen to sit on the board as someone has to be there. Amateurs in the management bring about frustration and prolonged routines rather than quality in operations.

One other big problem that the union referred to was miscommunication. Often, the board and the managers are left unaware of the residents' real needs which keeps them from making good strategies or policies. Valuable information is not collected or kept somewhere and the concepts of open data, digitalization or sharing economy with all the opportunities have not reached the market yet.

Apart from everlasting frustrations like non-professional management, Isännöintiliitto is currently making big plans for encouraging strategic management in housing companies. The new guidelines will focus on the quality of life of residents instead of maintaining the physical environment of buildings. The union admits that most of the decisions are strongly influenced by people's will to save money on everything yet they want to move away from this and concentrate on quality.

As regards energy, Isännöintiliitto promotes energy efficiency through its regular communication channels -

Kotitalo magazine, Pihaparlamentti online blog, bulletins for housing managers, brochures for board members and various web services. The union sees printed content and online surveys as really efficient means of communication between managers, boards and residents. It seems that there are not enough tools for ensuring a quality information flow or current tools do not provide for it.

## Interview with the Finnish Real Estate Federation (Kiinteistöliitto)

As we continued exploring the organisations that have a stake in housing company system in Finland, we became interested in exploring what challenges related to collecting, storing and using information there are. As Kiinteistöliitto told us, it is very common that many players within the housing company system hold back information and can even prevent the residents, for instance, from getting any extra knowledge as they are afraid of people getting too curious.

"The problem is that people making strategies are technically oriented. They make the documents 7-30 pages long. They miss the whole point. People don't care to read them. The strategy should be made by residents for residents."

Kiinteistöliitto

The situation is difficult and somewhat even mystical as during the renovations planning, many shareholders are kept away from setting agendas for the meetings where decision-making takes place. It is then reasonable why residents fight against renovations as they do not understand why those are done in the first place. Last year Kiinteistöliitto published a communications recommendations but they think the majority of documents are still too complicated and technical for an average resident to understand. Just like the Ministry and Isännöintiliitto, Kiinteistöliitto agrees that the idea behind strategy in housing companies is core and should be clarified.

The union also realises that the strategy must not be a document written and read once, rather an agenda that is never forgotten and included as a reminder on all meetings. Their last attempt to bring order to housing companies did not last - introducing taloyhtiön kuntoto-

## ENERGY EFFICIENCY AND EDUCATION

distus (housing company certificate) with star rating was in place in 2008-2015. It was too expensive and lowering the price inspired misconduct so many companies did not play along - the idea of a passport for housing companies did not really work out in the end.

### Interviews with Helsinki Region's Consumer Energy Advisory (HKY) and Helsinki Region Environmental Service Authority (HSY)

As part of their municipal services, for the past two years HKY provides energy education for housing companies in forms of clinics, trainings and the online tool Energiaportti.fi. HKY targets specifically the housing managers as links to housing companies who can presumably promote the training to board members and residents to plan renovations together. They do not expect residents to become directly and actively involved in such trainings. It is in their interest as well to be a rather private consultant, not trying to be known to everybody. One of the problems HKY expressed was the gap between professionals and lay level people when communicating about renovations or housing fixes that are traditionally described by "engineer talk".

In our conversation with HSY, we were especially interested to find out about their ongoing Ilmastokatu [3] (Climate Street) project where they renovate buildings in Helsinki for more energy efficiency. There are several housing companies participating in the project but for each the situation and the willingness to renovate was case-specific. Alike Isännöintiliitto, HSY are also frustrated with the absence of handy and open energy consumption data that could offer opportunities for energy providers, policy makers and housing companies.

As suggested by the initial brief, part of our research focused on energy efficiency and the current state of educating people to become more aware of why it is important and how it relates to climate change.

Current energy efficiency targets are part of climate change mitigation strategies imposed on supranational level by the EU. This creates a necessary burden to reduce energy consumption but does not provide solutions for changing everyday behaviour of residents.

Through interviews with Finnish Environment Institute (SYKE) and energy agencies - Helsinki-based Motiva and Tampere-based Ekokumppanit - it was clear that energy consumption is not a dire issue in Finland as the price of energy is too low for a commoner to really care about using more or less energy.

### Energy Experts

Energy Experts were introduced in Tampere as a pilot project to improve the energy awareness in housing. An energy expert, trained by Ekokumppanit, is a resident who knows most about the house's energy and suggest improvements as well as answer other resident's queries related to energy issues.

Often, these experts' role comes down to very practical things like installing LED lights in common areas. Energy Experts are also costly as somebody needs to invest in their education. It is also unclear what motivates residents to undergo such training. As shown by the latest questionnaire conducted by Motiva, there are a range of motivations that do not necessarily stem from sustainability values. Moreover, since the project has been so far tested in Tampere only and the energy expert role is voluntary, it is hard to judge if it would really make a difference on a country-wide scale. As commented by the Ministry, it would be worth expanding the effort of energy experts and integrating it into the housing company system. Perhaps, an energy expert could be a compulsory role on the board of housing company. The Ministry also questioned the need to have energy experts as particular individuals stating that the problem most likely lies in modifying current tools.

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[3] <http://ilmastokatu.fi/>

## Analysis of existing tools

As expressed by many stakeholders during interviews, there are various tools circulating in the taloyhtiön maailma without much coherence and user friendliness. Following is a digest of existing tools that already serve decision-making in housing companies.

## Mandatory tools

According to Kiinteistöliitto, the current tools that are available have very little significance in the actual upkeep of a housing company. The decisions are made on “feeling” basis without validating the actual need or asking the residents what they want.

### ***Kunnossapitotarveselvitys (Report on maintenance and renovation)***

Kunnossapitotarveselvitys is an informal document required by the Finnish legislation. The report requires the board of a housing company to present a written proposal of all of the maintenance measures that are planned to be taken in the next five years. The current problem with this is that the five year time-scale is far too short and the decisions to include something there can be more or less uninformed, and not necessarily followed through. Often the board does not know how these measures are been taken care of in other housing companies.

### ***Rakennuksen käyttö- ja huolto-ohje t. Huoltokirja (Maintenance manual)***

The Maintenance Manual is a building-specific manual that includes information about the needs, reasons and timing of the maintenance and renovations of newly built buildings. It is also advised that the maintenance manual is made for existing buildings to unify the maintenance culture of the buildings. The manual provides proper documentation of the maintenance and aids the upkeep of buildings; it gives a clear idea of the scope of renovations.

### ***Energy certificate***

A housing company is required to acquire an energy certificate when a part of the building is taken into use, sold or leased. The purpose of the energy certificate is to help the stakeholders evaluate the energy consumption of different buildings.

## Voluntary tools

### ***Kuntoarvio (Condition assessment)***

Condition assessment is a building-specific document made by professionals about the overall condition of the building when the need for renovation is coming up and a realistic estimation of the condition of the building is required.

### ***Kuntotutkimus (Condition survey)***

Condition survey can be made as to deepen the understanding of the condition of certain individual part of the building. Condition survey can be described as a medical examination of a building.

Following parts of the building can be taken under condition survey: piping, ventilation, indoor air quality, structural integrity, building automation. Like the condition assessment, the condition survey is building-specific.

### ***Kunnossapitosuunnitelma (Building management plan or long term plan)***

Kunnossapitosuunnitelma is meant to ensure that the maintenance of the building is well planned and that too many repairs will not occur at the same time making the cost of living unbearable. It is made for 3 to 5 years at the time and it includes financial planning. It then realistically provides an idea what needs to be done and what can be done, and when.

### ***Kiinteistöstrategia (Real estate of building strategy)***

The board of the housing company and the housing manager determine the real estate strategy. It is a plan for the building maintenance and ownership that includes the current state of the housing company, what is the desired state of the housing company in 5 or 10 years and defining the measures how to reach that goal.

# UNDERSTANDING FINNISH HOUSING COMPANIES

As part of our design research, we really challenged the fact that being familiar with the Finnish housing company system as Finnish residents is simply enough. We expanded our research to find ways to reach the housing companies from within and find angles not portrayed in public information available online or in printed sources. We aimed to become able to ask questions that would shed light on the situation from the residents' perspective and to find ways to observe housing companies in their operations.

An online survey sent to residents aimed to build a picture of the knowledge level of actual energy-related topics in housing companies. Interviews with several board members helped understand the similarities and differences in housing companies, which all take care on their own in their own manner and pace. As part of our design research, we drew inspiration from observing, asking questions and finding out more about our subject - housing companies - which we have found to be all case-specific. This is the system of the Finnish Limited Liability Housing Companies Act: to allow each separate entity to govern their own decision-making. To build a bigger picture, we combined pieces from different sources and built an extensive mental map of the stakeholders and topics in question.

## Resident walk "Lähiökierros"

Visiting housing areas built in 1960s-1970s and talking with residents in their neighbourhoods was a starting point in starting to grasp the situation and how the problems or opportunities discussed in the brief could be recognized. The three Helsinki neighbourhoods explored were Kontula, Mellunmäki and Pihlajisto.

The conversations with residents were helpful in hinting whether the "renovation era" is understood as a challenge or whether it is an unfamiliar concept on the level of the average residents. The first part of the exploration analysis was based on approaching people around their homes and interviewing them about their living environments and involvement in housing management issues. The second part consists of observations made in the three neighbourhoods. Some features were immediately noticeable and some ideas surfaced after longer periods spent in each area. Where the two parts came together was in observing how willing residents were to talk and discuss their housing companies.

## Kontula

***"We don't understand why the place has such bad reputation"***

– A retired man who owns an apartment in Kontula

We have talked to several residents who had lived in Kontula since the day it was built. After chatting with only a few, the importance of taking the demographics of the area into consideration became clear. A man living in a 9 storey building mentioned that it is difficult to get to know people in such a large house and that it is clear that the residents change quickly as apartments become vacant due to the gradual shift in demographics [4]. The longer term residents stated that before there was more of a community feeling but this has changed as little effort was put into getting to know all residents in the situation where residents had kept changing.

Common events such as talkoot (crowdsourcing events) have decreased in popularity or older residents are no longer able to take part. A specific trait that we noticed in Kontula was the appreciation of services being near. Some felt more passionate than others in knowing about their housing companies. Overall, the comments remained on the level of "trusting the board", considering that "everything has gone okay until now" and statements that "generally, we have a good [housing] company".

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[4] [http://www.hel.fi/hel2/tietokeskus/julkaisut/pdf/13\\_09\\_18\\_Tilastoja\\_29\\_Vuori.pdf](http://www.hel.fi/hel2/tietokeskus/julkaisut/pdf/13_09_18_Tilastoja_29_Vuori.pdf)





## Mellunmäki

***“As I do not live here with a large family, I do not use the common exterior areas, I only use them for walking through”***

– Resident in Mellunmäki

The area of Mellunmäki in the periphery of Helsinki is easiest reached by car. The buildings in the heart of it are built in a grid pattern and do not create an open community feeling. People walking by were harder to stop for a chat. Exterior renovations had already taken place but the residents we talked with were unaware of costs as the work had been done before they moved in. In a similar manner as Kontula, trusting surfaced as the main attitude towards housing company boards.

## Pihlajisto

The high rise buildings of the suburb of Pihlajisto [5] are closer to Helsinki from the eastern areas of Kontula and Mellunmäki. Expanding housing areas have reached its borders now connecting directly to the older area of densely built buildings from 1960s and 1970s. Residents were harder to stop for a chat as people seemed to be in a hurry or not willing to listen to why we wanted to talk. Few mentioned that as they were not owners, they do not care as much as they would had they been owners of shares in a housing company. Overall, the renters and owners in Pihlajisto have not had trouble with the board or did not know or care to know more. This shakes off the illusion of a good housing company. What seemed most important with the renters in Pihlajisto was the fact that they considered the area good and wished to be able to keep renting apartments there. The rising real estate prices seemed to be lurking around the corner as Helsinki keeps expanding [6].

## Insights from resident walk

Within conversations in residents in each area, no mention of costs of renovations or complaints of such was mentioned, neither considerations of energy efficiency in housing matters. The interviewees seemed at ease with their suburb (lähiö), not claiming problems with the area or their buildings. The residents were aware of piping surveys that had been done but the renovations were

still ten years ahead. No improvements or aspirations to create a better housing company were apparent. When touring the areas, we have also observed that notice boards in buildings seem to be the most popular communication channel and no efficient spreading of information was desired.

Comments about difficulties remained on the level of criticising unprofessional board members “stirring up stuff, saying things according to how they feel rather than based on facts”. The residents seemed to be not informed enough about their own housing. Information on past renovations remained on the most visible jobs such as changing windows. Here it looked like ticking boxes is the sufficient way of renovating older buildings rather than improving one’s house. Regarding the future renovations, residents had very vague ideas of something approaching in ten years rather than knowing the specifics, including less costly or more energy efficient choices potentially available for the housing built in 1960s-1970s. If the resident knowledge stays on this level, the question rises: how does one become interested in taking active part in renovations and what would be a good way to start learning?

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[5] <http://www.kotitalolehti.fi/2014/10/kurkistus-lahioon-lahio-tuli-muotiin/> [6] <http://www.hel.fi/hel2/tietokeskus/suunnat/ss203/Artikkeli.html>

## Resident survey

An important aspect in the research process was to define where the residents stand in regards to our research problem. In the effort to explore the possible solutions, was important to understand whether residents can make an impact in their housing company or whether they know enough about how they could engage in housing company management. The questions presented in the online survey led towards drawing this understanding, defining and channeling the background information that might reveal what motivates or demotivates residents. A further emphasis on energy consumption and energy efficiency in housing was included in the survey as it had not surfaced as an important topic during the resident walk conversations.

The aim of the survey was to find out about the following:

- ***whether residents know the state of the building they live in;***
- ***whether they know their building's future renovation plan;***
- ***what their role in the housing company is;***
- ***whether they are well informed about energy efficiency issues;***
- ***why they are or are not motivated to save energy.***

A total of 34 residents answered the survey, all having dealt with housing companies in past or present. We were able to collect key insights in the three themes - motivation, resident activity and energy as described below.

## Motivation

Half of the respondents plan to continue living in their buildings for another 2-5 years. In this regard, it is important to note that 48,5% lives in rented apartments which may also influence the engagement in housing company operations. Both short-term living and detachment of the renter from a housing company may demotivate people from being an active housing company member.

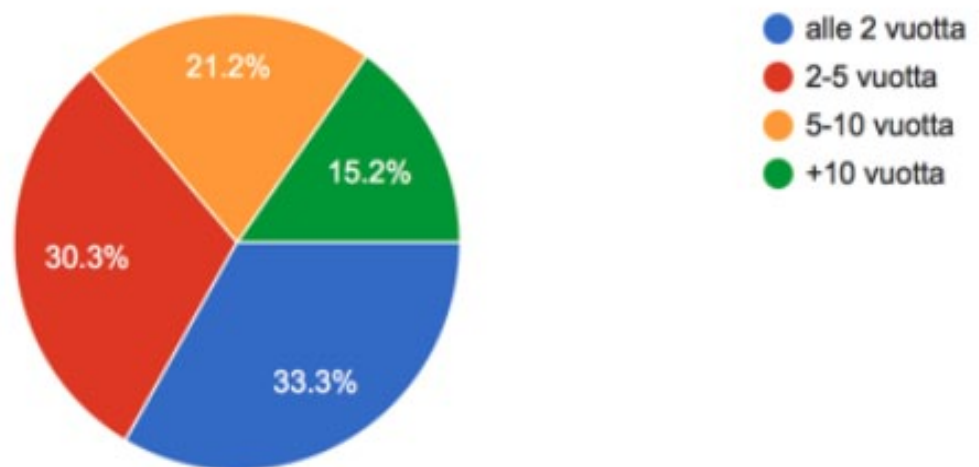
## Resident activity

The answers drew a mixed picture of activity and interest levels. Where the majority (30,3%) of respondents claimed to be very interested in their housing company, the majority was still not taking part in its annual meetings (45,5%). One fourth of respondents claimed to be active members able to active others as well. Slightly less than one third have at some point been on board of a housing company. These two numbers leave out the rest 70-75% whom either are not interested or feel like they do not know enough to take part in decision-making.

## Energy

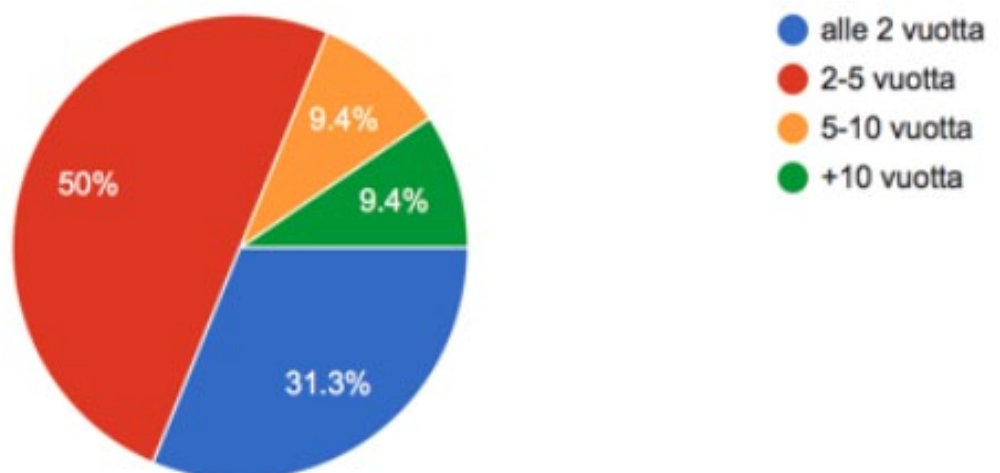
57.6% commented on energy efficiency being a very important factor. However, only 6,1% claimed to be knowledgeable in energy efficiency related topics. 45,5% of residents do not take part in planning renovations although a clear majority find sustainability an important criteria in planning renovations. The notorious attitude-behaviour gap was confirmed by the survey.

### Kuinka kauan olet asunut nykyisessä asunnossasi? (33 responses)

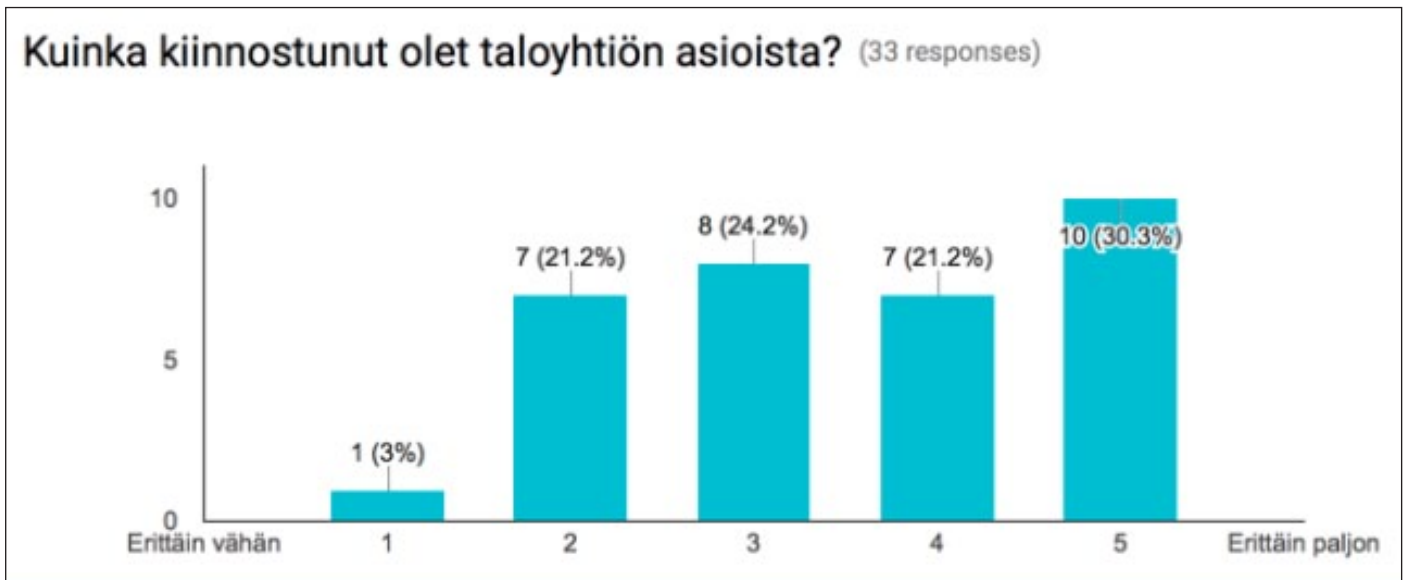


[Fig. 1]: How long have you lived in your current housing company?

### Kuinka kauan aiot asua nykyisessä asunnossa? (32 responses)



[Fig. 2]: How long are you planning to live in your current housing company?



[Fig. 3]: How interested are you in your housing company's issues?

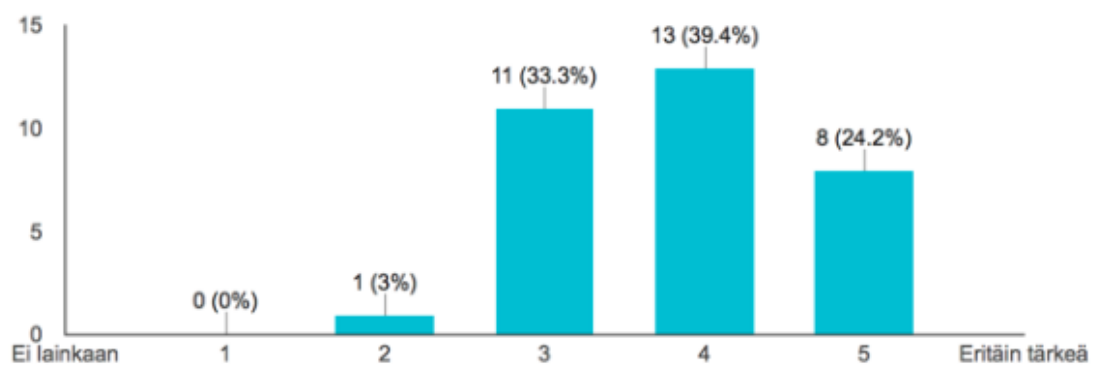


[Fig. 4]: Do you take part in annual meetings?

[Fig. 3] and [Fig. 4] taken from the project teams' resident survey

### Onko remontoinnin ekologinen kestävyys kuinka tärkeä kriteeri sinulle remonteja toteutettaessa?

(33 responses)



[Fig. 5]: Is sustainability an important criteria for you when planning renovations?

## Interviews with board members

Interviews with five different board members shed light on common issues and opportunities that being part of the board brings. In all cases, the board itself works well together and does their fair share of work for the common good. The communications between boards, housing managers and residents seemed different in each case. In two housing companies the manager had proactively suggested the housing company to take part in competitions leading to good results and stakeholders' pride. However, in one case the manager had taken very poor control of contracts for renovation work that brought financial trouble to the entire company. The board members in larger housing each shared a certain passion for the work as they had become more involved.

***"It [Being a board member] is a natural way to sustain your property and your own money - you can keep it safe"***

– Board member

Varied resident demographic in each housing companies influences its activity a lot. Older residents might not be able to take part in common activity days and might have different attitudes on spending money on more expensive renovations with a longer payback period that is of no relevance, benefit and value to them. Each housing company is different - it has different dynamics and attitudes towards one another. According to some, younger residents are impossible to activate whereas others claim that old residents are stuck in old habits.

***"Living in a block of flats blinds people from responsibilities which are not gone; you needs to take care of your house as if you would live in your own building"***

– Board member in Kontula

The board members recognized the profile of truster - the resident who trusts their housing company. Most of the residents wish to have "easy living" and they have found their channels to communicate either directly to the manager or the board if something is broken but they seldom proactively suggest ideas for improvement. One board member introduced a profile of distrusters, one or two being enough to affect the whole community in a negative way. Distruster are noticed for voicing their

complaints but not acting. The majority of trusters go unnoticed. Just trusting as a way of being within a housing company results in a narrow view towards upcoming challenges.

***"I joined the board because I knew that there will be renovations coming. I wanted no big surprises..."***

– Board member in Kulosaari

For each housing company notice board played a key part as the main information channel. Board members often communicate with each other by email; one housing company took pride over their channel on WhatsApp mobile messenger. In each area residents thrive to get to know all other residents yet without actual effort. Running into each other at hallways or yards seemed to remain the normal starting point.

## Observing a housing company's annual meeting

General annual meetings (yhtiökokous) are a common event for any resident to take part and an important one in taking part in the decision-making. Attending a meeting for the purpose of observing the decision-making process may feel as intruding to the residents of the house, however we thought it would be valuable to get a visual impression of how things are decided upon in housing companies. The meeting we attended was held in a housing company managing a housing complex of 50 apartments built in the 1960s.

The meeting followed the typical process of a yearly agenda along with some emotion stirring situations where disagreements were overruled by the majority vote. The meeting highlighted some possibly repeated challenges as well as naturally case specific situations which must not be generalized. As the defining event of the year, the meeting surfaced some interesting aspects that influenced our project in defining certain issues, limitations and restrictions related to what a housing company can achieve.

The housing company in question has an active image. They proudly display a plaque they won for "pipe renovation of the year" on the exterior wall of their building. Attendance level was slightly more than half of the share-

holders. In leading the meeting the manager referred to the tight schedule several times.

Two hours had been reserved for the meeting with an extensive agenda presenting two entries for action for the coming year. The manager and the chairman had to guide discussion back on the agenda not to derail to other topics as there was clearly a lot to discuss. Few attendees kept drifting to off-topic discussions that slowed down the decision-making process and stirred up more conversation.

The decisions made during the meeting were called by the chairman stating "This is agreed on" and in most cases the approval functioned smoothly. Two times decision had to be made by voting. Open voting by large majority resulted in the minority being dissatisfied and some individuals storming out of the meeting in disappointment. The comment by the chairman "Do you really want to call an extra meeting for this decision?" communicates how straining these meetings may be when decisions must be made but the residents might be pushed to their limits, wasting energy in unrelated conversations. At the end of the meeting the board member privately stated to us as observers "This is democracy in action". Universal agreements are difficult to reach but decisions must be made.

# INTERPRETATION AND SYNTHESIS

*In this part of the report we synthesize the qualitative data collected during the re-search process. We have dealt with the data in different ways by applying various design tools. The objective of synthesis was to move from data to knowledge and create a solid basis for our ideas. We took bits and pieces of data apart and looked at our problem and its contexts from different perspectives. Unlike in sciences, in this design project, it was very important for us to see and, where needed, establish the connections between information. The results are presented as insights from our affinity diagram, opportunity mapping and systems mapping described below.*

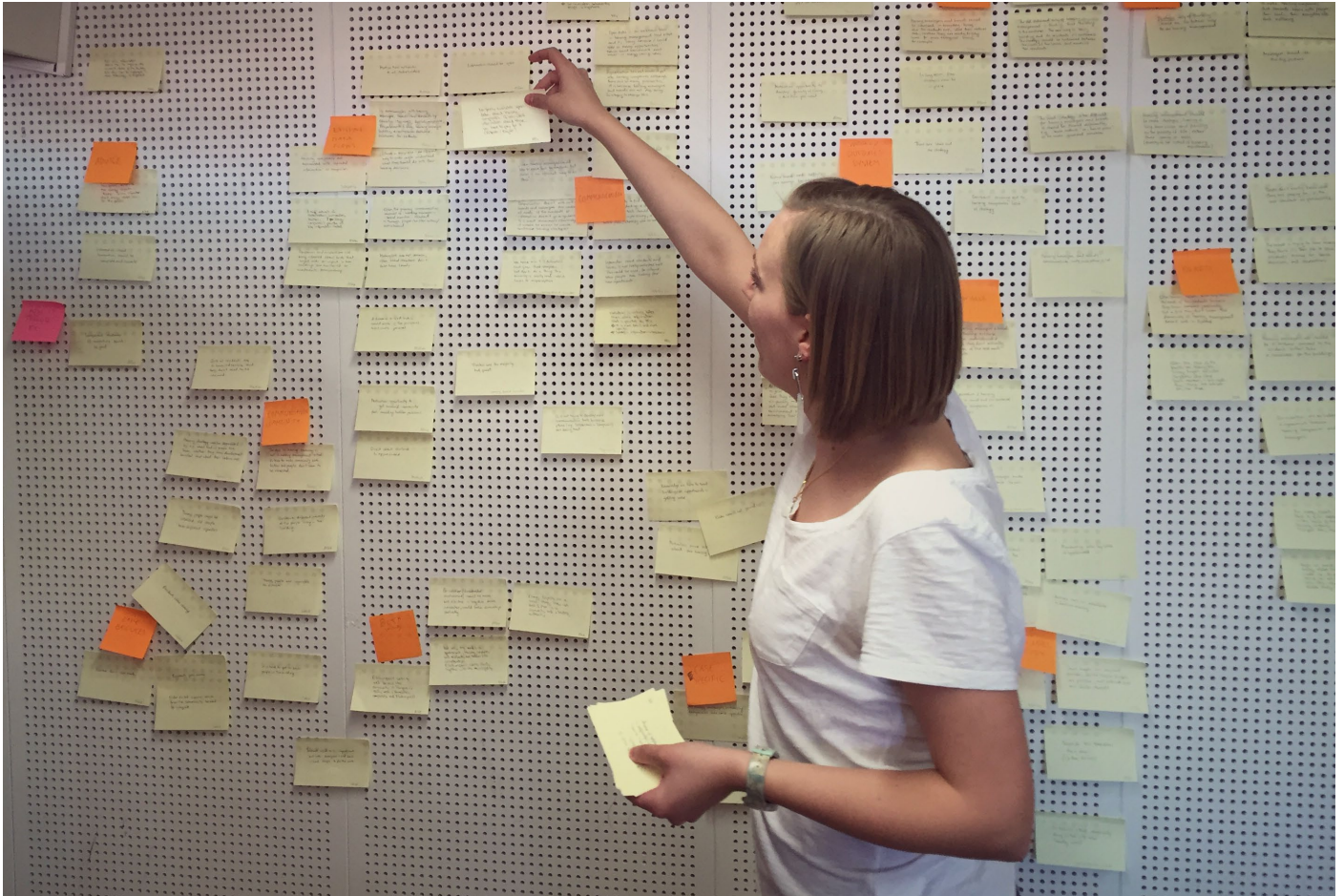


# AFFINITY DIAGRAM

Affinity diagram is a method used commonly to organise qualitative data. In total, we have done two rounds of affinity diagram - first with general statements from the collected data and second with more concrete judgemental statements from our interviewees. The outcome of the latter is presented below.



*Grouping ideas is not as straightforward as one may think as many ideas overlap.*



### **Outdated system**

- Housing companies are getting closer to an era of transition where technology will be fully employed.
- Housing company system has been increasing in complicatedness with more laws and tools introduced.
- Technology is seen as a possible answer to many challenges.
- Current information channels are not effective in reaching an adequate amount of residents so planning renovations together and in advance does not exist as a practice.
- The residents do not think of themselves as customers. The shift to customer-orientedness needs to happen in a structural way rather than from bottom-up.

### **Network**

- Best existing practices of improving energy efficiency and managing renovations are very loosely connected and not showcased enough.
- There should be networks to connect housing companies (including energy experts and boards).

### **The forced habit**

- Housing companies are prisoners of habits doing things “the old way”. Improvements are difficult to introduce as low dynamics of operations in housing companies do not allow for it.

**Energy expert role**

- Energy experts do not have a clearly defined role in communities
- There is no solid structure that supports energy experts in working closely with the residents.

**Easy excuses**

- The diversity among residents needs to be addressed through the buildings' communities.
- Mental models and stereotypes still create barriers within housing companies.

**Trapped stakeholders**

- The stakeholders seem to be trapped in a loop of similar actions - creating campaigns to push information - and not coming up with radical or innovative solutions.

**Rewards**

- Housing companies/managers/residents who have improved the value and energy efficiency of their building should be rewarded. Constant rewards could reinforce a positive feedback loop.

**Strategy**

- There is no platform to develop a long term view and strategy in housing companies.
- There are limits to how much action can be demanded from residents.
- A yearly general meeting can only discuss few topics, usually only urgent ones or related to small routines.

**Data flow**

- There are too many scattered data flows and too few communication channels for long-term planning leading to uninterested or trusting residents.

**Feelings**

- People are led by personal feelings and emotions concerning their property and wallets rather than factual information.
- Just a few not trusting residents can change the opinion of the whole community

**Manager**

- Board members are amateurs lacking education and motivation. They do not speak the same language with experts.

**Values**

- Ageing buildings as renovation areas may seem to have bad reputation but in fact carry a lot of value
- Residents care about their own property allotments but do not see the building as a whole.
- Money savings, comfort and health can be seen as main values whereas sustainability is often not on the radar.
- Healthier neighbourhoods may have more money to spend. This may mean more sustainable renovations.

**Vision**

- More tools are needed to be used on regular basis to raise energy and climate change awareness in everyday life.
- Ways to measure the wellbeing of residents and their needs could give more direction for finding appropriate solutions.

# OPPORTUNITY MAPPING

Based on the statements we collected through the affinity diagram, we started asking questions to build bridges between the situation as it is now and what it could be in the future. Asking opportunity question allows seeing what could realistically have been already done to solve the problem. We have mapped some questions that seemed like good opportunities to change the existing system.

## ***What if ...***

...there would be a system to store information about energy consumption and external factors so that data from different years could be compared?

...instead of energy experts there would be community managers engaging residents in quality decision-making?

...there would be an open database of renovations where the reports of all the renovations can be uploaded for comparison?

...what if residents could get billed more according to their consumption?

...what if saving energy was made to be fun?

...what if residents could see the consequences of their actions and decisions in visual and interactive way?

...what if all energy experts would work under one company and be employed by municipalities?

...what if all housing companies would have energy experts?

...what if we concentrate on existing knowledge rather than the lack of knowledge?

Mapping these opportunities was one step closer to starting formulating our solutions and justifying what way outs might be most feasible and realistic in the closest future. However, before jumping into brainstorming, we set out to have a solid look at the big picture and systems behind our stakeholders and the problem.

# SYSTEMS MAPPING

***“It has become less apparent where problem centers lie, and less apparent where and how we should intervene even if we do happen to know what aims we seek ... By now we are all beginning to realize that one of the most intractable problems is that of defining problems... and of locating problems.”***

– Rittel and Webber 1973

The system in question is the Finnish housing company affecting lives of majority of Finns as it provides them a share that is called home. Home is a simple and familiar concept as is taloyhtiö as an entity. Our research beyond the common conception of taloyhtiö required to cross the threshold of “common understandings” and question many of the generally agreed “facts” to draw a picture of the system. Housing company on a systemic level may be looked at from different perspectives, where consideration must be made in how many or how few aspects or stakeholders are taken into consideration. When considering where to draw a boundary, what must be decided on is how big or how small the appropriate boundary in each situation is. The process of mapping the systems took this into consideration as a starting point and instead of a large systems map we concentrated on drawing the models from different perspectives and focusing on a few more detailed boundary maps and some bigger “richer picture mappings”.

The benefit of investing time and effort into these separate mapping lies in the opportunity to clarify the content. In the process part of a project these extensive mappings draw a conclusive background in developing solutions that may make an impact on a systemic level. When clarified content [7] is mapped considering consequences, designed system interventions are possible. In the case of housing company as a highly complex system with a rich social layer, the level of understanding possible consequences is key. To develop a proposal to change a system requires a heuristic understanding of the context and the beneficiaries.

In the process part of the project, the systems thinking exercises helped define the problems that can be identified. Often these problems have deeper roots and causes as may seem at first. Here is where design thinking meets systems theory.

***“Systems theory and design thinking both share a common orientation to the desired outcomes of complex problems: to effect highly-leveraged, well-reasoned, and preferred changes in situations of concern.”***

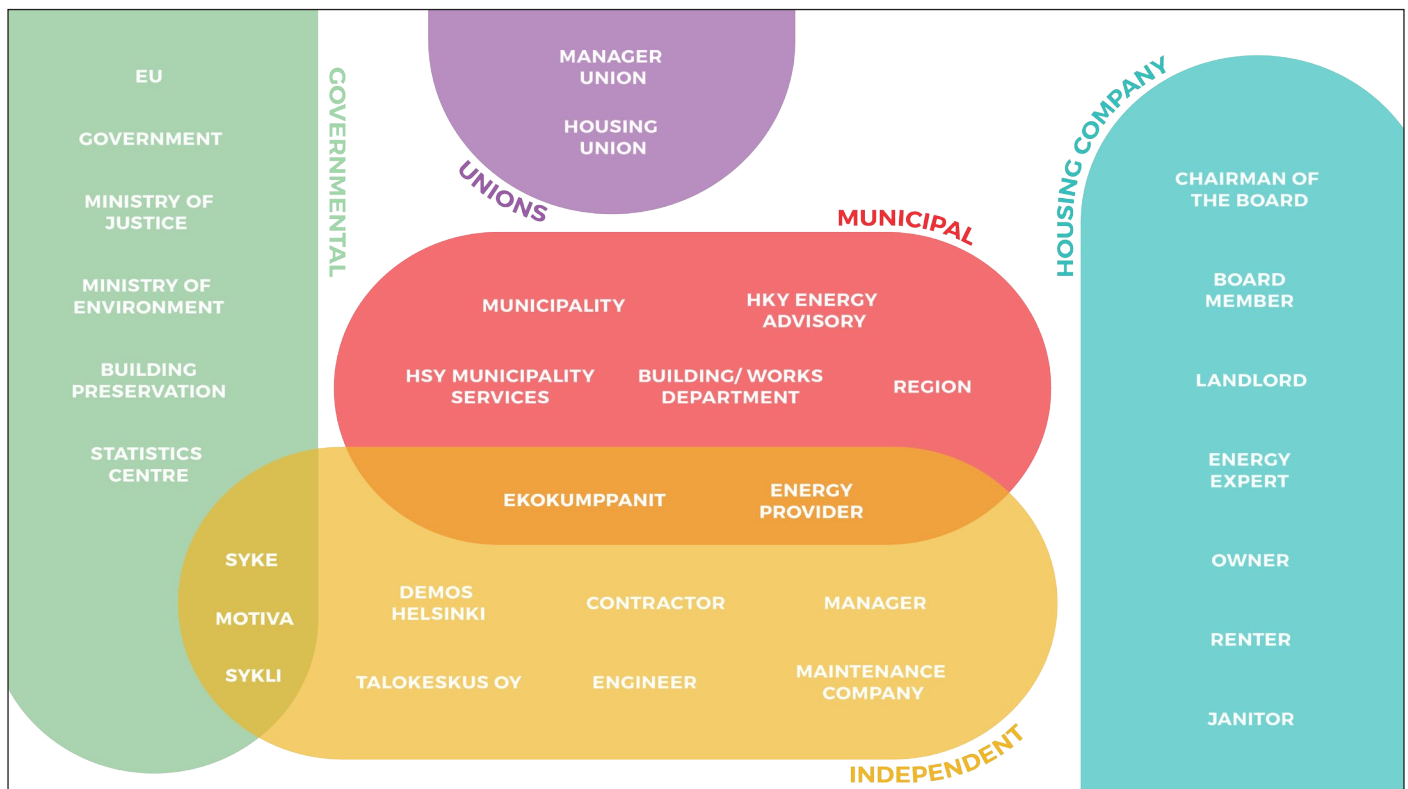
– Jones, 2014

Systems thinking as an analysis of the situation functions as a platform for creative solutions based on action in the disciplines of design [8]. Both fields aim for preferred situation, solving problems or creating desired outcomes. Design as a discipline may use the traditional methodologies and tools to impact and work towards the systematic changes. Another key exercise is to identify points in a system with high possibilities to make an impact or points with potential to change [9]. These points may be identified in the different mappings. The evaluation whether these points are easy or possible to change follows as an exercise to identify the most fruitful entry points to the system.

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[7] “Investment into clarifying intent” Bryan Boyer, Justin W. Cook & Marco Steinberg. In Studio: Recipes for Systemic Change [8] Jones, 2014 [9] Hella Hernberg, 2016. Design for Government course

# STAKEHOLDER MAP



Stakeholder map

Our systems mapping begins with acknowledging the pool of stakeholders directly or indirectly related to our problem. Based on our research and interviews, we have mapped the stakeholders relevant for the context of our problem.

On this map we have grouped the relevant stakeholders into five categories: Stakeholders on the governmental level such as the EU, Finnish government, ministries and other public sector bodies;

- **Municipal and regional services (Helsinki taken as example), including the Helsinki Region Environmental Services Authority (HSY) and the Environment Centre for the City of Helsinki;**
- **Unions - The Finnish Real Estate Federation (Kiinteistöliitto) and The Finnish Real Estate Management Federation (Isännöintiliitto);**

- **Housing companies - including boards, residents, housing managers;**
- **And independent organisations, such as energy agencies and providers.**
- **The stakeholder map helped us understand what people and on what levels are involved in energy efficiency in housing and can influence the decision-making process.**

## Information flows

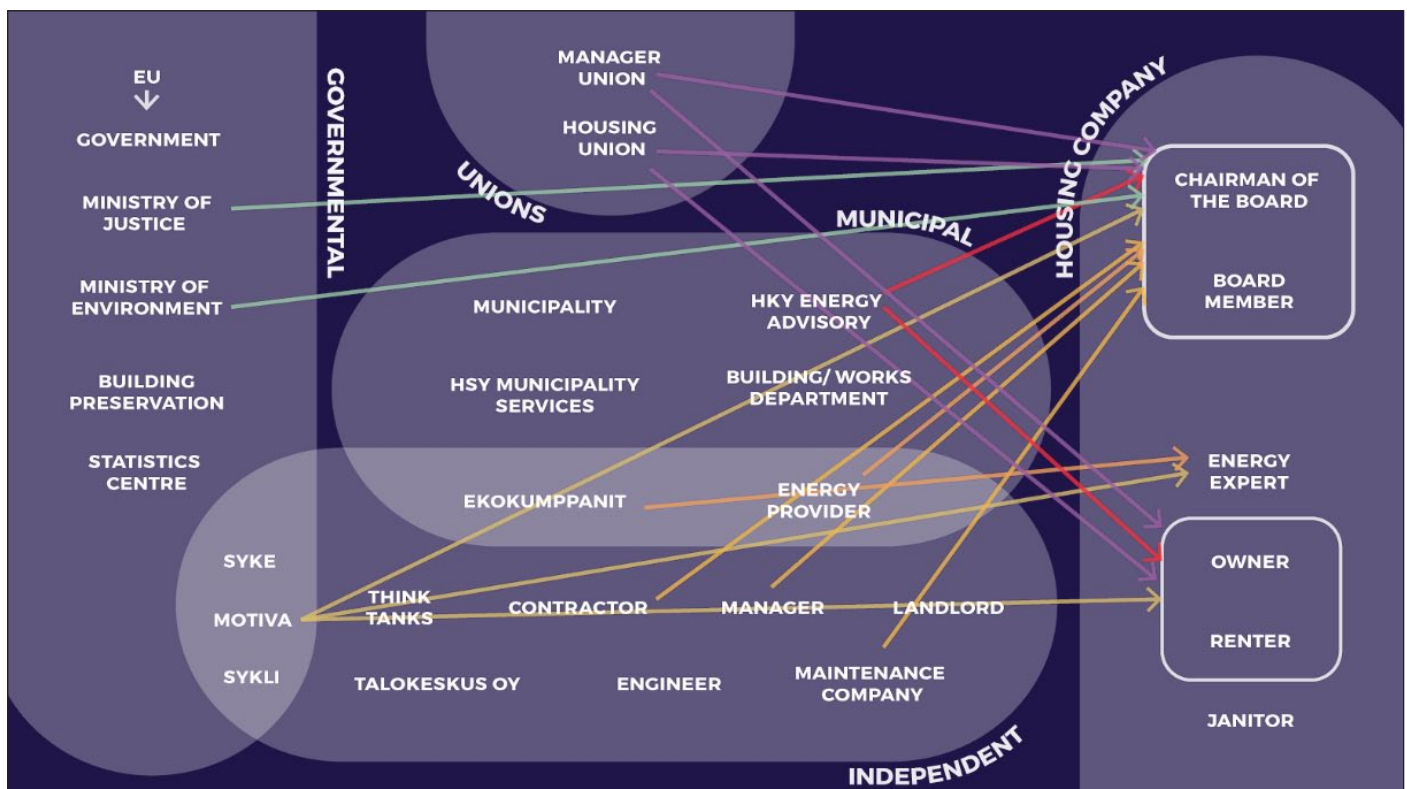
As found during research, information is key in having a well-supported functioning system but often information flows do not function properly. Having looked at our stakeholder map, we mapped the ways information flows into housing companies (including boards, housing managers and residents) to better understand where there are too many channels and where the information does not flow or the channels are missing.

Housing company boards are attacked by all sorts of information from the governing unions, experts and service providers. The information is transferred in form of trainings or printed content (provided by organisations such as Motiva, Kiinteistöliitto, Isännöintiliitto, HKY). "Personal" knowledge about the building is provided by the housing manager, energy providers, contractors and includes information on costs, upcoming and possible renovations, state of the building.

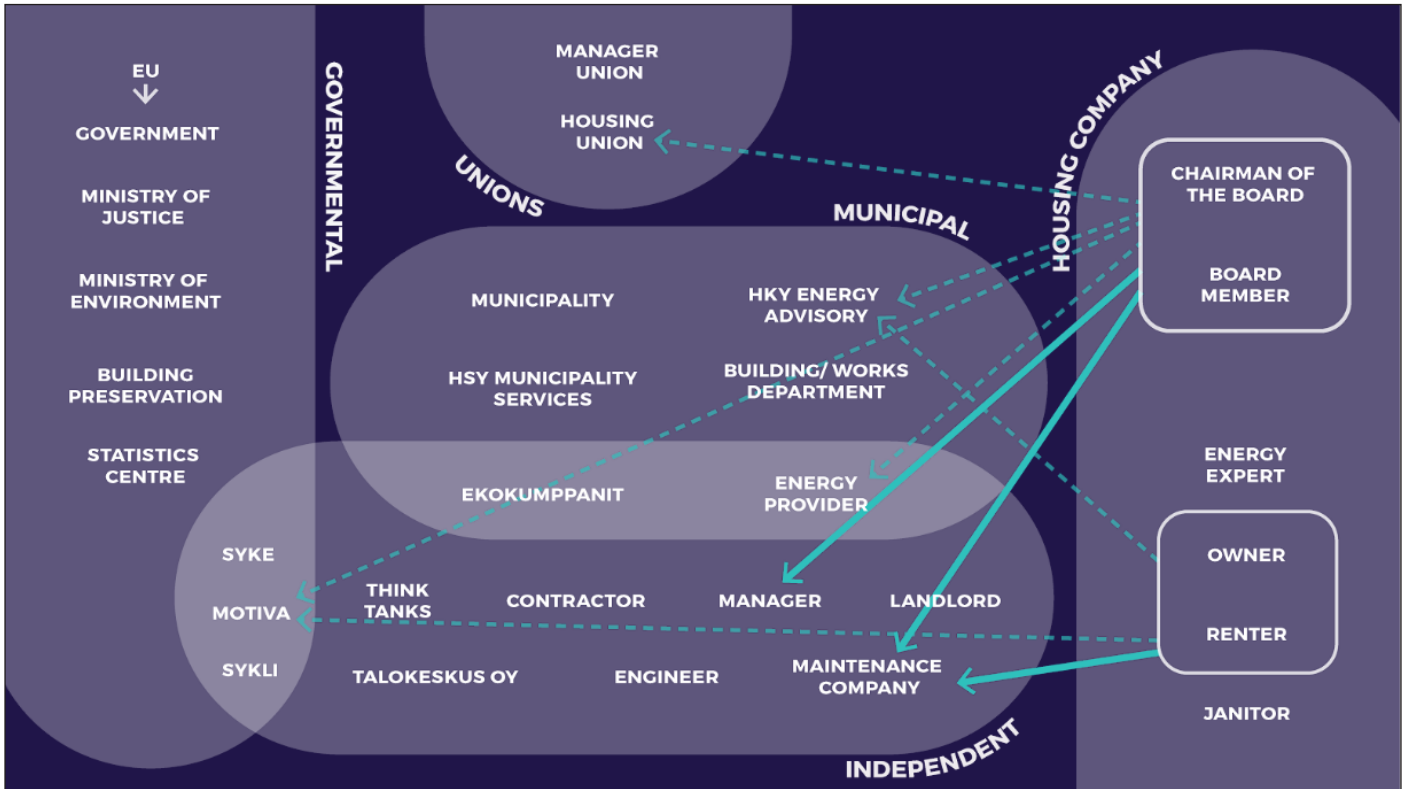
It takes a lot of effort for the board to digest the infor-

mation and communicate it further to the residents. However, boards and housing managers often keep the information from residents or do not use effective communication tools. Leaving messages on a notice board remains the most common way of communication. Besides information about current affairs, there is knowledge that must be sustained in order to upkeep housing companies. Here the situation is more difficult as time and change in boards causes loss of knowledge about buildings and renovations done in the past.

We also had a closer look on the possible external communication from the residents and the housing companies - to whom they could talk and to whom they actually talk. Ideally, there could be many possible information-based connections on such a map but as our research has shown, the board might only communicate with the maintenance company and the housing manager not exploring other opportunities to find new knowledge by contacting other stakeholders. To conclude, functioning information flows in this system depend heavily on the work of housing company boards.



Information flows to housing companies



Information flows from housing companies



## Social analysis

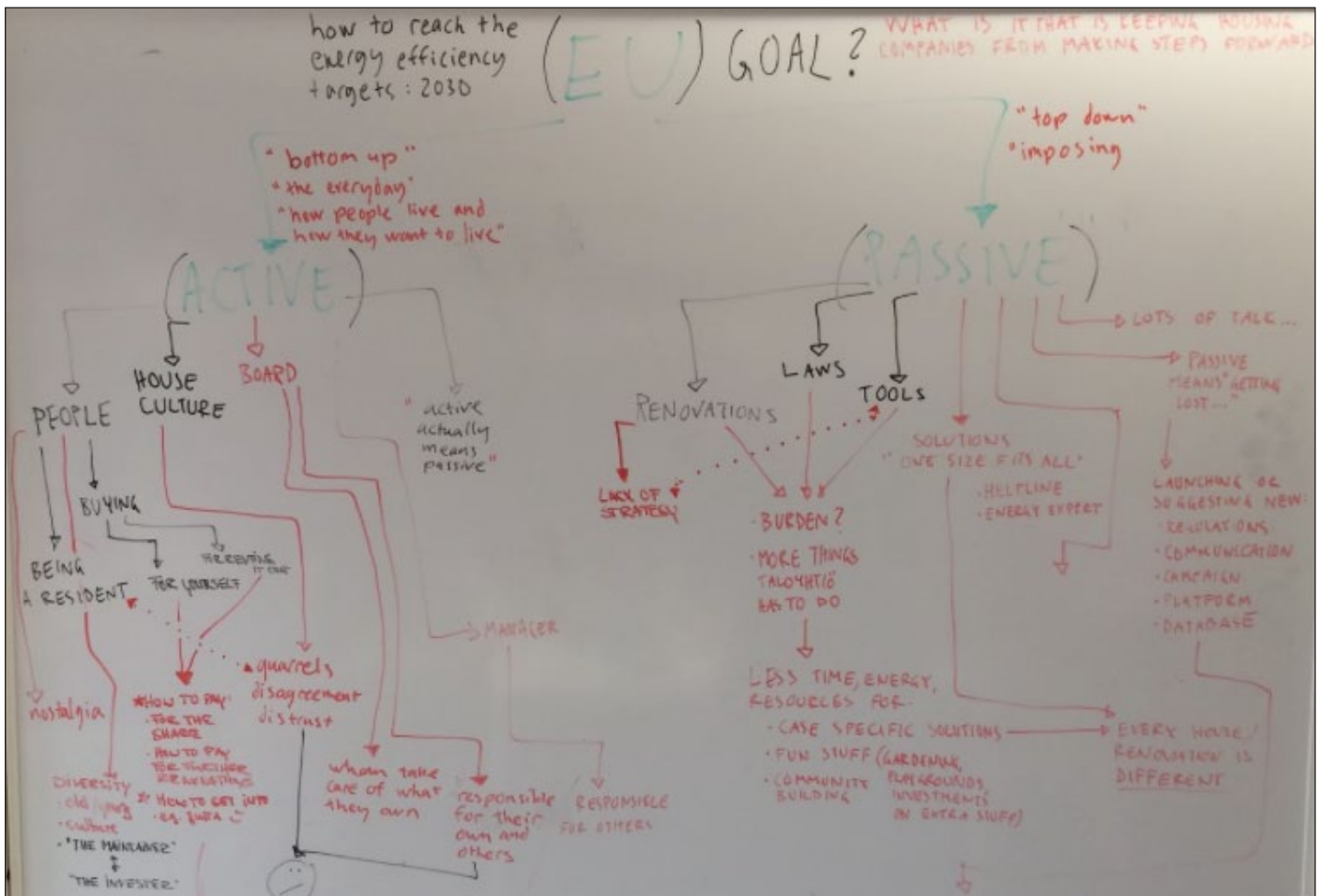
Our brief outlined the will of the Ministry to focus on people's everyday. Where there is place for everyday routines, it is important to find and connect social aspects of living - roles, norms and values - that inevitably influence our thinking as emotional, not just rational individuals.

One of our hypotheses in this project was that low engagement in energy efficiency (or, on the whole, sustainability) is because being sustainable or eco-friendly is not an important value. Factors like low prices for energy in Finland also influence these values. For the residents, we have found that such values as money (or being able to economize), convenience ("easy living") and trust (along with externalising responsibility to housing companies) are more important than sustainability.

***"Residents' values need to be the basis of strategic decisions in housing companies."***

– Isännöintiliitto

Naturally, it is not surprising energy efficiency is not on everybody's agenda no matter strong directives from the EU and national governments. What is important here is that values need to be recognized in decision-making of housing companies to ensure successful strategies. In fact, Isännöintiliitto is pushing the agenda of incorporating residents' values and demographics into strategic plans. Moreover, stakeholders need to identify different parties' values and find common ground. If sustainability does not become a value by its own, there is always an opportunity for the government to wisely nudge people to become more aware and knowledgeable in energy efficiency matters, for instance, by linking it to other values like health or community feeling.



Creating tree diagrams.

## Defining problems

Our extensive research has revealed a multitude of problems existing around housing, renovations and energy efficiency. In this chapter we try to break the bigger problems down to more concrete ones.

To bring all our thoughts about possible problems and issues together we started mapping them out in tree structures. Our goal was to find the starting problem that frames a bigger picture of all possible pathways and that would help us concentrate on one or two possible tracks for starting the ideation process.

In creating the tree diagrams we discussed two main problems:

### Problem 1:

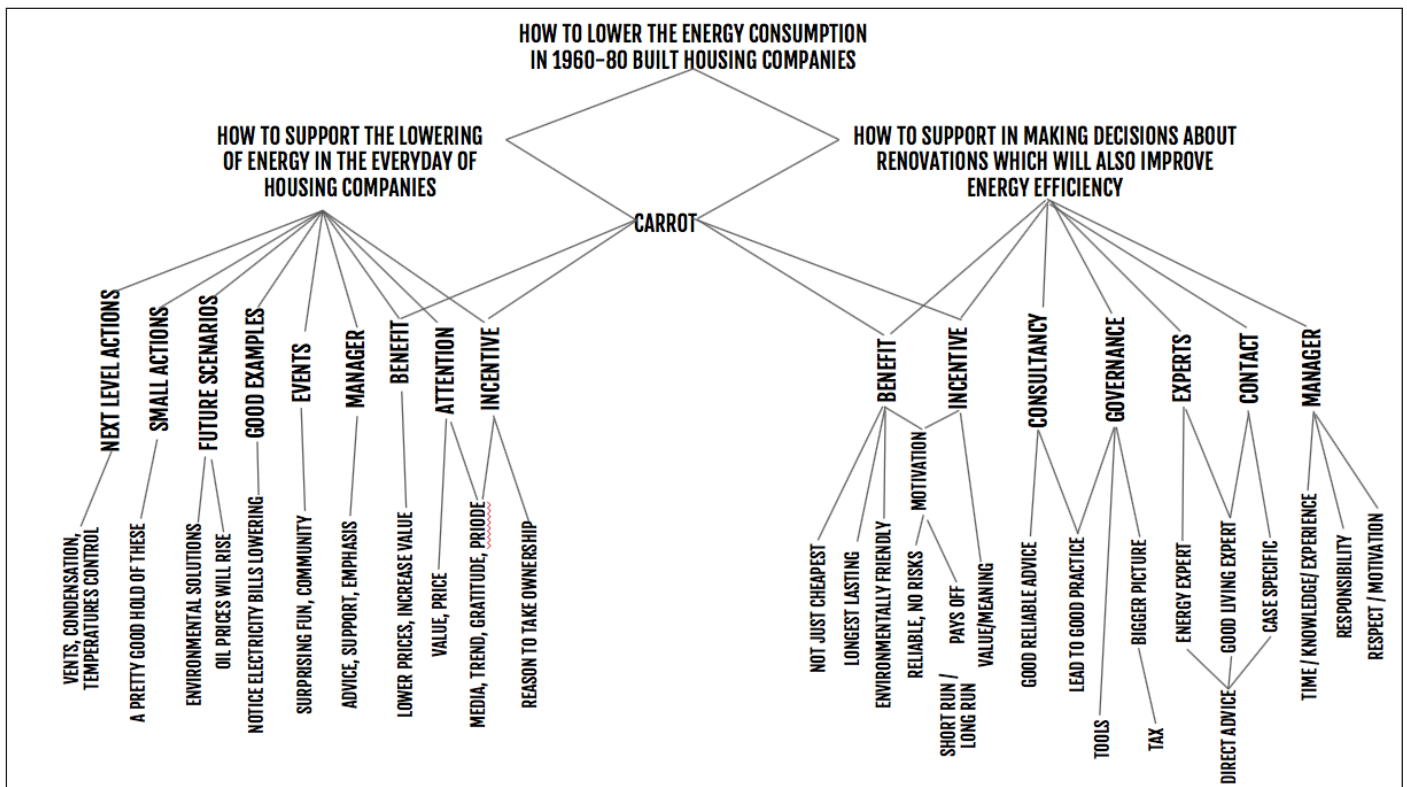
**How to reach the energy efficiency (climate change mitigation) targets of 2030 and 2050?**

With this question as a starting point, we found two pathways that led on from this. One would be to concentrate on the bottom-up, the everyday of people and housing companies and the other possibility would be to impose a solution from top-down. The first track rose problems that are mainly concentrated around people’s behaviour, owners and residents. The second track was rather focused on laws and tools and the fact that one solution might not fit every housing company. In the end, both pathways track down issues of existing but scattered information and communications channels not working as they are supposed to. The either “active” but more common “passive” attitude of owners and dwellers emerged here as well.

### Problem 2:

**How to lower the energy consumption in housing companies in buildings built it 1960s-1980s?**

This starting question led to two different problem tracks - on the one hand the issue of supporting the lowering of energy in the everyday of housing companies and on the other hand, the problem of supporting decision making about renovations which also leads to improving the energy efficiency. With these two pathways we started a discussion about future problems as well as incentives, consultancy and what causes frustration with these matters.



Mapping problems in tree structures helps understand big picture challenges and concrete troubles.

## Most fruitful problems

Housing company as a system unfolds a vast amount of problems on a wider level. After mapping out the problems, we aimed for a more personal approach of finding the most fruitful problems for ourselves as project makers. Stating these fruitful problems helped move the discussion from the level of wider problems towards ideating solutions on a manageable scale.

To set the tone for ideating, each member of the team as designer has stated their view:

***"We can't trust the bottom-up approaches only. There has to be something that is imposed top-down."***

***"What is the long term value of the building? Can we influence the market through raising awareness for the nostalgia of buildings constructed between 1960 and 1980?"***

***"Can we find an approach which rewards residents who are already doing good in energy efficiency and renovations? It could help showcasing best practices and could have a spillover effect. Nevertheless, there needs to be an investment to do so."***

***"It's all about community. There should be an intention that can be tackled through community decisions. These decisions should be made more transparently."***

***"The resident should be a client as well as the physical building. Can we create a passport for buildings? Could it be a yearly, visualized calendar? We should aim for people doing the things they see other people are doing."***

***"Engage young people in better communities! Nowadays the decision makers in the board as well as the managers are quite old. We should bring more young people to those decision-making processes."***

***"Savings and metrics should be personalized for buildings. In doing so, could we merge influencing the market with nostalgia feelings and a more visual approach of showing important events of the building?"***

Our personal aspirations and beliefs have set the tone for the ideation process described in the next part of the report.



# PATHWAY TO THE PROPOSAL

## THE BRIEF AS THE GROUP SEES IT

### Why are renovations so urgent?

Why are renovations a big problem? During the 1960s-1980s almost a million apartments were built in Finland. The big renovation boom has already begun and now it is just about to accelerate as more and more of those apartments and buildings are approaching the renovation stage. In the next four years alone, 66 000 apartments will be in need of renovation adding up to 3 bn € cost. In the next decade, the costs of renovations will only be rising.

On top of that, the built environment consumes about 30% of the national energy [10]. Renovating in time and properly is thus really important if energy efficiency is to

be achieved. If renovations are done too late, the expenses will increase. In some cases renovations are too expensive for banks to finance. A piping renovation, for example, can cost from 2200 € to 4500 € per resident. Not doing piping renovation will cost almost the same - between 1500 € and 3000 € [11].



Sale price per square metre in apartment blocks [12].

[10] Original brief of the Ministry of Environment

[11] [http://yle.fi/uutiset/added\\_value\\_flows\\_from\\_plumbing\\_renovations/6893702](http://yle.fi/uutiset/added_value_flows_from_plumbing_renovations/6893702)

[12] [http://yle.fi/uutiset/added\\_value\\_flows\\_from\\_plumbing\\_renovations/6893702](http://yle.fi/uutiset/added_value_flows_from_plumbing_renovations/6893702)

Overall, there is no chance to meet the climate change mitigation targets by avoiding renovations and demolishing the buildings. Not renovating in time has a huge economical, environmental and social impact. At one point, it will be not worth renovating anymore and the price of such inactivity will be the demolition of a lot of buildings, therefore a big loss of real estate.

70% of Finns who own a dwelling are responsible for renovations in time. Real estate owners are the ones who have to agree on renovations and invest their money and time in it. For housing companies this often means not only a large financial, but also a planning and decision making burden.

Our research, interviews and synthesis showed: Owners of shares in housing companies are not as involved as they should and could be. We heard different voices about owning and participating in events and meetings of housing companies. Overall the research stated: The behavior of owners towards processes in their housing company and especially towards renovation can be seen as rather passive.

Based on this insight one of the possible pathways to concentrate on emerged. Addressing the owners of shares and influencing the whole system of housing companies and related stakeholders will be a valid opportunity to start tackling the problems found in doing research and already stated in the brief given by the Ministry of Environment.

## Passive owners

Starting point for this approach was to identify why the owners have a passive attitude about their housing companies and necessary renovations. The next step was to figure out what effect this behaviour has on housing companies. We synthesized four fields that keep owners from renovating.

**1. Finding the right information on the right time can be difficult. Important information is spread across different websites, booklets, magazines and is owned by different stakeholders like the managers / boards or organizations. Most of the information is not presented in a digestible way – for example only in plain text – or hard to interpret for the non-professional.**

**2. The renovation process itself is hard to anticipate and to understand if not gone through already. This can cause discomfort for the person affected.**

**3. It is difficult to communicate the need to renovate and the renovation process itself. Those in charge – the board, manager – will be the ones judged by the success or failure of the renovation.**

**4. Renovations are a huge investment. They will cost money. If renovations are not estimated well enough, owners will face unexpected expenses all of a sudden.**

The four fields identified cause an mostly overwhelming feeling for owners. There are many details which are necessary to deal with when it comes to renovations – a lot of specific knowledge is usually required. It is overwhelming. Board members and residents we interviewed during our research founded our assumption: Overwhelmed feelings can lead to a trusting, passive attitude. Shareholders in housing companies will trust those, who they think have more insight in renovation processes – usually the board and the housing manager.

## The truster

Based on the research, we identified an owner profile – the truster. In general “trust” has a positive connotation but in this specific case we see the “truster” as a passive person. This passive attitude has a negative effect on the housing company, the annual meetings, the participation of shareholders in those meetings and therefore it will have a negative effect on renovation processes in housing companies. Planning renovations and perform them requires active and informed agreement and decisions of the owners. We want the owners going from being overwhelmed, passive and trusting to be more active in finding relief in the four fields we identified.



# OUR GOAL

We want to transform apartment owners from trusters into active shareholders with informed opinions and decisions.

# THE DIFFERENT IDEAS THAT EMERGED

## The direction to go

We want to communicate the benefits of renovations to the residents, especially the benefits of sustainable renovations. But how to motivate the residents to do it and to do it sustainable / efficient? The lack of motivation can be caused by several things but the overwhelming feeling addresses already previously (caused by monetary issues, renovation process as such, numbers, documents) is one.

Our solution should motivate for renovation and communicate the benefits and convenience of renovations. The focus should not be on energy efficiency or sustainability – those topics will be included in any case.

## Monetary issues

Monetary issues are a good starting point because of the really different perception of people's own money and the money they would have in a common wallet. As well money in the sense of investment was one point identified that cause an overwhelming feeling.

An opportunity to take overwhelmed feelings for the owners is therefore the starting point of money and investment. Could there be a strategic saving scheme, that can be communicated easily to the owners and will help the board and manager planning? Is there the possibility to tweak existing solutions like "tax reliefs for household investment"? Could a rewarding system be created, that fosters a "positive peer pressure"?

Any kind of saving money before renovations are recommended for housing companies – but those solutions are not compulsory at the moment. Saving enough money for renovations beforehand would help housing companies to plan carefully and decide for the best, not only for the cheapest option. This could increase the amount of renovations in time and it would increase decisions for energy efficient solutions.

Making a kind of funding system compulsory and therefore suggesting a change in law would be one pathway to go. Making the different options for saving money and investing money in housing companies more visible can be another option. The difficulty with this two tracks is, that it is hard to break down every option in an under-

standable way. There are many options and most of them are tailored for a certain customer. On the other hand, the changes in law would be rather big. At the moment housing companies are not allowed to take any risk in investing money. The only possible opportunity for housing companies in saving money beforehand would be to put it into an account. Over a longer period of time, without investing, their savings would decrease because of inflation [13].

A third pathway to go in the field of monetary issues would be tweaking existing solutions, such as the "tax relief for household investment". There is an existing, yearly tax relief for labor done to improve your property – which in this case means your building. It is a tax benefit of up to 2400 € per year and person with which a property owner could cover 45% of the labor price [14]. These sums are in general for individual households and do not work the same way for housing companies. Having an impact on this pathway would also mean to influence existing laws and taxation schemes.

After discussing and researching a little further, it appeared, that this track will be possibly very complicated and not necessarily the most helpful solution. There are too many different possibilities to cover and there is no single right or wrong – it depends on many details which will be the best solution for a single owner.

## Database with changing tracks

Another approach considered worth taking was the creation of flexible, adaptive, visual timeline with a huge database at the back end. This timeline could be provided as a website or similar. As the research showed clearly, a lot of information from different stakeholders and channels is already existing.

Based on this, a valid thought was to create a timeline, which shows clearly and structured in a really visual way the necessary information for the owners. The timeline would show the "lifespan" of a certain housing company over the next years and would visualize the important events that a person living in it would have to go through. The timeline could be based on the owner's decisions and choices about renovations and possible

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[13] Interview with Jarno Levonperä, Nordea, 11.05.2016 [14] <https://www.vero.fi/fi-FI/Henkiloasiakkaat/Kotitalousvahennys>

solutions and would change its structure based on this. Therefore each timeline would serve tailored advice to upkeep his / her housing company for each single owner – based on personal preferences. On top of that it would be possible to visualize the different effect of choices made. Our aim was, not only to give owners a guideline on which they can base their decisions but also to influence their decisions in educating them. Showing the different effect of for example different possibilities for the same renovation would on the same time raise the awareness for energy efficient renovations, the not so different expenses in the beginning and most important: the benefits of paying back the investment at a certain time.

The communication channel of this approach could vary. On one hand, it could be a website, in which owners can log in with their data and see their choices and planning state and in which state they are at the moment. On the other hand we aimed for a communication channel that is easy to approach for everyone. An opportunity which ensures this would be to back up on existing channels, such as the information boards in blocks of flats, the bills or invitations to annual meetings. Using those channels would give the possibility to communicate the direction the owners are following at the moment for example in the way of storytelling. At the same time benefit and rewards could be emphasized in this stage. This channel would provide the information in a condensed, simple version of the information shown on the website.

Creating this kind of timeline would require a huge, shared database at its backend in which all stakeholders would feed in all their information. The design and researching process to find those pieces, that work well together would be rather big and costly too. It is a valid approach to start channeling the good, existing information. Nevertheless, the positive impact on renovations and the owners might not be as big as it would be with other solutions. We were concerned, that the amount of tailored information for each single owner will overwhelm again – and will not help to get rid of these feelings. On the other hand will tailored information for single owners not increase the discussion about common solutions in housing companies – the possibility exists that it will turn into the opposite: harder decisions in housing companies because of personal preferences.

## Integrating owner profiles from isännöintiliitto

### The Finnish Real Estate Management Federation (developer / maintainer / saver)

In addition to the database with changing tracks based on the personal preferences of owners, integrating existing owner profiles from the Finnish Real Estate Management Federation. They have suggestions to include residents into a more strategic planning in housing companies. Therefore the federation identified three different profiles for residents and their way of seeing the strategy of their housing companies – the developer, the maintainer, the saver [15].

Implementing a long term and strategic thinking in housing companies was an important factor in our research. Based on this and in combination with the idea explained previously we thought of letting owners choose in the beginning of the timeline which of those strategies they aim to follow. Based on their choice a timeline with steps to take to reach the goal of being a developer, maintainer or saver in a housing company would be created. At the same time the owner could compare his / her chosen track with the tracks of the other two profiles. With this thought we aimed to nudge owners into a decision for the developer or at least the maintainer track because it would be the most beneficial one for housing companies.

Discussing this possible approach again with Pekka Harjunkoski from the Finnish Real Estate Management Federation it became more clear, that only the developer and maintainer as user profiles would be an option. A saving attitude should never be an option in the upkeep of housing companies. Based on this discussion, we should aim in our solution at least for a maintainer as an owner profile but better: in the transition from maintainers into developers.

***These first approaches played an important role in finding the final proposal. The proposal includes important bits and pieces from these earlier ideas but aims to be even more approachable, understandable and visual for the owners as the previous ideas.***

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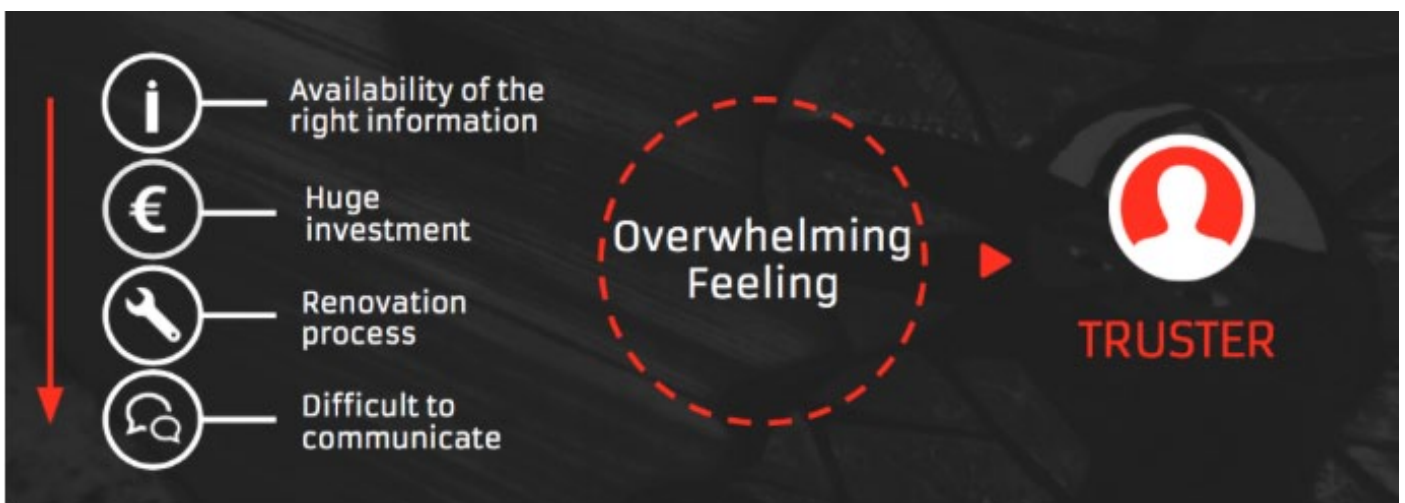
[15] Based on a report from isännöintiliitto: "Kohti parempaa asumista – taloyhtiöstrategia"

# PROPOSAL

# TOWARDS THE SOLUTION

## How we chose our solution?

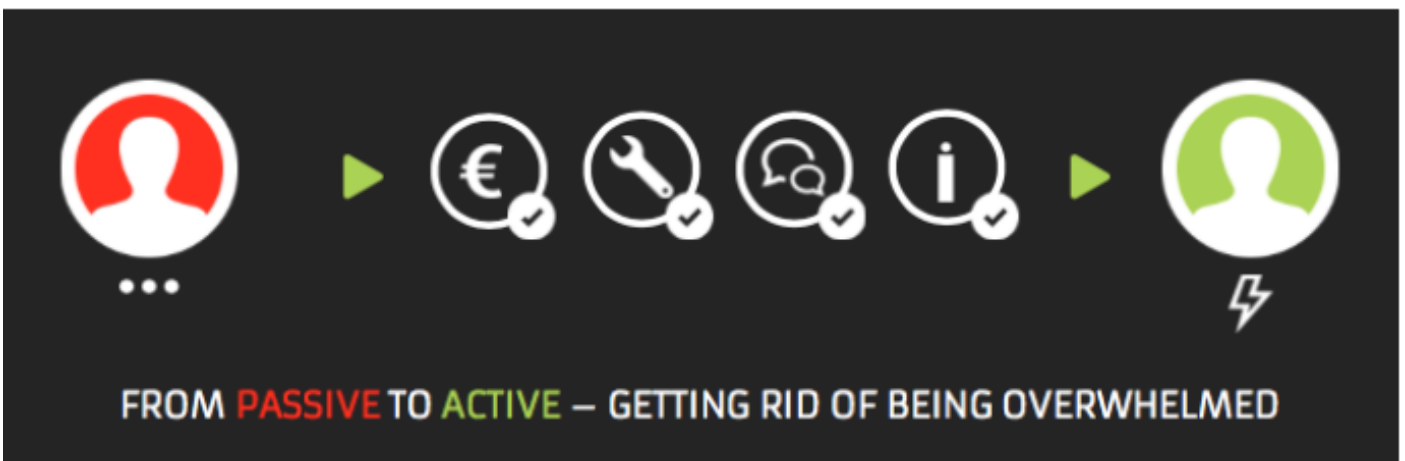
As stated before, based on research we discovered that all the stakeholders involved (board, managers, organizations) are aware of the problems / the situation and have been trying to solve the issue by creating a diverse range of tools. Nevertheless they forgot to think about the owners overall. Our findings lead us to start strategizing a more tailored tool that provides the right information and raise awareness in a simple visualization way that not only inform but prevent house owners of the overwhelming feeling of misinformation - that lately led to a sensation of passiveness and frustration.



[Fig. 6]: Paths to problem-diagram.

## From Truster to Active

In order to obtain the successful renovation we understood that a change of behavior of the owner is necessary. He / she needs to better clarify the path to renovations for him- or herself in order to understand the process and get a better overview. A change of behavior is also expected when a truster becomes an active dweller, activating the discussion in meetings and becoming a decision maker. A tool that is both supportive and easy to understand.



[Fig. 7]: From Passive to Active-diagram.

[Fig. 6] and [Fig. 7] taken from the groups' final presentation.

## Key points

In a few sentences we describe in the following again what causes the passiveness for owners.

### ***The right information is difficult to interpret!***

There are several websites that deal already with different stages / phases of renovation and planning are divided into different stakeholders and their channels. Some belong to the ministry, some to the housing manager union and some are independent tools developed by NGO's.

### ***Renovation processes are long and complex.***

Renovation cycles take decades and this implies a life-long journey is required. Often, the feeling for an owner is not to know where he / she is or what comes next – there are too many details in the process and it's very hard to track the stage in which you are or the upcoming changes that you are coming. Often the board decides everything because the owners don't want or know how to take part.

### ***Communicating the need to renovate thoroughly can be difficult.***

Communication is the key, but when there is not enough information or no clear ways to reach this information problems will emerge. Housing companies are difficult to administrate without strategy planning and enough participation from dwellers. We need to activate them and bring these people back to what it is like to live in a community.

### ***Renovations are a huge investment.***

Renovations are expensive, and there's not much you can do about it – other than plan ahead what is coming and not only known exactly how much you will need but know the options you have.

## What is the effect we aim for with our proposal?

### Spill Over Effect

The proposal applies at the four fields which caused the overwhelming feeling and the behavior of the "trusting attitude". We are using existing knowledge, information and tools and channelling them into a more transparent, understandable and visually clear direction which is beneficial for the owner.

A more active role of owners – the owner becomes more active because he / she has better and clear information, presented in small chunks and step by step.

People are social, they want to know what others are doing. Showing best practices would take away the overwhelmedness fatigue led for example by monetary pressure, creating a sharing understanding and an over-view sight. For example:

***"See, Katariina did the renovation of the floor already. They did it pretty well in their community. It's not that bad and expensive as we thought, in fact it's quite convenient and easy if planned in advance. We can do it! We can do it even better – getting a loan in time from the bank and investing the money in an even better quality, meaning a better living in the future. Through funding we could do the same."***

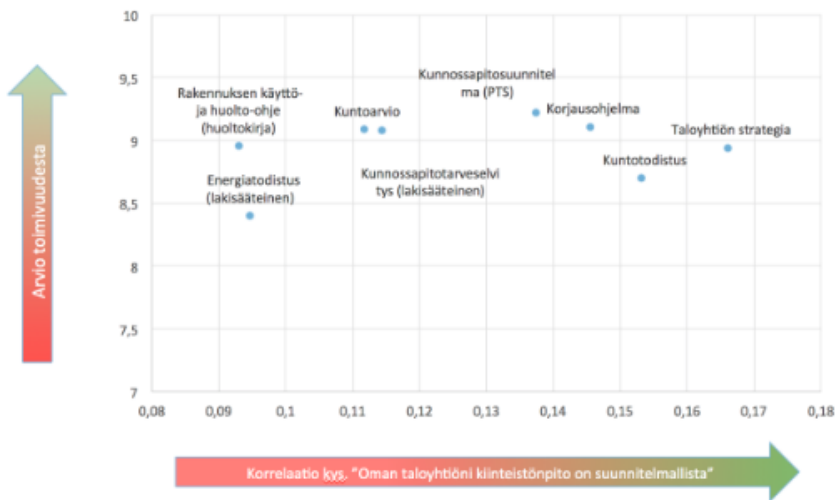
### Why we think it is the right scale?

***"According to the Finnish Real Estate Management Federation, the current tools used have very little or non-existent benefit in the planning or the actual upkeep of a housing company"***

There's no need of new tools, the tools that exist already cover all aspects of renovation but the way they are shown or advertised is insufficient. Quite often the owner does not know where to obtain certain information. Instead of creating more tools it is necessary to channel it better.

## Havainto 1: hallituksen pjt

Kokemus oman taloyhtiön kiinteistönpidon suunnitelmallisuudesta ei korreloi yhdenkään kysytyn kiinteistönpidon välineen toimivuuden kanssa. Kaikkien välineiden korrelaatiot heikkoja / erittäin heikkoja.



[Fig. 8]: Survey about the usefulness of the current tools.

## Havainto 2: isännöitsijät

Kokemus kiinteistönpidon suunnitelmallisuudesta yleisellä tasolla ei korreloi merkityksellisesti yhdenkään kysytyn kiinteistönpidon välineen toimivuuden kanssa.

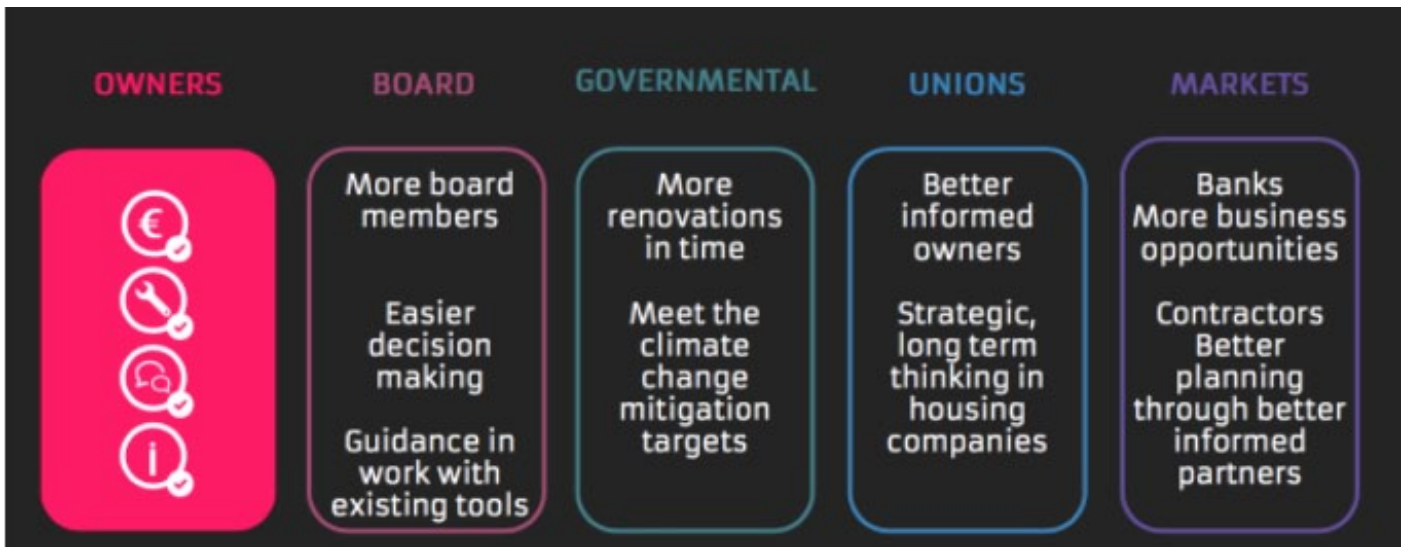


[Fig. 9]: Survey about the usefulness of the current tools.

[Fig. 8] and [Fig. 9] Based on a survey from isännöintiliitto: "KIPI 2"

## What are the benefits of our solution for the stakeholders?

When reaching our goal: Transformation of apartment owners from trustees to active shareholders with informed opinion and decisions. We believe all stakeholders will benefit from as the image bellow shows.



[Fig. 10]: Beneficiaries.



# OUR PROPOSAL

## My Plan - A planning tool for renovations and active governance in housing companies



[Fig. 11]: Logo.

### What is it?

My Plan is a website for owners that provides understandable, bite-sized information about renovations. Our tool makes it easier for every owner to be aware of the investments and planning that are necessary before a renovation. Our research identified that most of the problems that cause stress and overwhelming feeling are related to lack of information and “last minute surprises”.

### To whom it is?

We focused on the missing link of the renovation chain – the owners. “My Plan” is designed to enable people to visualize and plan renovations ahead of time. By accessing the small chunks of information through the process you get information about different possibilities and strategies for housing renovations. By extending and contracting the timeline you have access through the years and get to know all the past and its aspects that will come at some point in the renovation of the building.

### Who should be the owner of our solution?

We propose that the Ministry of Environment could cooperate with the Finnish Real Estate Management Federation. Together they would already have all the bits and pieces that are necessary to implement the website. The real estate management federation could take over the ownership and be the host of the website as our proposal is very much aligned with their interests and they have access to all of the information to have it updated.

The implementation could happen during an annual meeting in housing companies where the housing managers can introduce this tool. It could be introduced as well beforehand on the invitation to the yearly meeting with a link and a short abstract about the website.

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[Fig. 11] taken from the groups' final presentation.

## How does it work?

The website experience is divided in three parts. Mainly, the current year is shown in the basis line and tagged with an user icon. The icons / points in the timeline mark the most important events your housing company should have gone through in the past or should go through in the future.

### **FIRST**

Accessing the website, you are guided to a splash page where you first put the year of construction of your property. Based on the construction year the website provides an exemplary timeline for buildings constructed the same year than your own building. You can then click your building or choose to follow the timeline of another building (as an example).



[Fig. 12]: Survey about the usefulness of the current tools.

**SECOND**

You are now guided to a timeline that shows a period of time starting from the current year until 15 years in the future. According to the area you live and year of construction you will see what are the next stages you will have for renovating your property.

As you mouse over the different icons you can see what they are about and you can also see description boxes of each one of them. Suggestions on when and where to start and good habits are also shown with “check ups” you might want to do, to keep the building in proper shape.

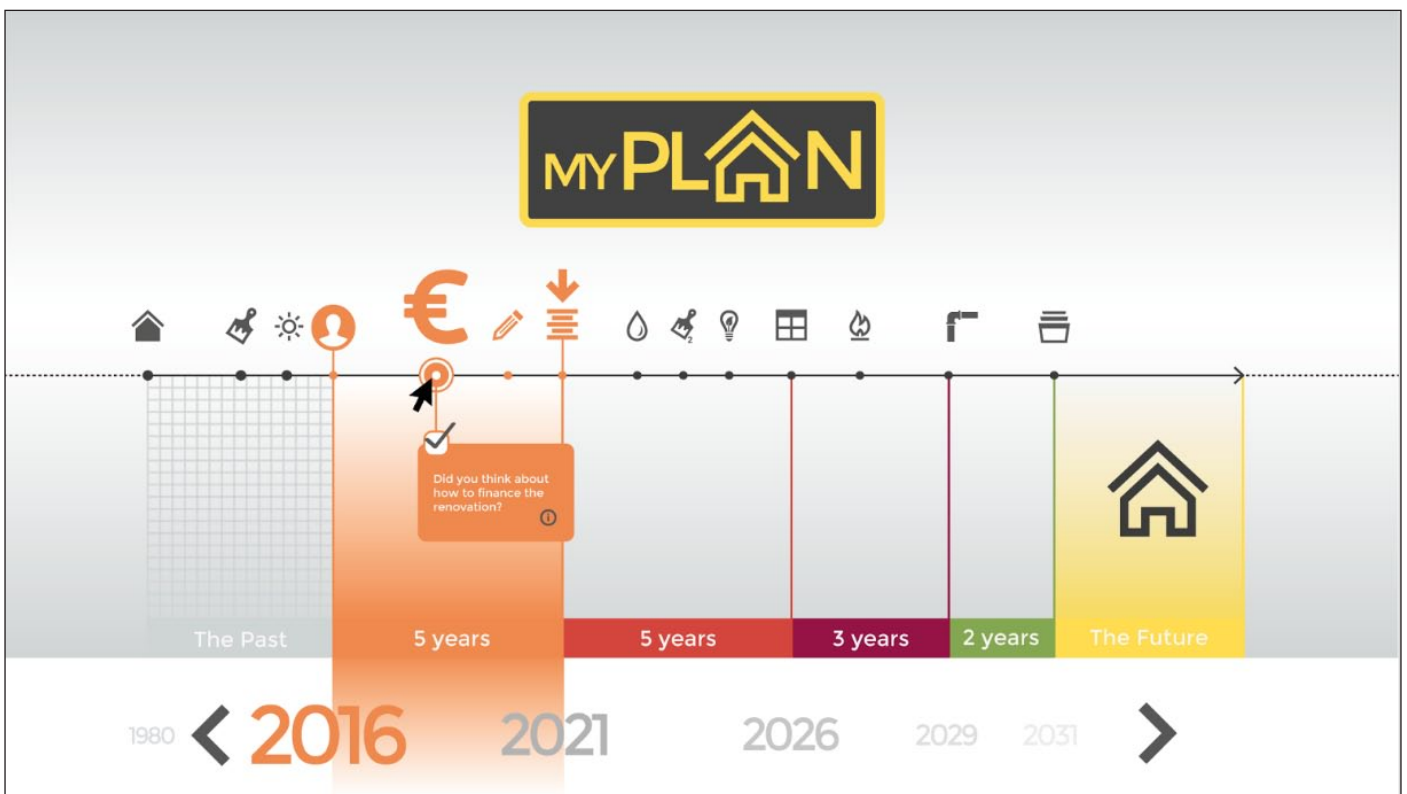
The interface is color coded in different blocks that are divided by the different stages of renovation and the amount of years that separate these. The years on the bottom of the page together with the icons you’re browsing expand for better visualization.

These blocks and color codes follows as the years pass by – until the “future” in yellow. The “past” is also represented in a gray color grid so the user could also visualize what their apartment has been gone through (Fig. 1 and Fig. 2).

Each of the blocks also have a short term goal or event as its end. That can be a smaller tasks such as painting the window frames or start planning a next, big renovation.

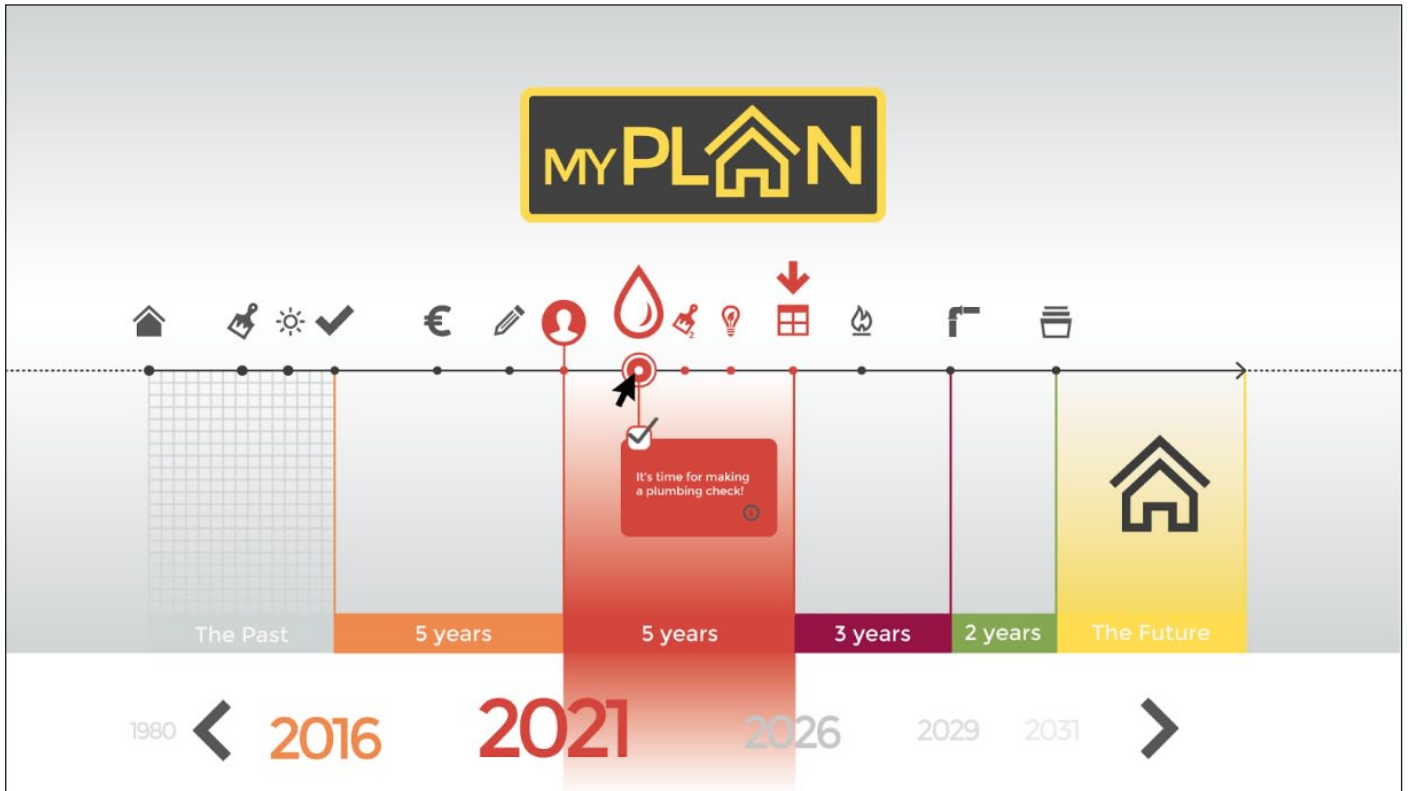
The end of the timeline is mainly reserved to show the next, big renovation such as facades and insulation, windows or piping.

A tick (✓) away – and you are taken to the expanded version of this renovation block.



[Fig. 13]

[Fig. 13] taken from the groups’ final presentation.

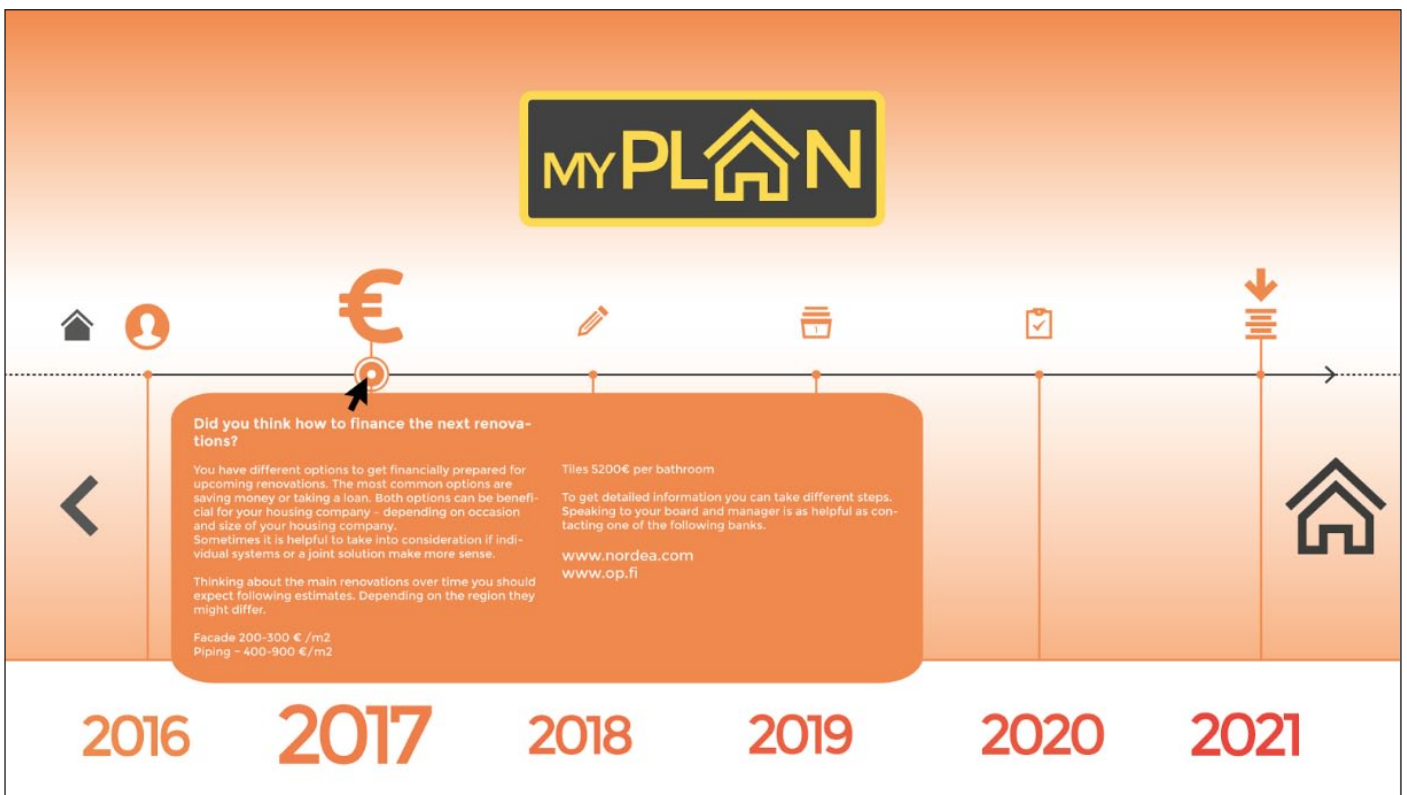


[Fig. 14]

[Fig. 14] taken from the groups' final presentation.

**THIRD**

The third part is the extended view of a shorter period of time where you are able to dig deep and focus on the aspects of renovations. It is presented in different questions, options, steps and tasks you have to have in mind when renovating. The information provided in the text boxes is detailed – including for example information about expenses (including estimative prices) and persons to contact (with links). Tips for a sustainable renovation are inbuilt into this.



[Fig. 15]

[Fig. 15] taken from the groups' final presentation.

## Key Advantages or: How do we solve this problem?

### **FINANCING**

Our tool benefits from partnerships with banks, giving options of financing solutions when loaning on long term for renovating. This is a novelty as housing managers and boards have little to none planning when strategizing for the upcoming renovation. On the other hand, housing owners have little information on this and end up getting this money from loans late in the process.

### **STRATEGY**

By better aware housing owners, we can provide them a better housing company with people actively participating on meetings and discussing the themes that are raised by our strategy tool. By planning in time the owner can raise the awareness of the real situation of his property.

### **BETTER DIALOGUE**

Dialogue is very important in a housing company to not let your property get into the hands of bad administration, or a board that doesn't really understand the interest of the community. Our tool brings relevant question into discussion.

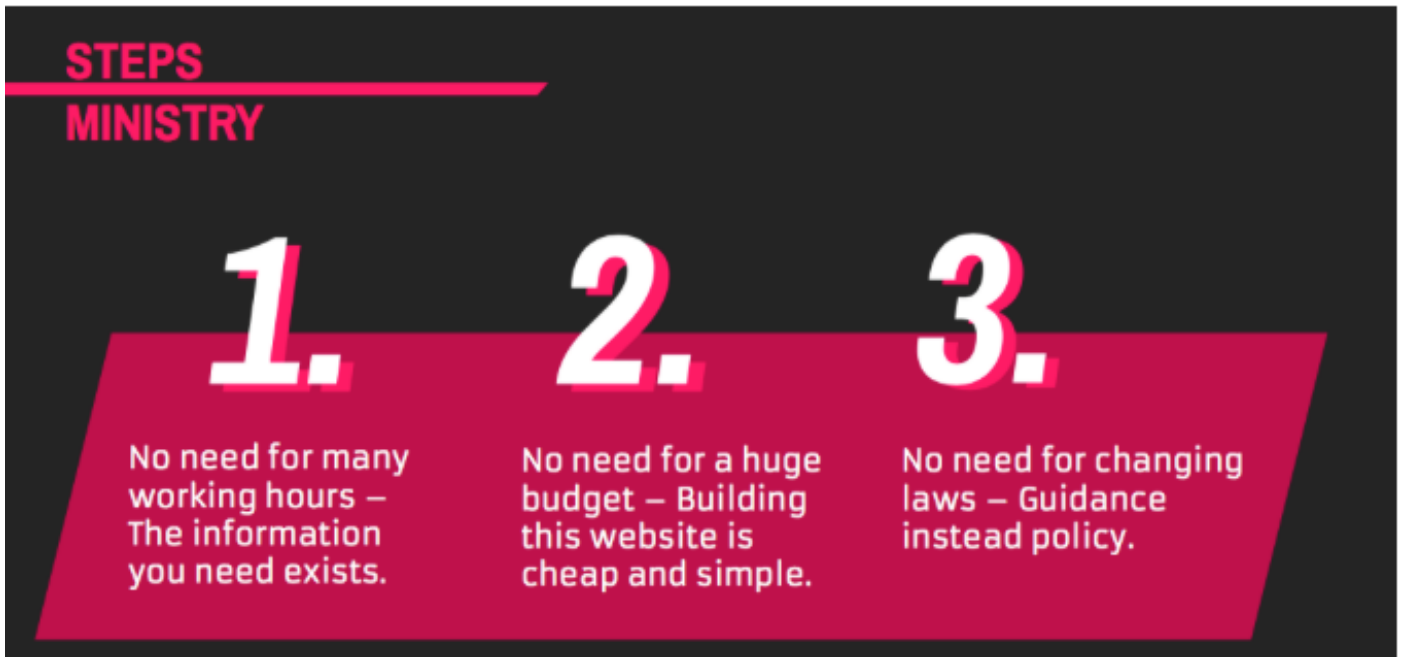
### **CHANNELED INFORMATION**

No more different channels of information, tools, magazines, mails. All the information is channeled in one place with all the support that you can have. It is easy to understand and follow because it is displayed in stages. Nevertheless it is still able to make long term thinking real, as you predict finance options and different ways of planning the renovation.



[Fig. 16]: Our Key advantages are divided in four points.

## NEXT STEPS



[Fig. 16]: Next steps for the Ministry of Environment.

After the implementation of the website, the Ministry of Environment could affect 70% of all Finns – all those who own. Getting those people better informed and therefore more active will certainly affect the renovation processes. There will be more renovations in time. And on a big scale, This will also affect the energy efficiency to meet the climate change mitigation targets.

# FINAL DISCUSSION



## SUITABILITY OF MODES OF INQUIRY

As the list of stakeholders was enormous, various modes of inquiry were necessary. Basically everyone from homeowners to the ministry level were included in our list of stakeholders and the possible points to influence.

The ATLAS workshop was a good way of getting familiar with the project, the client and other stakeholders, and have them talking about the topic. However, it was clear that everyone in the workshop wanted to emphasize the approach they have been working on.

For us the most useful modes of inquiry for our project were interviews. As we interviewed stakeholders from different organisations, we got many deep insights of the feelings and problems the stakeholders face. This was especially important for us – who are not professionals in the housing management realm. In general we had very good experiences in conducting interviews – our partners also felt as well that this is an important issue to be tackled.

Another really important step in our research was the field trip to areas in Helsinki which were built between the 1960s and the 1980s. It helped us to understand the real situation on site and brought us closer to the topic and the people affected.

Observing the decision-making process at an annual meeting of a housing company was really helpful to see and sense the atmosphere to understand how a housing company meetings work and what kind different types of personas can be found in the housing company.

Before conducting a series of interviews and observing different meetings and areas, it would had been impossible to conduct any kind of survey and ask the right questions from a larger group of people. Afterwards we conducted a survey with the homeowners to confirm the statements of the different expert interviews already pointed out. As the total amount of respondents of 34 might not give a real statistical significance, but was still enough for us to guide us.

In general, the combination of the very different modes of inquiry as well as the very different stakeholders we met opened up the changes for us to understand the big picture of the field of housing companies, the needs of the stakeholders and the really recent issues they face. Researching these different channels was necessary to find the right starting point that will have an significant impact on the issues to tackle.

## FUTURE REQUIRED COMPETENCIES

We think that the most vital part in making the website working as intended, is to be able to provide a good user experience for the apartment owners who visit the website as they decide in seconds whether they want to use the service or not. Therefore it is important for the designer and the stakeholders who provide the information to understand what information is the most relevant and sought after, for then making it visual, simple to understand and intuitive for the user to interact with. On another level, the different stakeholders should find a way to combine their research and competencies to create a solid and understandable foundation for the timelines shown on the webpage. This will require creating a shared understanding of the future plan to create this application and will require to establish a head / manager to take over the planning and collection.

A clear owner which has to be nominated for the site could be the organisation taking over this tasks. As well this owner can make sure that the information is updated when necessary in the future. Currently we have suggested Isännöintiliitto, the Finnish Real Estate Management Federation, to be the owner, but this has to be properly agreed.

# CHALLENGES DURING DESIGN FOR GOVERNMENT

From our perspective, one of the biggest challenges was the sheer vastness of the topic. We found so many stakeholders concerned with the bigger topic of housing companies. They had on the other hand very different approaches and ideas to tackle the issues within the housing companies. Gaining an overview over the variety of pathways to possibly take and deciding which ones could be the most fruitful ones took time and caused many long and good discussions – and sometimes the feeling to understand less after you learned something new. Looking back, those times were necessary and deepened our understanding and awareness of the detailed and sometimes complicated structure of the topic of housing companies. Because of this we were able to find useful opportunities and approach we finally followed.

Working in a big group for the research part sometimes challenged the whole group – on one hand it was easy and fast to be able to research in very different angles at the same time, reporting back to everyone on the other hand took some time. After all, going deep with the big group and moving faster with the small group was a good experience and interesting way to work – it combined good parts of two worlds.

# FINAL THOUGHTS

*Design for Government opened up a huge amount of new learnings and experiences for us. We were able to get plenty of new insights and information provided by the teachers with all their expertise. On the other hand everyone of the course benefited from each other – the different backgrounds in profession as well as the different backgrounds in origin opened up interesting insights.*

*Combining design with real issues that government and civil servants face and putting it into an environment of people with very different backgrounds and previous knowledge will certainly foster many good and new points of views and approaches. We experienced it!*