VALUING SUSTAINABILITY IN THE DUTCH HOUSING MARKET

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Thesis

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Executive Summary

Unfortunately, our planet does not have infinite resources and with this knowledge we can no longer continue exploiting them as if it does. The built environment is responsible for circa 30% of the annual Dutch energy consumption (ING, 2014). This is the equivalent of a shocking 277 million kilowatt-hours. These types of numbers reveal that the real estate market can definitely use an intervention. With the many innovative new technologies, passionate people, and anything you want to know at the touch of a button, it seems that the real estate market has not quite caught on to the changes. Why is this, and what can we do to change this?

This thesis focuses on the question of “Does the valuation framework reflect true perception of sustainability in the Dutch housing market?” It researches how important stakeholders value sustainability, and if there is sufficient information on the sustainability of a house. The thesis is an exploratory study and multiple methods for primary data collection have been used for this thesis, consisting of an online-administered survey for buyers, and five interviews with realtors/appraisers and other experts.

Sustainability within a house entails a building “in which basic human needs are met without destroying or irreversibly degrading the natural systems on which we all depend” (Kates, Parris, & Leiserowitz, 2005). Realtors and appraisers believe that the current appraisal process is reliable, but can definitely be expanded to include more detailed on the sustainability aspects of a house. They saw a (slow) visible trend in the housing market towards increased application of sustainable interventions, but it has not financially proven itself yet and still needs time to develop.

Buyers indicated that sustainability played a relatively big role in their decision-making. The majority (58%) are of the opinion that sustainability was either important or very important in their ultimate decision-making in buying a house. The interest in the energy label of a house can be concluded to be relatively high, with 31 respondents (62%) saying that they are interested to know the energy label of a house, and willing to pay a premium for a more energy efficient house. They said it was important that sustainability was stimulated, pointing their fingers at the government to take on this responsibility. However, they lack the initiative and the right incentives to influence the demand significantly. They have difficulties to see the ‘bigger picture’ in terms of long-term savings, which holds them back from investing.

Information for the buyer on the sustainability of a house is lacking, mostly due to the fact that it is not standardized for all buildings and there are no proper metrics used. The majority of buyers are not actively seeking information on the sustainability of the house. Buyers are left to be very dependent on the information that they are given by their realtors/appraiser, whom in turn are often not well informed on the topic.

In order to stimulate the sustainability within the valuation process, there are three main recommendations:

1. Increasing realtor involvement and knowledge transfer;
2. Creating strategies to integrate sustainability metrics in the valuation framework;
3. And analyzing incentive strategies that are most effective on buyers.

The housing market and the sustainability sector need to find more effective ways to integrate, and allow more rapid development towards a built environment with minimal impact on our planet.
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1. Introduction
The following Chapter serves as an introduction to the thesis; presenting the company for which the research is done, the background on the topic, and the formulation of the thesis objective and research questions.

1.1 The Company
Metabolic is a sustainable development agency, established in The Netherlands in 2012. Their mission is to aim to accelerate the transition to a sustainable world by pioneering tools and technologies that empower people, communities, and organizations to be self-sufficient for their basic resources. Their services include analytical, design, experiment, and building activities (Metabolic, 2014). This mostly includes things such as strategy consulting for organizations and cities, and research and development into innovative and sustainable product concepts. Although they are located in The Netherlands, they also have a field office in Thailand where they are currently busy with a plan to implement 50 low-cost decentralized grey water treatment systems. They have many international partnerships, and they strive to scale their innovations in order to implement them in many different areas around the world, with a focus on developing countries.

The company currently employs 15 full-time employees, from a variety of countries and with a background in environmental sciences or technology. They also focus on giving students the resources and support to write their thesis or do an internship with the organization. They have about 14 interns at the moment, and are involved in various student partnership projects at TUDelft and Hogeschool van Amsterdam.

1.2 Context
One of the most widely known definitions of sustainability is of the Brundtland Commission, stating that sustainable development is “the development that meets the needs of the present without compromising the ability of future generations to meet their own needs.” (World Commission on Environment and Development, 1987). It is becoming a more pressing topic, due to realization of the current declining quality of our natural resources. One aspect of sustainable development includes improving the efficiency of energy flows. With the (global) urban environment being responsible for about 40% of the global energy consumption, the European Union (EU) has mandated a directive on the energy performance of buildings. This states that “Member States shall ensure that by 31 December 2020 all new buildings are nearly zero-energy buildings; and after 31 December 2018, new buildings occupied and owned by public authorities are nearly zero-energy buildings” (The European Union, 2010). This puts quite some pressure on the Dutch government to stimulate energy efficiency within the housing market in order to meet this obligation. This does not only push society to use energy more efficiently, but it also provides investors with interesting business opportunities.

1.3 Metabolic Management Issue
Metabolic sees great potential in the sustainable real estate market. Future operations in Metabolic are aimed to include the development and implementation of clean technologies to retrofit residential houses in order to make them more sustainable and self-sufficient. Also known as “eco-flipping”. After an interview with the Chief of Operations Chris Monaghan, it was derived that the company firmly believes in the added value the sustainability measures bring, but additional information is needed to identify the current demand of the market, and the current conditions in which houses are being valued, in order to determine which sustainable measures have positive impact on the market value of a house.

The valuation of a house, combined with the market perception, determines the price range according to various indicators that reflect the market needs. However, the assumption is made that all the relevant indicators are integrated, while this might not be the case. Value perception is very volatile, making it hard for valuation frameworks to adapt to the current
market needs regarding sustainability.

The main research question for this thesis is therefore: **What is the stakeholder perception of sustainability within the Dutch housing market, and does this reflect in the current valuation framework?**

### 1.4 Thesis Objective
The objective for this thesis is as followed:

> A contribution to a valuation framework for the Dutch housing market that aligns with the stakeholder perception of sustainability.

### 1.5 Research Questions and Objectives
An exploratory study is often conducted in order to find out “what is happening; to seek new insights; to ask questions and to assess phenomena in a new light” (Robson, 2002). This thesis aims to uncover new insights and understanding regarding sustainable interventions and their value to a residential building. The current appraisal procedure will be analysed to see if there are any obstacles regarding measuring and valuing sustainability. The benefit of this type of study is its flexibility and adaptability to change (Adams & Schvaneveldt, 1991). This means that it allows for an initial broad focus and becomes more structured further into the research phase.

In order to answer the main research questions, three sub-questions have been answered.

1. **How is sustainability currently being valued by realtors and appraisers?**
   - **Objective:** To determine how sustainability is valued by real estate professionals.

2. **How do buyers value the sustainability of a house?**
   - **Objective:** To understand the different perspectives of potential buyers on the sustainability of a house, and what they value most.

3. **Is the provided information regarding the sustainability of a house sufficient for buyers?**
   - **Objective:** To determine to what extent there is an information deficiency regarding sustainability for buyers in the current housing market.

### 1.6 Data Collection
Multiple methods for primary data collection have been selected for this thesis, consisting of both interviews and a survey. A mixed method approach was thus taken to allow for the collection of both quantitative and qualitative data. The research findings of both the survey and the interviews have been used as input for the answering of all research questions and is thus not specific to one question in particular.

#### Survey
A survey among buyers in the Dutch real estate market was conducted. The objective of this survey was to gain more insight on their perspective on sustainability, and to identify the buyers who value this the most. A sample size of 50 buyers was decided on because (1) this is an exploratory study which aims to get a first taste of the current market, and (2) a time constraint when looking realistically at the time scope of a bachelor thesis. The survey was conducted online in order to contact a more diverse group of people and accelerate the results. More details can on the methods used be found in Chapter 3.3.

#### Interviews
There have been five interviews conducted with experts in the Dutch real estate market. The objective of the interviews was to get a better understanding of the valuation process of
the Dutch real estate market, and to understand how these stakeholders value sustainability in a house. The most important stakeholder group that was interviewed was the realtor/appraiser group since they are closest to the buyer and have a lot of power regarding the information they provide. There were 3 people interviewed in this group, chosen based on their expertise and availability, contacted through the Dutch Realtor Association (NVM). More information on the methods used and their argumentation can be found in Chapter 3.3.

Figure 1: Experts interviewed, per stakeholder group

**Appraisers/Realtors:**
- Gustaaf Vons, realtor and appraiser. Vons & Van Santen.
- Karin Eveleens, realtor and appraiser. Eveleens Makelaarrij.
- Eelco Horstman, realtor and appraiser. DTZ Zadelhoff.

**Experts on valuation process:**
- Jan Pieter Redert, policy manager. NWWI.

**Experts on sustainable housing:**
- Anastasios Kokkos, civil and building engineer. Freelancer.

### 1.7 Ishikawa Diagram

For a visual representation of the research design see Fig. 2. Created by K. Ishikawa (1968), the Ishikawa diagram is an overview of causes related to a certain event. The thesis objective can be seen as the head of the diagram, and the research topics necessary to answer in order to achieve this objective are the “bones”.

*Figure 2: Ishikawa Diagram*
1.8 Research Structure

The research starts in Chapter 1 with defining the context and problem of the thesis aligned with the management issue for Metabolic, in order to set the thesis objective and research questions. The chapter that follows will dive into the literature review available for each research question: (2.1) perception of realtors/appraisers on sustainability, (2.2) perception of buyers on sustainability, and (2.3) availability of information on sustainability.

Chapter 3 presents a detailed research design to demonstrate, among others, the methods used in the data collection and analysis. The data collection then follows in the form of interviews, a questionnaire, and desk research, to ultimately present these findings in chapter 4. From the findings, the conclusions can be drawn and recommendations can be made in chapter 5. The final chapter presents the implementation plan that follows the conclusions and recommendations from the previous chapter.

The entire research structure can be visualized as seen in Figure 3.
2. Literature Review

This chapter reviews literature on the topics discussed in the research questions, being (1) value of sustainability according to realtors/appraisers, (2) value of sustainability according to buyers, and (3) availability of sustainability information on houses.

2.1 Value of sustainability according to realtors/appraisers

The following section will cover topics of: property valuation in The Netherlands, role of realtors/appraisers, and sustainability, and governmental pressure.

Property Valuation in The Netherlands

“Valuation is not simply a mathematical process. It is much more than that." (Millington, 2014).

The concept of valuation is a broad one. One that relates to putting a price on something that represents what the asset might be worth to someone else in the free market. The European Group of Valuers’ Associations (TEGOVA) defines the term market value as “the estimated amount for which an asset should exchange on the date of valuation between a willing buyer and a willing seller in an arm’s-length transaction after proper marketing wherein the parties had each acted knowledgeably, prudently and without compulsion.” (2012).

First off, it is important to differentiate between the two types of appraisals (or “valuation”) for residential buildings in The Netherlands. The WOZ valuation, and an independent valuation. The former is an annually required appraisal of a house for the municipalities, and the other is a more in-depth valuation based on a visual inspection of the individual house.

The WOZ valuation is a mandatory yearly valuation conducted by the municipalities as regulated by the Dutch property valuation law. This is a standardized and objective procedure based off recent economic activity, both of the house itself and the houses in its neighbourhood. This WOZ-value is mainly used by governmental institutions to determine different types of tax for which the homeowner is responsible (e.g. property tax, water tax).

An independent valuation (paid) of properties is often required to apply for a mortgage when buyers want to conclude the sale of a residential building. This type of property valuation is often more inclusive when compared to that of the WOZ, and the appraiser will visit the property. There are many appraisal agencies in The Netherlands, and they are all affiliated with one of the certified appraisal associations: NWWI, Taxateursuni, Taxatie Validatie Institutuut, and/or Ivalidatie.

For this thesis, the latter type of appraisal is used when speaking of the valuation of a property. This is because it is the relevant appraisal for the sale of a house, and a more accurate representation of the property’s value.

Role of realtors/appraisers

A definition of stakeholder in a business context is that of Freeman, who defined the term as “any group or individual who can affect or is affected by the achievement of the organization’s objectives” (Freeman, 1984). The two most important stakeholder groups that are in direct contact with the buyer, and will be researched in this thesis are the appraisers and realtors.

A realtor, or real estate agent, is someone who is an expert in local real estate and is licensed to sell property. “Real estate agents can represent the seller of a house, the buyer of a house, or both (Conner, 2010). Realtors are one of the first group that the buyers are in
touch with, and Energiesprong (Avelino, Loorbach, & Witkamp, 2011) names them an important “carrier” of information that advises the buyer.

Appraisers are certified experts that “possess the skills and knowledge necessary to accurately estimate property value” (Floyd & Allen, 2002). Their models and frameworks ultimately decide on how much each factor weighs in on the appraised value.

In the context of my thesis, the two stakeholders are grouped together due to the fact that it is often one person that acts as both. This is common in The Netherlands, as they believe that the jobs are so interconnected, that it is best to integrate the two professions (Nederlandse Vereniging van Makelaars, 2014).

**Sustainability**
The concept of sustainability dates back to the 1960s where various organizations, such as the International Covenant on Economic, Social and Cultural Rights (1966), the Organization for Economic Cooperation and Development (1960), and the Club of Rome (1968), included the concept in their mission and values. One of the most widely known definitions is that of the Brundtland Commission mentioned in Chapter 1. This definition is very broad, and has since then been expanded and adapted many times. Many are now based on a theory established by the United Nations 2005 World Summit, who views sustainable development as three "interdependent and mutually reinforcing pillars" pillars: economic development, social development, and environmental protection (2005).

A more recent approach to sustainability is that of the “Circles of Sustainability” (Magee, et al., 2012), based on a sustainability assessment of two different cities. Their framework combines top-down and bottom-up approaches, and introduces four circles to assess sustainability: economics, ecology, culture, and politics.

Different systems and processes call for a different definition of sustainability and it thus varies on the boundaries that you may set for these systems or processes. It embraces a large set of variables and depending on their perspective different people may apply sustainability in different ways. A report published in Environment: Science and Policy for Sustainable Development (2005) takes a look at the various definitions given by scholars, and concludes that the concept of sustainable development “represents diverse local to global efforts to imagine and enact a positive vision of a world in which basic human needs are met without destroying or irrevocably degrading the natural systems on which we all depend”.

Sustainability within the context of the housing market discussed in this thesis relates best to the latter definition presented in the 2005 article in Environment: Science and Policy for Sustainable Development. It speaks to the need for responsible and efficient use of natural resource flows while providing the basic human need that is shelter in this case. This definition will be used in this thesis.

Sustainable building can then be defined using the previously established definition of sustainability and applying this to building. Consequently, it would entail the building “in which basic human needs are met without destroying or irrevocably degrading the natural systems on which we all depend” (Kates, Parris, & Leiserowitz, 2005). The systems or processes applied to houses to transition them into sustainable houses will be referred to as sustainable interventions.

**Governmental Pressure**
There is significant pressure from the EU and other governmental bodies towards more energy-efficient building, which in turn stimulates the review of valuation frameworks and policies. The Royal Institution of Chartered Surveyors (RICS) is at the forefront of helping maintain standards and regulations in the global construction market. As of this year
appraisers in both the United Kingdom and The Netherlands will need to follow guidelines set by the RICS in their “Red Book”. This is one of the first steps towards a global standardized valuation method that promotes good ethics. They have established a RICS Europe Sustainability Task Force as of 2011, and are currently in the process of researching a valuation framework to be adapted by Europe that more optimally translates the value of sustainability in houses (Scherrenberg, 2014). They have stressed the importance of breaking the “vicious circle of blame” (Cadman D., 2000) in which stakeholders blame each other for the lack of adaptability to sustainability. Recommendations include implementing an institutional framework that translates to the changes occurring in value perception in the housing market (Lorenz, 2008).

2.2 Value of sustainability according to buyers
The following section will cover topics of: vicious circle of blame, valuing sustainability, and impact on value.

Vicious circle of blame
Research of the value of sustainability in the Dutch housing market (Avelino, Loorbach, & Witkamp, 2011) concludes the presence of a “vicious circle of blame” (See Fig. 4) as indicated by Cadman (2000). The circle represents the different stakeholders interconnected, while waiting on the others to make a move to increase the demand for sustainable houses. Proposed is that this circle can be broken by providing buyers with more detailed information that would aid to deduct their own conclusions of the sustainability of the house, whether or not this is important to them.

Fig. 4: The “vicious circle of blame” as adapted by Cadman (2000)

Valuing sustainability
The introduction of an energy label in 2008, measuring energy efficiency of a building, has given buyers some more insight into the sustainability of a building. Although the adoption rate is still quite slow, studies of Brounen (2010) and Kok (2011) show that houses with energy label A have an average added value of 10% in comparison to those with an energy label D. A house without energy label was concluded to take one month longer to be sold. This indicates that buyers value the energy efficiency information of a house and are willing to pay a premium for houses that are more efficient in their energy consumption. However,

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1 The scale goes from A to G. Energy label A is considered to be for houses that have the lowest energy consumption rate, whereas Energy label D is for houses with an average energy consumption rate.
this study should be taken lightly as it might also be a reflection of the higher demand for new buildings which are simply built to higher standards than those built a couple of decades ago. A very significant barrier for buyers is “the high cost in terms of effort and time” as pointed out by a study of green consumers (Young, Hwang, McDonald, & Oates, 2010). The addition as a metric such as the energy can act as a stimulant for buyers.

A more specific market research was conducted by Motivaction (2013) that looked at the value perception of solar panels on the Dutch housing market. It showed that 44% of respondents would be more interested in a house that had solar panels. About a third (35%) of the respondents were also willing to pay more for a house that included solar panels, and this average premium came up to €3,930.

Impact on Value
Quantitative studies have been conducted by several researchers in order to measure if sustainability impacts the value of commercial properties. Georgia Warren-Myers (2012) analyzed the major pieces of conducted research, concluding a positive relation to sustainability and property value. Warren-Myers concludes that there is a need for “further market evolution and clear differentiation of the effects of sustainability on market value through extensive analysis of unbiased evidence-based research in individual and broader markets” (2012, p. 141).

2.3 Availability of Information
The following section will cover topics of: appraisal report, energy label, and additional sustainability information.

Appraisal Report
The Foundation of Valuations and Validations (STenV) is the Dutch institute in charge to determine, modify, and test the standards of the certification of appraisal agencies. The appraisal framework that is used as a foundation and used among all certified agencies, is published by STenV on their website. It is influenced the interest of the largest real estate and property expert associations; Association of Property Realtors (VBO), Dutch Association of Realtors (NVM), and VastgoedPRO. They are advised by Foundation Guaranteed Independent Housing (WEW), who is in charge of the National Mortgage Guarantee (NHG) that provides loans to homeowners with a lowered solvability requirement. The organizational structure can be summarized in Fig. 5.

![Fig. 5: Appraisal Valuation Structure (Constructed by C. Mooij)](image-url)
The published appraisal framework from STenV is the foundation of determining the value of a house in The Netherlands. Among agencies, appraisers apply different (certified) models and calculation methods using the indicators mentioned in the standardized appraisal framework. The full appraisal is seen in Appendix C and it consists of 17 Sections (A-Q).

The first four sections (A-D) of the appraisal framework summarize the valuation process and reports the concluded market value. Section E covers the responsibility of the appraiser. Section F summarizes the highlights that are most relevant to the valuation. Section G reviews the details of the property ownership laws. Sections H-K present indicators specific to the visual inspection of the building, and are split up as follows:

- **(H) Description.** Includes characteristics of the house and the neighbourhood
- **(I) Maintenance.** This deals with the state of maintenance of the building
- **(J) Environment/Pollution.** This section addresses the pollution state and availability of energy label.
- **(K) Occupancy.** Who lives in the building, and it is occupied responsibly.

Section L goes into depth about the usage of the calculation models and conclusions of sales comparisons used for the valuation. Section M reviews the adhering under the public law. Section N reports additional comments. Section O includes the mandatory appendices (excerpt of property registry, map, and pictures). Section P requires the appraiser to enclose captioned photographs. The last section specifies the details of the houses used for the sales comparison.

For a mortgage application, the appraiser is required to apply at least two different models and three different sale comparisons in order to ensure credibility. The report is available per request by potential buyers, in order to understand the proposed market value and request a mortgage. There are currently two elements that are related to sustainability and integrated in the report: Section (H)1e (insulation) and section (J)3a-b (energy label).

The appraisal framework seems to be quite inclusive with regards to the administrative and descriptive aspects, but pays very little attention to the thermal comfort and controls of the house. With thermal comfort being the indoor climate that is comfortable to the occupant. Research in thermal control in buildings by J.F. Nicol et al (2002, pp. 563-572) concludes, “The building should give occupants the chance to adjust the conditions to suit themselves. Discomfort is increased is not provided, or if the controls are ineffective, inappropriate or unusable.”

**Energy label**

“Energy efficiency standards and labels (EE S&L) are sets of procedures and regulations that, respectively, prescribe the minimum energy performance of manufactured products and the informative labels on these indicating products’ energy performance.” (Energy Charter Secretariat, 2009, p. 7)

Energy labels have seen a significant increase in the last decade. An energy label for building was introduced in The Netherlands in 2008, in order to identify the energy efficiency of each house. This energy label (See Fig. 6) measures the energy consumption of a building per square meter. The lower this number, the more efficient the energy consumption of a house is. The label is mandatory for the sale of a house, yet this rule is not enforced or sanctioned which leads to a slow adaptation rate and few houses have a listed label.
Additional information on sustainability within houses

Building Research Establishment Environmental Assessment Methodology (BREEAM) is a global assessment method to measure and certify the sustainability in the built environment, within the meaning of low carbon and low impact design (BREEAM, 2014). It is very detailed, and assesses a building on the following categories:

- Management
- Health & Wellbeing
- Energy
- Transport
- Water
- Materials
- Waste
- Land Use & Ecology
- Pollution

BREEAM certification is implemented in The Netherlands by the Dutch Green Business Council, primarily requested by large commercial buildings. As of January 2014 there were about 450 (new and used) buildings registered with a BREEAM certificate.

A BREEAM certificate is currently not of any influence in the official appraisal report, and it may only be briefly mentioned. The lack of recognition for the certificate should be addressed, as it is a globally established assessment method of holistically measuring sustainability in the built environment.
2.4 Relevance Tree
A relevance tree provides an overview of the relevance of this research into the value of sustainability in the Dutch housing market can be seen in Figure 7 below.

2.5 Summary
There are two types of valuations: one mandatory one initiated by the municipalities, and one paid valuation initiated by the buyer or seller of a house. The latter one is used in the context of this thesis because it is the relevant appraisal for the sale of a house, and a more accurate representation of the property's value.

Realtors have the direct contact with consumers and provide most of the initial information: neighbourhood, selling price, aesthetics, transportation, and current state. As appraisers they are responsible for the conducting of individual house appraisals and decide on the final value. Their models and frameworks decide on how much each factor weighs in on the price.

Sustainability, in the context of this thesis, can best be defined as a concept that "represents diverse local to global efforts to imagine and enact a positive vision of a world in which basic human needs are met without destroying or irrevocably degrading the natural systems on which we all depend".

There is an increasing amount of pressure from national and international governmental organization to improve the energy efficiency, in order to combat the depletion of our
natural resources and the increasing energy cost affiliated to this. However, the housing market is seeing a slow adaptation of sustainability, party due to the ‘vicious circle of blame’ in which stakeholders are holding each other responsible for the lack of sustainability in the housing market. This interdependency needs to be broken by the provision of information to buyers, and in this way stimulating the demand.

Buyers can be concluded to be attracted to measures that include the saving of energy costs, such as the installation of solar panels, or good insulation. However, due to the lack of regulation, these measures are still slowly developing. There should be an impact on the value of the building with such measures taken to make a house more sustainable. Research points towards a need for “further market evolution and clear differentiation of the effects of sustainability on market value through extensive analysis of unbiased evidence-based research in individual and broader markets.” (Warren-Myers, 2012)

Information for the sustainability can be provided to the buyer via: appraisal report, BREEAM certificate, and/or an energy performance certificate. An appraisal framework, the foundation of house information, is established by the Foundation of Valuations and Validations (STenV). The information regarding sustainability is lacking in the report, having only a handful of questions that somewhat relate to the topic. Other information about the sustainability of a house can be provided when requesting a BREEAM certification, providing an in-depth assessment and rating of the sustainability. However, this certificate is relatively expensive and more common by larger commercial buildings. The energy performance certificate was introduced in 2008 and labels Dutch houses on their energy efficiency. It is technically mandatory, but not enforced, contributing to a slow adaptation rate and low awareness.

A relevance tree concludes the value of sustainability in houses to be influenced by four main factors: availability of sustainable houses, the necessity for them, the availability of information on sustainability, and the buyers ability to pay. These four themes play an underlying role in the research question, with a focus on the availability of information.

The literature indicates that changes in the property valuation methods are necessary in order to reflect the transitioning value perception of the market. Sustainability is becoming more important, but there is a seems to be lack of available information. Processes are outdated and have not yet adapted to the market. More transparency and information is necessary to aid decision-making towards those interested in a more sustainable house. This thesis will thus research what the true value perceptions, and how the valuation framework can be adapted to those changes.
3. Methodology

This chapter discusses the chosen research questions, their objectives, elaborate on the research methods, and outline the credibility and planning of the research.

3.1 Introduction

According to Kumar (2005), research is a process for collecting, analyzing and interpreting information to answer questions. However, the research must still be controlled, rigorous, systematic, valid and verifiable as well as empirical and critical. This is why it is crucial to make a thorough planning and pick the right research method. A research method is merely a technique for collecting the data (Bryman & Bell, 2007). Broadly speaking, there are two sources to collect data: primary- and secondary research. Primary data can be defined as data that has been obtained by the researcher itself (Burt, Barber, & Rigby, 2009). Secondary data is data that has been collected for other purposes than the current research (Schmidt & Hollensensn, 2008). Based on these definitions, it makes sense to infer that the research method mostly applies to primary research.

The thesis is an exploratory study. Multiple methods for primary data collection have been selected for this thesis, consisting of a survey and five interviews. A mixed method approach was taken to allow for the collection of both quantitative and qualitative data. The research findings of the interviews with realtors/appraisers will be used to answer the first question, and the survey will aim to answer the last two research questions.

3.2 Research Questions

The three research questions can be elaborated on as follows:

1. **How is sustainability currently being valued by realtors and appraisers?**
   
   The perspective of realtors/appraisers are gathered and analyzed in order to provide the reader insight in how this important stakeholder group defines and values the concept of sustainability. This will show where sustainability fits in and if changes have been taking place in the market.

   **Objective:** To determine how sustainability is valued by real estate professionals.

2. **How do buyers value the sustainability of a house?**

   A closer look at the direct consumers of the housing market provides more perspective on how they feel about the topic, how important it is to them, and how different sustainability aspects are being prioritized.

   **Objective:** To understand the different perspectives of potential buyers on the sustainability of a house and what they value most.

3. **Is the provided information regarding the sustainability of a house sufficient for buyers?**

   As information plays a big role in how something is valued, I look at whether or not buyers are provided with holistic information on the sustainability of a house, and whether or not there is a deficiency.

   **Objective:** To determine to what extent there is an information deficiency regarding sustainability for buyers in the current housing market.
3.3 Data Collection Method
As previously mentioned, both a survey and interviews were chosen to collect primary data. The source questionnaire, and target questionnaire can be found in Appendix A1-2. The structure of the interview per stakeholder group (3) can be viewed in Appendix B1-3. The summarized interviews can be found in appendix B4-9.

Survey
A questionnaire can be anything that includes the same set and order of predetermined questions for a group of people to answer (deVaus, 2002). There is no sampling frame to work with when researching buyers, as this can be anyone in The Netherlands. Thus, the sample was selected using non-probability sampling. A sample size of 50 buyers was decided on because (1) this is an exploratory study, which aims to get a first taste of the current market, and (2) a time constraint when looking realistically at the time scope of a bachelor thesis.

It was difficult to identify potential buyers, since this is not something registered anywhere. I used two sampling techniques to identify buyers: Snowball technique and self-selection sampling. For the first snowball sampling technique you make initial contact with a few respondents and “these cases identify further members of the population, who then identify further members, and so the sample snowballs” (Saunders, Lewis, & Thornhill, 2009, p. 240). The self-administered online survey was sent to at least 15 different persons in my professional and personal network (incl. realtors/appraisers) who then sent it to the relevant people. The second sampling technique of self-selection “you allow each case, usually individuals, to identify their desire to take part in the research” (p. 240). To do so, I advertised my survey using social media and forums and was able to identify to buyers that gathered in similar areas of the internet (e.g. hypotheken-forum.nl).

In Table 1 we can see some characteristics of the 50 respondents. They have been categorized by gender, age, time period, experience, the province, and what type of house they want to buy.

The gender spread was significantly skewed to male respondents (74%).

The age groups were divided as followed: 25-30 / 31-35 / 36-40 / 41-50 / 51+. This age minimum of 25 is in place based on the fact that it is both difficult and uncommon for anyone younger to obtain a mortgage. The groups were chosen since they represent different stages in a persons’ life. The majority of respondents were age 25-30 (42%), followed by those 31-35 (24%).

Potential buyers refer to those that have the intention to buy a house in the near future. The question asking if, and when, the respondent was looking to buy a house confirmed the correct target market. The majority were either looking to buy a house within the next year (48%) or looking to buy a house in 1-5 years (46%)

Most respondents (38%) were not sure yet on the type of house they were looking for, with the second largest group opting for a freestanding house (28%).

<table>
<thead>
<tr>
<th>Table 1: Characteristics</th>
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<tbody>
<tr>
<td><strong>Gender</strong></td>
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<tr>
<td>Male</td>
</tr>
<tr>
<td>Female</td>
</tr>
<tr>
<td><strong>Age</strong></td>
</tr>
<tr>
<td>25-30</td>
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<tr>
<td>31-35</td>
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<td>36-40</td>
</tr>
<tr>
<td>41-50</td>
</tr>
<tr>
<td>51+</td>
</tr>
<tr>
<td><strong>Buying a house</strong></td>
</tr>
<tr>
<td>No</td>
</tr>
<tr>
<td>Within 1 year</td>
</tr>
<tr>
<td>In 1-5 years</td>
</tr>
<tr>
<td>After 6 years</td>
</tr>
<tr>
<td><strong>Type of house</strong></td>
</tr>
<tr>
<td>Freestanding</td>
</tr>
<tr>
<td>Rowhouse</td>
</tr>
<tr>
<td>Appartment</td>
</tr>
<tr>
<td>Unknown</td>
</tr>
</tbody>
</table>
No specific city was chosen, in order to reach more respondents and to form a more representative sample of the average buyer in the Netherlands. The most prominent province where respondents were looking to buy a house was North-Holland (56%). The other provinces that respondents were looking to invest in are Groningen (14%), Friesland (10%), South-Holland (8%), North-Brabant (8%), and Gelderland (6%).

Interviews
The sample group of the interviews primarily focused on realtors/appraisers in the Dutch real estate market due to the fact that my first research question relates to this stakeholder group. The other interviews were conducted with experts who were able to provide a better insight on both the valuation process in the Dutch housing market as well as the engineering perspective on the housing market.

The sampling frame were the real estate experts in The Netherlands, whom I selected using purposive sampling. Purposive sampling (or judgmental sampling) is when “the judgement of the researcher is used to select the cases that make up the sample.” (Saunders, Lewis, & Thornhill, 2009, p. 498). The total sample size was five persons, and their selection criteria can be seen in Table 2.

Table 2: Sample size, selection criteria, and themes discussed

<table>
<thead>
<tr>
<th>Selection criteria</th>
<th>Three realtors/appraisers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Themes</td>
<td>At least 10 years experience&lt;br&gt;Active in the Dutch (consumer) real estate market&lt;br&gt;The current appraisal process, defining sustainability, presence of sustainability, buyer habits/trends, sustainability information, outlook on sustainability</td>
</tr>
<tr>
<td>One expert on validation</td>
<td>At least 15 years experience&lt;br&gt;Active in the valuation process of residential buildings in The Netherlands</td>
</tr>
<tr>
<td>Themes</td>
<td>Validation process, adaptation to market changes, defining sustainability, sustainability trend and changes, value of sustainability now and in the future</td>
</tr>
<tr>
<td>One expert on sustainable building</td>
<td>At least 5 years experience&lt;br&gt;Background in building engineering or architecture, and experience in the application of sustainability.</td>
</tr>
<tr>
<td>Themes</td>
<td>Role of building in appraisal process, aspects of value, defining sustainability, sustainable interventions, integration of sustainability in building, outlook</td>
</tr>
</tbody>
</table>

The interviews were all an average of one hour and semi-structured. Per stakeholder group a list of questions was prepared to determine the structure and questioning. However, besides these questions I made sure to make use of follow-up questions to allow me to direct the interview where necessary and to encourage the interviewee to share more insights and experiences. They were conducted in person in their offices to increase the interaction and stimulate the sharing of experiences on certain topics. There was one exception to this for one of the realtors with whom I conducted a phone interview with (due to distance and convenience). The characteristics of the experts can be viewed in Table 3.

Table 3: Sample group characteristics

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Three realtors/appraisers</th>
</tr>
</thead>
<tbody>
<tr>
<td>One had 7 years experience.</td>
<td></td>
</tr>
<tr>
<td>Two had their own real estate agency, NVM-certified (by Dutch Association of Realtors)</td>
<td></td>
</tr>
<tr>
<td>One was located in a city (Amsterdam). The other two were located in suburbs (Vlaardingen, and Aalsmeer).</td>
<td></td>
</tr>
</tbody>
</table>
• Two were focused on residential real estate, and occasionally commercial. One was primarily focused on commercial real estate.

One expert on validation
• NWWI is the largest validation institution. The expert has been working there since the validation pilot in The Netherlands of 2008.
• Responsible for all policy development and implementation procedure within NWWI
• Also experience as a realtor/appraiser for 11 years

One expert on sustainable building
• 5 years working experience in The Netherlands
• Background in structural engineering, civil engineering, and specialization in sustainable development
• Active in projects that incorporate sustainability

3.4 Research Credibility
For the literature, careful consideration was made regarding the date of publishing using only the most recent publishing available. This is especially important due to the changing nature of valuation processes, and when concerning a trend. Literature was referenced from official governing bodies such as: The European Parliament (when regarding laws or policies), EU Energy Charter Secretariat, World Commission on Environment and Development, and World Health Organization. Other sources include those from peer-reviewed articles, research organizations, and educational books.

In order to address the issue of credibility, the reliability and validity of the primary data collected will be discussed.

Reliability and Validity of Survey
Taken into account to ensure reliability:
▪ The geographical scope was expanded to buyers interested in any province in the Netherlands in order to be most representative of the population.
▪ Include a variety of demographic and general questions to be able to filter out irrelevant respondents that are not representative of the desired sample group.
▪ Limited open questions in order to receive consistent responses and be able to group and quantify them and leave little room for personal interpretation.

Taken into account to ensure validity:
▪ Five different persons, representative of the sample, have provided me with feedback on the survey questions and the understanding they had of the questions. In addition, two persons with experience in research also provided me feedback on the structure of the survey and input on the questions asked.
▪ The Dutch language was used in order to communicate to the sample in their native language and to avoid misunderstanding related to translation.
▪ Asking questions in a different way where possible to cross-check and address the threat of interpretive validity.

Reliability and Validity of Interview
Taken into account to ensure reliability:
▪ Preparing interview structure with questions for each of the three stakeholder groups (See Appendix B1-3) to maintain consistency.
▪ Audio-recording every interview to ensure accuracy and be able to review material.

Taken into account to ensure validity:
▪ Asking questions in a different way where possible to cross-check and address the threat of interpretive validity. I would repeat their phrase to make sure I interpreted their statement correctly, and they would either agree or include more information. (“So your definition of sustainability within the context of the housing market is primarily that which focuses on energy efficiency?”)
▪ Making sure any causal relationship that is brought up by the interviewee is broken
down and explained. ("The buyer does not inquire about information of sustainability and thus does not care? What happens if the information is provided to him/her? Are they still not interested?")

The research limitations of the research included:

- Respondents of questionnaire were skewed towards male (74%). This may influence the results if either gender may feel stronger towards sustainability, or have a different perspective on specific aspects of a house (i.e. men are generally more practical, thus could be more critical on the construction of a house).
- Respondents of questionnaire were skewed towards those seeking a house in North Holland. This may include more respondents looking for a house in Amsterdam, and they may have different standards for a house due to the saturated housing market in Amsterdam, dominated by old buildings. This may lead to respondents not being as interested in the characteristics of a house, and more interested in acquiring a house at a prime location in the city.
- The sample size of 50 potential buyers is a start of an exploratory study, but should be increased when pursuing this topic in order to increase the credibility of the research.

3.5 Data Analysis

Data analysis can be split up in the analysis of the survey, and that of the interview.

Survey

Data was digitalized, coded, and put into SPSS software and Excel. This allowed me to categorize and quantify the data to form tables and diagrams. These visuals were then described in my findings and relationships were explored, deducted from the observed trends and central tendencies. Any qualitative data that originated from open questions was observed for patterns and used to draw conclusions.

Interview

The approach that was taken is primarily leaning towards that of an inductive approach, in which the data is first collected before establishing specific themes to follow (Glaser & Strauss, 1967) and is much more relevant to an exploratory study such as this.

The transcribed data was summarized (See Appendix B4-8) and then categorized according to the stakeholder group and the relevant research question it addresses. By summarizing the data, and presenting it per stakeholder group, it gives good overview of all the interviews and allow for more transparency into the observers reasoning and conclusions.

3.6 Research Planning

The following paragraphs will compare the original methodology to the actual methodology used and the impact of the changes on the credibility of the research.

Data Collection (Survey and Interview)

- Initially, I planned on conducting a face-to-face survey on real estate fairs in Amsterdam. Due to circumstances and time horizon, the fairs were missed and the data collection methods were altered to more convenient and realistic methods.
- Initially, I aimed to interview six stakeholders. Of those six I would then interview two realtors and two appraisers (four in total). However, after some more research it was discovered that most realtors also appraised their buildings. I then decided to combine this stakeholder group and conduct three interviews instead of four as their perspectives would be sufficient to give me insight in either professions.
Research Credibility

- The change in data collection from the survey had a significant impact on the validity of the results, since I was no longer able to avoid misunderstanding of questions. The online medium and snowball effect limited my reach and control over the data collection and lessened the credibility.
- The decreased sample size from 6 to 5 persons in the interviews could lessen credibility. However, since the realtors/appraisers were able to tell me their experience as both a realtor and an appraiser’s point of view, I feel that this enhanced consistency and therefore added to the credibility.

3.7 Summary

Three research questions were posed in order to reach the objective of this thesis to contribute to a valuation framework that integrates the changing value perception of sustainability.

1. How is sustainability currently being valued by realtors and appraisers?
2. How do buyers value the sustainability of a house?
3. Is the provided information regarding the sustainability of a house sufficient for buyers?

The first research question is answered by collecting primary data, using semi-structured interviews, from realtors and appraisers. Three realtors/appraisers were interviewed, with two other experts (building engineer, and validation expert) as a supporting role.

The second and third research question are answered using an online-distributed survey for 50 buyers in The Netherlands. Quantitative and qualitative data was collected from them in order to understand their perception on sustainability. The main characteristics of these respondents were that they were male (74%), age 25-30 (42%), buying within this year (48%), and looking for a house in North-Holland (56%).

The overall research credibility of the primary data can be concluded to be low to moderate. The decreased credibility is related to the survey being distributed online, and the sample size of the survey and the interviews being relatively low to the total population.
4. Research Findings

This chapter firstly provides the research justification. It then takes the reader through the research findings per research question with text and visuals. A summary concludes the research findings.

4.1 Research Justification

A multiple method approach was taken with this research, using both questionnaires and interviews. The justification for this method was to reach a larger number of people regarding information on a specific trend (sustainability in the housing market), which was not available in relevant secondary sources. A few open questions were also included, to guide the exploratory nature of this study. In addition to a questionnaire, semi-structured interviews were conducted with stakeholders to understand more about the processes in the valuation and 'seek new insights' (Robson, 2002, p. 59). It allowed me to explore themes relates to sustainability in housing, and gain unique insights on their experiences and opinion on how they see the trend develop. Moreover, this method is low-cost and not plagued by interviewer bias. However, there are also disadvantages such as miscommunication (since there is no assistance), lack of patience with long questionnaires and the sometimes low response rate (Hill & Jones, 2009).

4.2 Value of sustainability according to realtors/appraisers

The following section will cover research findings of the interviews with realtors and appraisers divided into: the appraisal process, sustainability, buyers, and the stimulation.

The appraisal process

In the beginning there was just one type of framework established by the associations for all appraisals, with the model provided on a couple of pieces of paper. Changes could always be made, after consulting a representative of the lender. The process since then has become a lot more integrated due to the automated processes and calculations, and the large amount of partners that are involved.

When asked about the adaptation of the framework to market changes, the validation expert explained that there are specific groups for this purpose. “For example, the housing corporation group consists out of appraisers of housing corporations, the housing corporations themselves, and the validation institute has the facilitating role.” This is how they assess market changes and make changes to the framework if absolutely necessary. However, having such integrated stakeholder groups does prove some difficulties in the adaptation of changes, and as the expert of validation said: “If there is a need for a modification, then the implementation time has to be six months so that every stakeholder has the time to carry out the modifications.”

The overall consent of the appraisers is that the framework is very accurate and detailed. “Sometimes even too detailed,” according to one respondent. However, all respondents were in favor of a framework that would include more details about the sustainability. A realtor said that the phrasing was important. Instead of asking if there are any aspects of sustainability present, there should be a more detailed checkbox method “so that the appraiser is forced to answer on a specific question”. This would in turn also influence the buyer according to the realtor.

The most influential factor of value is the historical sale price of a comparable house, taken from a national database. The location and characteristics of a house are matched to several houses and their historical sale price is an indication of the market value. Sustainability was concluded to not be a factor that weighed into the value of the house. “It does not weigh in on the final decision whatsoever. It’s almost completely determined by a sales comparison,” is what one realtor commented.
Sustainability
The respondents seemed to be well-informed and interested in the topic of sustainability. “I see sustainability as the measures that can be taken by the consumer themselves,” said one of the realtors. The building engineer emphasized on the necessity of comfort. “I want to feel comfortable in my own home. That is primarily what sustainability means to me.”

The trend of sustainable houses is still in a very young stage. “The mentality about sustainability is not right yet. Of the government, the energy companies, and the consumers. It’s all still in its infancy” as said by a realtor. Another one agreed and mentioned “I’m convinced things will turnaround for the better, real soon, but at this stage we’re entirely at the start of it still.”

Buyers
Especially the validation expert seemed sceptical on the awareness of the buyer, and lack of measures to stimulate this awareness. “A conventional house and a more sustainable house across the street may look similar, but one is more expensive due to the difference in construction materials and higher quality for example. This house is more expensive, but is it really worth more in the buyers’ eyes than an identical-looking house across the street?”

He also noted that the consumer needs be more aware because he pointed out their lack of interest and focus on price. “Nothing is as stimulating as when it impacts their wallets.”

There was also a prominent issue of the buyer not being able to see “the big picture” in the sense that they would still rather pick a house with lower rent and higher energy prices, than vice versa. “The consumer doesn’t value a house based on its monthly costs, but it values it simply based on the house itself; the location or the aesthetics. They look at what they can afford, and the monthly costs would be included here, but especially banks pay no attention to this.” According to a realtor.

With regards to buyers’ value on specific sustainability measures of a house, one realtor answered that the buyer valued the presence of double glass the highest, and sometimes they would inquire about the energy label. The energy label is mandatory, but not sanctioned, as recommended by the respondents. “If this is sanctioned, then it would significantly play a role in the development of sustainability,” according to one realtor. The

The market still needs to prove itself worthy of investment. Banks and government were said to be responsible to aid the development by either: stimulating sustainability by subsidies, or taxing those that are not applying sustainability. The validation expert pointed out the many subsidies of the government in favor of sustainability, but mentioned that subsidizing is not the only incentive. “As a government you can either subsidize these new energy measures, or you can can tax those things that are not impacting the environment in a positive way”.

They were all optimistic about the increased integration and role of sustainability in houses, and have been witnessing a slow adaptation. In 10 years time, the respondents were positive that the market will have adapted a lot more to the trend, and the investments would have had time to prove itself. “In 10 years, I can definitely see an environment in which everyone has solar panels,” noted a realtor excitedly.

4.3 Value of sustainability according to buyers
The following section will cover the research findings of the survey divided per topic of: overall perspective of sustainability, energy, and stimulation of sustainability.
Overall perspective of sustainability

Buyers indicated that sustainability played a relatively big role in their decision-making. The majority (58%) are of the opinion that sustainability was either important or very important in their ultimate decision-making in buying a house (See Fig. 8.1).

Out the five different resource flows of a house (Electricity, water, waste, building materials, and gas), the majority (25 respondents) collectively chose electricity to be their number one priority. This also correlates to realtors’ opinions that the most important sustainable interventions for buyers relate to insulation (e.g. double glass windows, floor insulation). Gas, water, building materials, and waste followed respectively at priority 2-5 (Fig. 8.2).

Energy

The interest in the energy label of a house can be concluded to be relatively high, with 31 respondents (62%) saying that they are interested to know the energy label of a house (See Fig. 8.3). This interest also translates to the question of whether or not they would be willing to pay more for a more energy efficient house. A significant amount of respondents (64%) said “Yes” to this question (See Fig. 8.4).
Stimulation of sustainability
Out of all the respondents, there was a majority that felt that sustainability should be stimulated within the housing market. 80% said this to be either “Important” or “Very Important” (See Fig. 8.5). Out of this particular group of respondents 64% were of the opinion that the government should be the one stimulating sustainability. The two other most popular answers in this group of respondents were “Banks” and “The buyers themselves”.

4.4 Availability of Information
The answers differentiated on whether or not they were provided sufficient information on the sustainability of a house. Only 16% of the respondents said “Yes” to this question, whereas others were not satisfied. They wanted more standardized information, more inclusive, and to be provided more detail. The majority are currently getting their information from online, their realtors/appraisers, or both. Those who also used the valuation report as one of their sources were 38% of the respondents.

Of the respondents, 56% admitted to not actively seek information on the sustainability of a house (See Fig. 8.6). The interviews with the realtors/appraisers revealed that consumers would generally not ask for information on the sustainability of a house. However, if it was provided, it would be appreciated and impact the buyer perspective. They mention that their peers were often not educated properly on this topic.

When asked “How Important is the appraisal report for your ultimate decision-making?” the results varied widely, from “Not at all” (28%) to “Neutral” (30%) to “Important” (24%) (See Table 4).

One open question asked “Do you believe that there is sufficient information available about the sustainability of a house?” Some respondents mentioned the difference between the information provided on older buildings and new ones. Older buildings were said to lack a clear overview on things such as energy efficiency. Another answer included “I would like to know information about the construction materials and the energy efficiency of a house.” In addition, four respondents mentioned the need for standardized or centralized information.

Another open questions collected comments of respondents on the topics. 10% respondents mentioned the need for sustainability to reflect on lower living costs.

<table>
<thead>
<tr>
<th>Table 4: Survey Results – How Important is the appraisal report for your ultimate decision-making</th>
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<tbody>
<tr>
<td>Not at all</td>
</tr>
<tr>
<td>-----------</td>
</tr>
<tr>
<td>14</td>
</tr>
<tr>
<td>28%</td>
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</table>
4.5 Summary
A multiple method design allows for both semi-structured data, in which multiple stakeholders are involved. Realtors/appraisers are interviewed to aid the exploratory study with unique experiences and insight on their perspective on the sustainability trend within the housing market. Questionnaires have been administered to reach out to buyers and analyze their current opinion of sustainability.

Realtors and appraisers believe that the current appraisal process is reliable, but can definitely be expanded to include more detailed on the sustainability aspects of a house. A checklist for this was recommended, and there was a general consent that the energy label of a house should be mandatory and sanctioned. Respondents had a good understanding of the concept of sustainability and the application in the housing market, but agreed that buyers were lacking the ability to see the bigger picture. They saw a (slow) visible trend in the housing market towards increased application of sustainable interventions, but it has not financially proven itself yet and still needs time to develop. Banks and government have to step up their game and aid the development by either: stimulating sustainability by subsidies, or taxing those that are not applying sustainability.

Buyers found sustainability to be a relatively important aspect of a house, with electricity being the main aspect being looked at. The majority wants to know the energy label of a house, and is willing to pay a premium for a more energy efficient house. They said it was important that sustainability was stimulated, pointing their fingers at the government to take on this responsibility.

Information for the buyer on the sustainability of a house is lacking, mostly due to the fact that it is not standardized for all buildings. The majority of buyers are not actively seeking information on the sustainability of the house. Buyers are left to be very dependent on the information that they are given by their realtors/appraiser, whom in turn are often not well informed on the topic.
5. Conclusions & Recommendations

This chapter concludes the research and provides a list of relevant and feasible recommendations in order to integrate sustainability more effectively in the Dutch housing market, following the conclusion of the first section.

5.1 Conclusions

After collecting and analysing the data on sustainability in the Dutch housing market, we can come to the following conclusions per research questions.

1. How is sustainability currently being valued by realtors and appraisers?

Sustainability is valued highly by the real estate professionals, but their lack of confidence in the market almost overshadows it. They believe that the presence and integration of sustainability will be developing rapidly in the next decade. They are not satisfied with the current value that sustainability is given, and see this as a result of the lack of metrics and proven investments. They want more consumer awareness and government intervention.

2. How do buyers value the sustainability of a house?

Buyers are disconnected with sustainability but interested when presented the topic. So they value it relatively low. They lack the initiative to pursue information, and fall back on making choices based on what they feel is more inexpensive. They do not feel stimulated and lack the presence of standardized metrics from which they could draw conclusions and make easier decisions. However, there is definitely an increasing awareness and interest on the topic (especially regarding electricity efficiency).

3. Does the provided information regarding the sustainability of a house sufficient for buyers?

No. Buyers are not satisfied with the provided information. They lack standardized metrics and centralized information. This is highly connected to how they value sustainability as presented in the second research question. By not being provided the right information in a simplified and comparable state, they cannot make judgements on the sustainability of a house. This then results in it not becoming a relevant aspect.

It is concluded that sustainability is currently not effectively integrated in the valuation process in the Dutch housing market. This has the result of a lowered value perception, while the potential is high.
The conclusion of the research can be visualized and summarized as seen in Figure 9 below.

Fig. 9: Ishikawa diagram displaying the conclusions on the valuation of sustainability in the Dutch housing market

5.2 Recommendations
An increasing demand for sustainable houses makes it an interesting market to watch, but it is still wary for "eco-flipping" investments due to the immaturity and lack of confidence demand. There are some necessary changes to be made in order for further developments to take place.

Recommendations have been drawn from the conclusions and can be divided per research question.
1. **Increase value of sustainability for realtors and appraisers:** Increase realtor involvement and knowledge transfer

Realtors lack confidence in how consumers value sustainability. Since they play a large role in the mediation, they have direct impact and influence on the information provided to the consumer. Buyers are seeking more information, and realtors can do exactly this.

It is therefore important that realtors are knowledgeable on the sustainability of a house and are able to inform their clients of the sustainable interventions applied in a house or the appropriate opportunities for them.

**For Metabolic:** this means that the realtor for their eco-flipping business must be significantly involved and knowledgeable on the various sustainable attributes of the house. However, for the optimal effect, a macro-approach would be recommended in order to not only benefit themselves, but the entire industry. Metabolic can become a frontrunner in stimulating more effective sustainability information to buyers.

Recommendations for this would be research into the most effective strategy to increase realtor involvement and determine the most valuable information that needs to be exchanged from realtor to buyer. Does the realtor need to expand its competencies? What are the current limitations of what the buyer wants to know and what the realtor can tell him/her?

2. **Increase value of sustainability for buyers:** Analyze incentive strategies that are most effective on buyers

Buyers are lacking initiative to pursue measures to increase sustainability in houses, and are not presented durable incentives that would aid the development of the sustainability. The majority of the buyers, and real estate professionals, believe that the government should play a role in incentivizing the industry. However, subsidies are only a temporary solution and, something that was also concluded from the interviews, tax intervention can also take on a bigger role in order to make sustainable houses the norm.

Imagine the following:

- All houses must carry an energy label of a C or higher. If the house does not meet this standard, the mortgage interest deducted from income taxes decreases 5% per label (so maximum 20%). To put this into perspective, imagine an owner with annual mortgage interest costs of €5,435 of a house with energy label E. This owner may only deduct €4,891.50 from his taxes, instead of the full amount. This gives the owners an extra annual cost of €543.50 for not investing in sustainable interventions to increase energy efficiency.

With such tax incentives, would buyers start seeing the more direct value of sustainability? It would be interesting to do some more qualitative data collection in this stakeholder group, perhaps in the form of a focus group, and see what a difference a variety of scenarios would have. The most optimal and effective measure can then be deducted.

**For Metabolic:** to present stakeholders a feasible proposal that impacts the entire industry. It has the potential to increase the value of eco-flipping, and other related sustainable business developments (for houses) that Metabolic may pursue. The Dutch real estate would be stimulated towards more sustainable housing, which has a tremendous benefit to the nation’s overall carbon footprint.
3. Improve the provided information regarding the sustainability of a house for buyers: Create strategies to integrate sustainability metrics in the valuation framework

Buyers are concluded to lack access to centralized and comparable metrics for easy decision-making. The increased integration of already-functioning metrics can improve this.

The recommendation is to look at ways in which current metrics can become more standardized. What are the effects of a sanctioned energy label? Would this ultimately affect the value of a house, and can it then be integrated in the appraisal report? Or maybe it should first be integrated into the report. What are the most effective metrics that buyers would appreciate? A proposal can be written on the first changes to a more integrated framework.

For Metabolic: they can use the research to validate the value of their eco-flipping projects to investors. By determining and measuring the right indicators, they can stimulate investors to buy a sustainable house over a more conventional house. In addition, the proposal can serve as a suggestion towards stakeholders such as Stichting Taxatie en Validatie (STenV) to improve the integration of sustainability in their valuation framework.

An example of what it an integration proposal could look like is represented in Table 5.

Table 5: Current and proposed Energy section 3 of Appraisal framework (See Appendix C)

<table>
<thead>
<tr>
<th>Current</th>
<th>Proposed</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>3. Energy label</strong></td>
<td><strong>3. Energy consumption</strong></td>
</tr>
<tr>
<td>a. This object possess an energy label, EPA, or EPC-calculation</td>
<td>a. Energy label</td>
</tr>
<tr>
<td>b. Energy label range</td>
<td>b. Annual energy consumption per m²</td>
</tr>
<tr>
<td></td>
<td>• Estimated annual energy consumption costs</td>
</tr>
<tr>
<td></td>
<td>c. Annual CO₂ emission</td>
</tr>
<tr>
<td></td>
<td>d. Solar panels present</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

5.3 Summary

With a growing demand and an immature market, there are still quite some changes to be made regarding the processes and policies in place to integrate sustainability in the housing market. Absence of standardized metrics is not stimulating the market sufficiently and it needs to be improved before developments can take place and investments are more secure. It can be concluded that sustainability is currently not effectively integrated in the valuation process in the Dutch housing market.

Realtors/appraisers value sustainability relatively higher than buyers, but lack the confidence in the market at the moment. They play a big role in the information that the buyer receives, but do not provide the buyer with sufficient information on sustainability as they act on the demand of the buyer, who is in turn not asking. Once again, enforcing the “vicious circle of blame” as previously pointed out.
Buyers are generally interested in sustainability but lack the initiative and the right incentives to influence the demand significantly. They have difficulties to see the ‘bigger picture’ in terms of long-term savings, which holds them back from investing.

Information can be seen as one of the major bottlenecks at the moment, seeing as there are few standardized metrics for houses on the topic of sustainability. The energy label is the only metric used in The Netherlands, yet it is not an enforced certificate for the sale of a house, and thus takes on a slow adaptation rate.

In order to stimulate the sustainability within the valuation process, there are three main recommendations for research:

1. Increase realtor involvement and knowledge transfer;
2. Create strategies to integrate sustainability metrics in the valuation framework;
3. Analyze incentive strategies that are most effective on buyers.

The housing market and the sustainability sector need to find more effective ways to integrate, and allow more rapid development towards a built environment with minimal impact on our planet. The research would continue exploring the topic of sustainable houses in the Dutch market, and ways which could stimulate its value among the various stakeholders.
6. Strategic Implementations

This chapter takes a look at the implementation of the previously determined recommendations in Chapter 5. The timeline, financial overview, risks, and summary will also be provided.

6.1 Implementation

The implementations can be split up in the various research recommendations made in Chapter 5.

Research into possibilities to:

1. Increase realtor involvement and knowledge transfer;
2. Analyze incentive strategies that are most effective on buyers.
3. Create strategies to integrate sustainability metrics in the valuation framework.

1. Increase realtor involvement and knowledge transfer;

The implementation phase is outlined in Fig. 10. The first phases would be about in-depth research on the current knowledge exchange (information) between buyers and realtors and their habits concerning changes in the information provided. The research findings can present a discussion topic for realtor associations in what can be done with the information and if a plan for implementation is realistic. The time horizon of this research would be approximately one year (See Fig. 11).

Fig. 10: Implementation 1 – Phases of implementation

![Diagram showing phases of implementation](image)

Fig. 11: Implementation 1 - Time scheduling in months (Phases 1-6)

![Diagram showing time scheduling in months](image)
2. Analyze incentive strategies that are most effective on buyers.

The implementation phase can be outlined as seen in Fig. 12 below. It is important to first have a clear sense of the possibilities of incentives that would stimulate sustainability. These would likely be related to either subsidies or tax. After calculating the outcome for each, it can be tested and discussed among a focus group of buyers. Keep in mind, a larger research may need to be conducted as an aid. The ultimate research findings would be discussed with key stakeholders such as municipalities. **The whole research would take approximately 12 months** (See Fig. 13).

![Fig. 12: Implementation 2 – Phases of implementation](image)

3. Create strategies to integrate sustainability metrics in the valuation framework.

The implementation is visualized in Figure 14 below. It would first and foremost include a good in-depth analysis of the various sustainability metrics to analyze which has the most potential in the Dutch market. A variety of ways in which these could be integrated into the valuation framework would be analyzed next. These combinations would then be tested and discussed within several focus groups. Using this feedback the optimal metric and integration method can be chosen and presented to stakeholders. **The research would take an estimated 12 months** (See Fig. 15). In case it proves potential, it could be piloted in a small city.

![Fig. 13: Implementation 2 - Time scheduling in months (Phases 1-5)](image)
6.3 Costs

The costs of this research are limited to labor costs. One full-time employee is required for the research. There are two choices regarding labor: utilizing two existing employees part-time, or hiring one full-time employee. The latter is recommended to increase the focus of the project to one specific person. The research can be marketed towards students who are writing their Master thesis in a related study (Sustainable development, real estate, finance, etc). With an average placement compensation of €300 (Studentenbureau, 2014), and time scope of 12 months, the total costs would amount to €3,600.-

6.4 Risks

There are certain risks that need to be considered when implementing the recommendations:

- **Difference in opinion and objectives.** With so many different stakeholders involved, it may be difficult to align their vision and work together on a sole purpose without perhaps a conflict of interest, or prioritizing different aspects. This is something that is unavoidable, especially with a topic such as sustainability which often generates a discussion and difference in opinions.
- **Difficulties with time scope.** Since the research takes approximately a year and the market is continuously developing, the research may be slightly outdated once finalized.
6.5 Summary
The recommendation of research would take roughly one year, and cost €3,600 in total.

The research to increase realtor involvement and knowledge transfer includes the following phases:

- Larger market research into current knowledge exchange
- Participant observation of buyer habits and impacts on knowledge exchange
- Research Findings
- Solutions for increased Dutch realtor involvement
- Discussion with realtor associations
- Strategy of implementation

The recommendation of analyzing incentive strategies that are most effective on buyers would take roughly one year and include the following phases:

- Research into incentives for buyers
- Calculate outcome for all methods and determine handful possibilities
- Hold several focus groups to discuss effects of incentives with buyers themselves
- Determine optimal incentive strategy
- Present findings to stakeholders to discuss
- Pilot in small city

The recommendation of integrating sustainability metrics in the valuation framework would take roughly one year and include the following phases:

- In-depth analysis of sustainable metrics
- Determine integration possibilities
- Hold several focus groups to discuss effects of integration with buyers themselves
- Determine optimal integration
- Present findings to stakeholders to discuss
- Pilot in small city

The risks of the implementation plan include the difference in opinion and objectives, and the time horizon. The outcome of the implementations would be of great benefit to the Dutch housing market and take this thesis to the next level and towards a more responsible (and optimal) housing market!
7. Reflection

The following chapter deals with the skills developed and obtained during the course of the thesis writing. IBMS competencies will be discussed, along with improvement points, lessons learnt, and argumentation for eligibility of the BBa degree.

7.1 Competencies

The following table 7 and 8 display the various competencies important in the IBMS program that are relevant to the thesis phase, and how I have been able to develop these in this thesis period.

**Profession-related Competencies**

<table>
<thead>
<tr>
<th>International Business Competencies</th>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
<th>Applicability to Research Subject</th>
<th>Coaching Needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>International business awareness</td>
<td></td>
<td></td>
<td>X</td>
<td>Medium</td>
<td>No</td>
</tr>
<tr>
<td>• Description:</td>
<td></td>
<td></td>
<td></td>
<td>The ability to outline and evaluate the key patterns and trends in international business activity, the different approaches to internationalization, the influence of increasing globalization, international trade systems and financial relations and the role of several principal institutions on international business. To assess the impact of these trends on his own activities and the business policy.</td>
<td></td>
</tr>
<tr>
<td>• Evaluation:</td>
<td></td>
<td></td>
<td></td>
<td>My thesis included an analysis on the Dutch housing market and sustainable developments that are very much interlinked to the global trends on sustainability.</td>
<td></td>
</tr>
<tr>
<td>Intercultural</td>
<td></td>
<td></td>
<td>X</td>
<td>Medium</td>
<td>No</td>
</tr>
<tr>
<td>• Description:</td>
<td></td>
<td></td>
<td></td>
<td>Intercultural competence is a set of cognitive, behaviourial, and affective/motivational components that enable individuals to interact effectively and acceptably in an intercultural environment. Culture specific competences includes the ability to recognize, understand and accept, in interaction with people from other cultures, their specific concepts in perception, thinking, feeling and acting.</td>
<td></td>
</tr>
<tr>
<td>• Evaluation:</td>
<td></td>
<td></td>
<td></td>
<td>Metabolic is a multi-cultural company with people from different countries and educational backgrounds. This gave me a lot of insight on different approaches with different cultures, and how to bring out the best of people in a group context. The interaction with stakeholders during my interviews was also very helpful to understand the different groups and their perspectives on the value of sustainability. The overall analysis of the Dutch housing market also gave me some interesting insights on the consumer behaviour</td>
<td></td>
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</table>
## IV Interpersonal Competencies

<table>
<thead>
<tr>
<th>Leadership</th>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
<th>Applicability to Research Subject</th>
<th>Coaching Needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Description:</td>
<td>The ability to take initiative and a leading role within a (project) team in order to reach a defined goal. As well as the skill to create and maintain productive relationships within teams. His role will be that of a mentor, facilitator.</td>
<td></td>
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<tr>
<td>• Evaluation:</td>
<td>My thesis allowed me to develop this skill as it required me to take initiative and decide which direction I want to go in. I built my network and reached out to stakeholders to conduct my research. The thesis required me to lead myself in the right direction, and understand my own limitations and when to approach others for assistance.</td>
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</table>

<table>
<thead>
<tr>
<th>Business Communication</th>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
<th>Applicability to Research Subject</th>
<th>Coaching Needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Description:</td>
<td>The ability to express himself fluently and correctly in English, both in speech and in writing. The ability to lead discussions, express his ideas, make proposals, draft reports and give presentations. The ability to make proper use of audio-visual aids in his presentations. The ability to make use of a wide range of communicative skills. His role will be that of a mentor, facilitator.</td>
<td></td>
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<tr>
<td>• Evaluation:</td>
<td>My competence in business communication has developed more during my thesis as I was required to write a proposal and final draft of a thesis that meets the high standards set by my thesis supervisors and the Rotterdam Business School. In addition, all communication within the company is in English, and gave me the additional insight on many technical terms regarding sustainability that were not in my vocabulary before.</td>
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</table>

## V Task-Oriented Competencies

<table>
<thead>
<tr>
<th>Business Research Methods</th>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
<th>Applicability to Research Subject</th>
<th>Coaching Needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Description:</td>
<td>The ability to apply relevant scientific insights, theories and concepts, to combine several subjects, to gather information and draw conclusions in a methodical and reflective manner. The ability to act carefully and punctually and to produce output that is literate, numerate and coherent.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>• Evaluation:</td>
<td>The thesis consisted of both primary and secondary data collection, in which I needed to determine the reliability and credibility of my sources, in addition to the relevance to the research objectives. This has greatly benefitted my skills in business research methods, as I had to apply all the knowledge of this topic into one research paper.</td>
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</table>

<table>
<thead>
<tr>
<th>Planning and Organising</th>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
<th>Applicability to Research Subject</th>
<th>Coaching Needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Description:</td>
<td>The ability to plan, manage, control and evaluate personal work activities and group work in projects. The ability to make use of relevant techniques in his activities to monitor his own performance.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Evaluation:</td>
<td>The thesis was a project that required a lot of planning and organizing. It was important for me to keep track of deadlines, and plan my work in such a way that I would be able to finish in June 2014. Although it was tough, I was able to manage my time pretty efficiently.</td>
<td></td>
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</tbody>
</table>
7.2 Lessons Learnt
There are two major lessons that I learnt over the course of this thesis for Metabolic: Focus, and project management.

- **Focus.** In the beginning of the thesis process I was struggling a little with the proposal phase, in which I had to narrow down the direction of the thesis and outline everything I would be doing. My scope was too wide and ambitious, and this led me to have some difficulties in understanding what research to conduct. After talking to my thesis supervisor, company supervisor, colleagues, and friends, I was able to realize where I was going wrong and I understood the importance of focus, especially on such a time sensitive project. It is of course not wrong to start off with a large scope and many ideas, but after this phase it should come down to a filtering process in which you narrow down your research objectives. This is something I definitely learnt in the course of my research.

- **Project Management.** The thesis itself is a project, and in order to complete the project successfully you must have a clear overview of the entire process. Although I find that my project management skills were always satisfactory, I do feel that the thesis has helped me develop them even more. Every stage of the research needs to be planned and managed properly so that everything can fall into place and the thesis can follow a cohesive structure. The management of strategy, time, and resources has definitely been a skill that I have-, and was required, to develop throughout the entirety of this thesis.

7.3 Improvement points
I would summarize the following points of improvement for myself, looking back over the course of my thesis:

- **Prioritize better.** I did my thesis simultaneously with an internship at Metabolic. Although this has given me significant value, it did provide me with some difficulties with prioritizing my tasks. I know many other students who get caught up in the internship work, rather than the thesis, and I felt myself doing the very same thing. It is very tempting to do so when the work is so interesting. Of course this is a good sign with regards to the work, but it does keep you from the very important fact that you need to graduate. This is where I felt like I needed to be stricter with myself.

- **Request assistance.** Due to my independent nature and insistence on figuring things out on my own, I felt that I increased my workload unnecessarily. Simply by asking for assistance by my supervisors would have provided me with a lot more efficiency. This is something I feel that I need to improve both in my personal, and in my professional life.

<table>
<thead>
<tr>
<th>VI Intra-Personal Competencies</th>
<th>Ethical and Corporate Responsibility</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Description:</strong></td>
<td>Understanding of the ethical, normative and social issues related to the professional practice and accepting the responsibility for his actions.</td>
<td></td>
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</tbody>
</table>

| **Evaluation:** | My thesis is surrounding this specific topic of ethical and corporate responsibility. It addressed the issue on if sustainability can be integrated more in the appraisal process of the residential housing. This has to do with increased awareness and integration of the efficient use of our natural resources and taking shared responsibility for this. |
7.4 Eligibility BBa degree
The thesis project allowed me to demonstrate my skills and knowledge from the entire International Business and Management program, showcasing my worthiness for the BBa degree. The BBa degree stands for the ability of the student to take on a process-oriented view in the international business environment, and have an in-depth understanding of the interdependent business activities of a company and its industry. I believe to be fully equipped with understanding of the international business activities of a company, throughout its entire supply chain.

In addition to having acquired the necessary knowledge, I have also gained the understanding of cross-cultural communications, and critical thinking skills, that will benefit me professionally and personally. The thesis enhanced these skills, by the various obstacles that I overcame and the methodology that I had to construct independently. One of these obstacles was the data collection phase, in which I was facing a large research objective and a very limited time horizon. I narrowed down my scope, and managed my time in such a way that I would still be able to complete the research in the appropriate time.

The thesis project has ultimately proven that I am able to apply the above-mentioned knowledge and skills in different areas, for example: research design, analyses of a market, interviewing experts, and strategic planning. I therefore feel prepared for my career and will continue developing myself as an international business professional.

7.5 Summary
Ultimately, the thesis research project was a large responsibility that demonstrates my ability to work and conduct research independently to produce a cohesive report that integrates the knowledge I have acquired during my years as an IBMS-student.

My professional-related skills were broadened by the international aspect of the thesis placement; both related to business awareness and the intercultural element. This was due to the intercultural working environment, and the international trends that influenced my research regarding innovative or exemplary methods of international real estate appraisal processes.

My generic competencies evolved on a multitude of levels, consisting of: interpersonal, task-oriented, and intra-personal competencies. My communication and leadership skills developed due to the independent nature of the thesis, and having to meet the high standards required by my supervisors and the RBS. Task-oriented skills, related to my research and management skills, increased because of the necessity to deal with the time and resource scope and understanding of conducting the relevant research. The intra-personal competency was entirely integrated into my research objective, which made it a necessity for me to have this skill developed. The nature of the thesis dealt exactly with the essence of this competency, being related to ethics and responsibility of our resource consumption and efficiency.

The entire thesis process has allowed me to holistically expand my skills as a leader, researcher, and systems thinker.
References


Appendix

A. Questionnaires
The following appendix will include both the source questionnaire and the target questionnaire that was administered online to buyers in The Netherlands.

A1. Source Questionnaire (English)

Value perception of sustainability within the Dutch housing market

Thank you for your interest in assisting me with my research. I am a student at Hogeschool van Rotterdam and the following survey is for my thesis on the value of sustainability in the Dutch housing market. The survey will take approximately 5 minutes, and note that your answers will be kept anonymously and confidential. Your time is greatly appreciated!

Note: Sustainability refers to the responsible generation and consumption of resource flows within a house.

1. What is your age group?
   - [ ] 25 – 30
   - [ ] 31 – 35
   - [ ] 36 – 40
   - [ ] 41 – 50
   - [ ] 51+

2. Gender:
   - [ ] Female
   - [ ] Male

3. Are you looking to buy a house in Amsterdam?
   - [ ] No
   - [ ] Yes, I’m looking to buy a house within:
     - [ ] 1 year
     - [ ] 1-5 years
     - [ ] > 6 years

4. Is this the first time you are buying a house?
   - [ ] No
   - [ ] Yes

5. In which province are you looking for a house?
   - [ ] Drenthe
   - [ ] Flevoland
   - [ ] Friesland
   - [ ] Gelderland
   - [ ] Groningen
   - [ ] Limburg
   - [ ] North Babant
   - [ ] North Holland
   - [ ] Overijssel
   - [ ] South Holland
   - [ ] Utrecht
   - [ ] Zeeland

6. What type of house are you looking for?
   - [ ] Apartment
   - [ ] Row House
   - [ ] Freestanding house
   - [ ] I don’t know yet

7. How important is the sustainability of a house for your ultimate decision-making?
   - [ ] Not important
   - [ ] Slightly Important
   - [ ] Neutral
   - [ ] Important
   - [ ] Very important
8. How would you prioritize these attributes of a house?
Rank the attributes according to your priorities (1 is highest, 5 is lowest)

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Rank (1-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waste</td>
<td>_____</td>
</tr>
<tr>
<td>Electricity</td>
<td>_____</td>
</tr>
<tr>
<td>Gas</td>
<td>_____</td>
</tr>
<tr>
<td>Construction materials</td>
<td>_____</td>
</tr>
<tr>
<td>Water</td>
<td>_____</td>
</tr>
</tbody>
</table>

9. Do you actively seek information about the sustainability of a house?
- [ ] No
- [x] Yes

10. Do you think the sustainability of a house should be stimulated more?
- [ ] Not important
- [ ] Slightly Important
- [ ] Neutral
- [ ] Important
- [ ] Very important

11. In your opinion, who should be stimulating sustainability to buyers?
- [ ] Banks
- [ ] Realtors/Appraisers
- [ ] Government
- [ ] The buyers themselves
- [ ] Nobody
- [ ] Other: _____________________

11. Are you interested in the energy label of a house before buying it?
- [ ] No
- [ ] Yes
- [ ] I don’t know what that is

12. Would you pay more for a house that is more energy efficient?
- [ ] No
- [x] Yes

13. Where do you look for the information that you require of a house?
- [ ] Online
- [ ] Realtor
- [ ] Valuation report
- [ ] Family and friends
- [ ] Bank advisors
- [ ] Homeowner
- [ ] Other: _____________________
14. How important is the valuation report in your decision-making?

☐ Not important  ☐ Slightly Important  ☐ Neutral  ☐ Important  ☐ Very important

(open) 15. Do you think you are provided with all the necessary information about the sustainability of a house? * If you don’t believe so, please indicate the topic you would like more information about.

(optional) 16. Any comments on how you value the sustainability of a house?

A2. Target Questionnaire (Dutch)

Waarde percepie van duurzaamheid in de Nederlandse koopwoningmarkt.

Dank u voor uw belangstelling in dit onderzoek. Ik ben een student aan de Hогeschool van Rotterdam en deze enquête is deel van mijn afstudeerscriptie waarbij ik de waarde percepie van duurzaamheid in de Nederlandse koopwoningmarkt onderzoek. De enquête zal ongeveer 5 minuten duren, en uw antwoorden zijn ongenoemd. Heel erg bedankt voor uw tijd.

Note: Duurzaamheid in dit context heeft te maken met het verantwoordelijk opwekken en gebruiken van de verschillende hulpbronnen van een huis.

* Required

Wat is uw leeftijdsgroep? *

- 25 - 30
- 31 - 35
- 36 - 40
- 41 - 50
- 51 +

Geslacht *

Voor wanneer wilt u een huis kopen? *

- Nee
- Ja, binnen 1 jaar
- Ja, binnen 1-5 jaar
- Ja, na 6 jaar
- Other: [ ]

Is dit uw eerste ervaring met een huis kopen? *

- Ja
- Nee
**In welke provincie zoekt u een huis?**

- [ ]

**Wat voor type huis zoekt u?**

- [ ] Appartement
- [ ] Rijtjeshuis
- [ ] Vrijstaand huis
- [ ] Weet ik nog niet

**Hoe belangrijk is de duurzaamheid van een huis voor uw uiteindelijke beslissing?**

- [ ] Helemaal niet
- [ ] [ ] [ ] [ ] Essentieel

**Hoe zou u deze huis elementen rangschikken?**

Probeer zo juist mogelijk aan te geven hoe u de aangegeven elementen zou rangschikken van 1 tot 5.

<table>
<thead>
<tr>
<th>Afval</th>
<th>1 (Hoogste prioriteit)</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5 (Laagste prioriteit)</th>
</tr>
</thead>
<tbody>
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</tbody>
</table>

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<thead>
<tr>
<th>Electriciteit</th>
<th>1 (Hoogste prioriteit)</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5 (Laagste prioriteit)</th>
</tr>
</thead>
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<th>Gas</th>
<th>1 (Hoogste prioriteit)</th>
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<th>3</th>
<th>4</th>
<th>5 (Laagste prioriteit)</th>
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<tr>
<th>Bouw Materialen</th>
<th>1 (Hoogste prioriteit)</th>
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**Bent u actief opzoek naar informatie over de duurzaamheid van een huis?**

- [ ] Ja
- [ ] Nee

**Vind u dat duurzaamheid in een huis meer gestimuleerd moet worden?**

- [ ] Helemaal niet
- [ ] [ ] [ ] [ ] [ ] Essentieel
B. Interviews
The following appendix section will include the following:

1. Interview structure: Realtor/Appraisers
2. Interview structure: Valuation Validation expert
3. Interview structure: Building engineer expert
4. Policy manager NWWI: Jan Pieter Redert
5. Realtor/appraiser: Gustaaf Vons
6. Realtor/appraiser: Karin Eveleens
7. Building engineer: Anastasios Kokkos
8. Appraiser/advisor: Eelco Horstman

B1. Interview Structure: Realtor/Appraisers

Personal
1. Can you explain your company operations? How long have they been operating, and what are the main activities?
2. What is your role in the company? Can you give me an example of some of your tasks?
3. Who is your target market? And who are your main partners?

The appraisal process
4. What is your company role in the appraisal process of a residential house? Can you walk me through an appraisal procedure?
5. Does your company have a role in the establishing of the appraisal framework that is used?
6. How does the framework, and the models applied to it, ensure the alignment to the current market value perception?
7. Do you feel that the value calculated by appraisers is always a true reflection of what the house is worth?
8. Do you feel that the framework provides all of the relevant and up-to-date information? Is there any aspect (small or big) that you might think is missing, or should be expanded?

9. In your opinion, what are the most important things that influence the value of a house?

**Sustainability**

10. How would you personally define sustainability in a house?

11. Would you personally be more interested in a sustainable house over a conventional house?

12. Which role does sustainability have in the appraisal industry? How about your company? Is this a topic that is discussed?

13. Do you feel that the sustainability of a house is correctly reflected in the appraisal? Are the aspects holistically measured?

14. Do you find that the current appraisal process stimulate sustainability, or not?

15. Do you feel that the role of sustainability has changed within this industry in the last 10 years?

16. What do you think is the biggest obstacle for sustainable houses at the moment? And how would you see this overcome?

**Value of Sustainable Interventions**

17. Do you feel that sustainable interventions increase the overall house value?

18. What kind of sustainable interventions do you feel are the most important for a house, and which to be the most valuable?

**House Information**

19. In your experience, do you think that a buyer has enough information about a house for their decision-making process? If not, what information should they still be provided with?

Do you have any further remarks about the valuation of sustainability within the Dutch housing market? Do you have any questions for me?

**B2. Interview Structure: Valuation Validation Expert**

**Personal**

1. Can you tell me a little bit about NWWI, and what your role is?

2. What are some of your daily tasks at the NWWI?

**The appraisal process**

3. What is the NWWI’s role in the appraisal process of a residential house?

4. Does NWWI have a role in the establishing of the appraisal framework that is used?

5. How does the framework, and the models applied to it, ensure the alignment to the current market value perception?

6. Do you feel that the value calculated by appraisers is always a true reflection of what the house is worth?

7. Do you feel that the framework provides all of the relevant and up-to-date information? Is there any aspect (small or big) that you might think is missing, or should be expanded?

8. In your opinion, what are the most important things that influence the value of a house?

**Sustainability**

9. How would you personally define sustainability in a house?

10. Would you personally be more interested in a sustainable house over a conventional house?

11. Which role does sustainability have in the appraisal industry? How about NWWI? Is this a topic that is discussed?

12. Do you feel that the sustainability of a house is correctly reflected in the appraisal? Are the aspects holistically measured?
13. Do you find that the current appraisal process stimulate sustainability, or not?
14. Do you feel that the role of sustainability has changed within this industry in the last 10 years?
15. What do you think is the biggest obstacle for sustainable houses at the moment? And how would you see this overcome?

Value of Sustainable Interventions
16. Do you feel that sustainable interventions increase the overall house value?
17. What kind of sustainable interventions do you feel are the most important for a house, and which to be the most valuable?

House Information
18. In your experience, do you think that a buyer has enough information about a house for their decision-making process? If not, what information should they still be provided with?

Do you have any further remarks about the valuation of sustainability within the Dutch housing market? Do you have any questions for me?

B3. Interview Structure: Building Engineer Expert

Personal
1. Can you explain your company operations? How long have they been operating, and what are the main activities?
2. What is your role in the company? Can you give me an example of some of your tasks?
3. What is your building engineering background like, and how does this connect to sustainability?

Building
4. Can you elaborate on the role of an engineer in the building of house? To what extent is your influence on the exact materials and flows, etc.
5. How are the materials and flows of a building determined? Who are the main partners involved in the building of a residential house?
6. In your opinion, what are the most important things that influence the value of a building?

Sustainability
7. How would you personally define sustainability within the context of a house?
8. What role does sustainability play in the designing of a house. Is it an important factor that gets a lot of attention?
9. Is it stimulated among engineers? Are engineers taught to keep environmental sustainability in mind? Is it a topic widely discussed?
10. What kind of changes have been taking place with regards to sustainable engineering in houses. Is there an increase of attention towards it?
11. What do you think is the biggest obstacle for sustainable houses at the moment? And how would you see this overcome?
12. How do you see the housing market in 10 years? Do you feel that the priorities of building are the same?

Value of Sustainable Interventions
13. What kind of sustainable interventions are most common in your line of work?
14. Do you feel that sustainable interventions increase the overall house value?
15. What kind of sustainable interventions do you feel are the most important for a house, and which to be the most valuable?
16. What is the main barrier at the moment with regards to the implementation of sustainable interventions in a house.

17. Is there enough information provided about the building to the users?
Do you have any further remarks about the valuation of sustainability within the Dutch housing market? Do you have any questions for me?

**B4. Policy manager NWWI: Jan Pieter Redert**

Jan Pieter Redert  
Manager Beleidszaken  
Nederlands Woning Waarde Instituut (NWWI)

**Time:** 10:30 – 11:45  
**Date:** 26.05.2014  
**Place:** Houten, NWWI Offices

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### Introduction

In 2008 – 2009 period, the NWWI went through a pilot period in some bigger cities to see if the validation process was feasible and if it was easy to integrate. As of January 1, 2010 the validation of appraisals have been deemed mandatory, and this decision created a large new market, of which NWWI currently holds an estimated 85-90% share.

The NWWI validates appraisal reports, which includes the checking of various elements throughout the entire appraisal process. They make sure the appraisers are operating at a quality standard, and the content of the report is correctly filled in and properly argued. They work together with many different partners next to appraisers. Both institutions and companies, ranging from governmental departments to banks to housing corporations.

Mr Redert is responsible for any issues regarding policy within NWWI, which also includes the coordination of communication on this topic between the various partners that NWWI works with. In addition to this, Mr. Redert is also the coordinator of the fraud prevention department and controls the validation support team.

### The appraisal process

NWWI is involved in the entire appraisal process, from when the report is requested to the finalized calculated market value. Their involvement in an appraisal report includes an average of 1000 or more quality checks. A lot of these are automated, but there are also people who check the content to make sure that the market value is properly argued. They meet the quality standards of StenV, but also make an effort to perform above that. NWWI has a social responsibility to monitor and control the appraisal process to prevent unfair representation of a house value.

In the beginning there was just one type of framework established by the associations for all appraisals, with the model provided on a couple of pieces of paper. Changes could always be made, after consulting a representative of the lender. The process since then has become a lot more integrated due to the automated processes and calculations, and the large amount of partners that are involved.

Changes to the framework require a variety of discussion rounds, of which NWWI plays a secretarial role. For the financial framework they offer direct input on changes they see to be relevant for the associations to take into consider for their models. Changes to the model would take an implementation time of six months so that there is sufficient amount of time to integrate it in the entire process for all parties involved. It should be noted that the NWWI does not have any direct decision-making power and this is up to each individual group.

They do create groups in which they bring appraisers and housing associations together to discuss issues related to a specific appraisal and the information they might be requesting which would influence some elements of the model. This is highly dependent on the context, and lenders and housing associations might be requesting completely different information.
The market value is validated by the adoption of the internationally recognized definition of market value. This leads to all appraisers appraising according to the same principles. When there are instances that do not follow the definition of market value (i.e. with renovations of the house or land), this has to be recorded by the appraiser. When these stray too far off, a model for “special management” is applied in which appraisers would conclude with an opinion, and are not allowed to call this the official market value. Mr. Redert concludes that the definition of market value is currently being properly applied by appraisers, with some struggle still present about the argumentation of the different elements. Appraisers mainly rely on sale comparisons of similar homes, but this can be difficult when speaking of outdated or unreliable comparisons. Various models can be used to support appraisers on seeking appropriate sale comparisons.

**Sustainability**

The concept is seen by Mr. Redert as a combination of different elements. It has to do with comfort, but also the social responsibility of someone to take care of each other with respect to the exhaustion of resources we face. To what extent are we able to limit our consumption and transition to a mentality in which we take shared responsibility for the limitation of resources? He finds sustainability can be measured from both the financial aspect and the “footprint” aspect. The mentality at the moment is believed to be mostly about consumption and driven by costs.

The topic of sustainability is discussed and debated at the moment among the various associations. There is research being done at the moment with regards to the influence of environmental aspects on the value of a house. They can already conclude two main aspects of sustainability within housing: energy efficiency, and the quality of construction. These interact with each other but are not mutually exclusive.

There is a current issue to determine the right balance between the investments being made in renovation and the savings on energy consumption. Mr. Redert believes that most of the investments in sustainability are mostly possible due to subsidies at the moment, and without them they would not be financially feasible. He is of the opinion that the incentives are important, but to what extent?

**Value of Sustainable Interventions**

Investments have not been able to prove themselves yet due to the early stage that we’re in, according to Mr. Redert. It is extremely difficult for an appraiser to determine what an investment would do to the value of the house, due to the fact that it is hard to measure and many variables are based on forecasts. The reliability of new technology is thus still questionable, which makes it very difficult to value the investment. The investments and their payback period still need to prove themselves in order to truly be determined to be feasible and profitable. In addition to this, a critical look needs to be taken at the materials used for the clean technologies to determine if they really are sustainable or not, not solely based on their efficiency.

Mr. Redert believes that the most important step for appraisers is to name and provide information on the various sustainable interventions and their characteristics. There are no calculations at the moment for appraisers to determine the increased value of a house when it is more energy efficient due to the implemented sustainable interventions. These are issues that are being discussed among associations and it seems that developments are taking place in order to determine types of calculations to support appraisers in this process.

**Stimulation of sustainability**

The electricity costs are either fixed, or determined by the amount of users. The latter of which can be reduced by more awareness about responsible usage of energy. A consumer should be made more aware about energy consumption, but the current market supply shows that household electronics (e.g. fridge, washing machine) that are less energy efficient are still more inexpensive. This is also why the consumer will still go with that choice.
The most effective method for people to be more aware in energy efficiency remains those that directly save them costs. Mr. Redert determines that there are two things that the government could do to stimulate consumers towards energy efficiency:

1. Incentivize sustainable measures taken by consumers (e.g. tax benefits, subsidies)
2. Taxing those whom are not being energy efficient (e.g. Kw usage ceiling)

Sustainability is seen by Mr. Redert as an irreversible trend and he sees this as a transition that includes two different aspects:

1. Tapping into new resources
2. Using our resources more efficiently

Information
Potential buyers of a home are believed to be primarily driven by emotion. They are not concerned with the sustainable interventions of a house, since they are judging mostly by aesthetics and their feelings about the place. The only time sustainability would be a question is when there would be required to replace certain previously installed interventions. Buyers would not care about the energy label of a house, since they’re just interested in finalizing the purchase. The information available is sufficient, based on the current demand. They could have implemented a mandatory energy label, but as the individual buyer was not interested in this requirement, it was not passed as a law. This reflects the lack of interest from the buyers in this topic.

Outlook
Looking at the current developments and (slow) increase in demand for sustainability in houses, Mr. Redert does expect the appraisal framework will be changed in order to accommodate a few more aspects of sustainability. He still questions which measures are there, which should be there, and if there are any records of proven ROI for sustainable interventions (value according to expectations, or actual track record?). What methods can appraisers use to generate a reliable valuation on the investments?

B5. Realtor/appraiser: Gustaaf Vons
Gustaaf Vons
Realtor and Appraiser
Vons & Van Santen Makelaar

Time: 16:10 – 17:15
Date: 26.05.2014
Place: Vlaardingen, Vons & Van Santen Offices

Introduction
Mr. Vons is a realtor and appraiser of a small real estate company focused on residential and commercial properties in Vlaardingen, together with one other partner.

The appraisal process
The request can come in from a variety of partners, from banks to individuals. After establishing where the request originates from, an appointment is made. Before entering the property, the relevant property data has already been collected via databases. Using sale comparisons from the NVM database, the appraiser can already get an idea of the margins that the house would likely fall under. The property is measured, to increase reliability of the numbers taken from the database. After analyzing the specific aspects of the house, you can funnel all the information to the report which would help you determine the final market value.

Previously, there were two different values: the free market value, and the forced sale value. But this was let go, as the forced sale value was not always correct and reliable.

The appraisal is reliable and reflects the value properly when the appraiser can conclude the market value using his/her experience and does proper research. The process is very
dependent on the appraiser, but is also a collection of quality checks from a variety of organization (e.g. NWWI).

One of the most influential factors that determine the attractiveness of a house are the looks of it (e.g. tidiness, modern), and whether or not it has been recently renovated. Buyers are currently attracted to new buildings. In addition, the operational costs are becoming increasingly more important, due to higher electricity costs.

Mr. Vons is of the opinion that the appraisal framework should include much more detail about the sustainability of a house, and believes that developments will naturally progress to include these aspects. When it does, it has potential to turn into a large industry. Not only will sustainability in buildings be attractive for consumers, but also for companies themselves. This is because sustainability significantly increases the operational costs of a commercial building.

**Sustainability**

Sustainability encompasses two elements: the usage of energy, but also the energy consumption of how something is produced. Mr. Vons sees sustainability as what you can do on the spot, on the individual level in order to make a difference on your total consumption. One of the questions is also whether or not the house carries an energy label. 90% of the time this is not the case, because it is not mandatory by law. It can easily be put into effect, and it is likely to happen, although it is unsure when.

Buyers are increasingly interested in the monthly electricity bills, and this is often asked on a viewing.

**Value of Sustainable Interventions**

Investing in sustainable interventions has previously been too dependent on subsidies, and has not received a proper structural approach.

The current buyer finds the most important sustainable intervention to be related to insulation (e.g. double glass windows, floor insulation), according to Mr. Vons.

**Stimulation of Sustainability**

Mr. Vons believes that the government should be stimulating sustainability more among homeowners. There needs to be more specific stimulating measures in place. The first step should be to make the energy label mandatory by law, which would be a big push for sustainability.

**Outlook**

Mr. Vons sees an optimistic development towards more sustainability awareness among buyers as the standards are increasing. The energy costs are increasing, and more attention is paid to our consumption on the national level. He believes that in a decade that the majority of the population would be more self-sufficient with regards to energy. The sustainable interventions would develop to become more integrated, and efficient, and more affordable. He also sees the financing side develop to support the transition more, with regards to mortgages and tax benefits.

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**B6. Realtor/appraiser: Karin Eveleens**

Karin Eveleens  
Realtor and Appraiser  
Eveleens Makelaar

**Time:** 11:05 – 11:50  
**Date:** 01.06.2014  
**Place:** Phone call
Introduction
Ms. Eveleens is the founder of a small real estate business in Aalsmeer, primarily focused on residential buildings and a small percentage of commercial property. Next to consumers, she also works with housing associations, the municipalities, and developers. In addition to being a realtor and appraiser, she is also one of the founders of the Sienergie Foundation. This foundation has a goal to promote awareness among consumers and businesses about the sustainable use of energy.

The appraisal process
The appraisal process starts with preliminary research in collecting data from a specific building from various databases. After this, the house is visited to look at how it looks, how the rooms are, etc. The homeowner is also involved to gain some additional information about the house with regards to particular details. Experience is a big factor in the visual inspection.

The biggest element in determining the final market value is the sale comparison of similar buildings. If there are few similar buildings to make a comparison, additional calculations are necessary. However, in the end, the building is worth whatever the buyer is willing to pay for it. The role of the appraiser is simply to build a case for the market value using actual data. In the end, the consumer is not interested in the content of the valuation report but simply want the concluded market value so that they know where they stand on the mortgage payments.

The framework used for the appraisal is seen by Ms. Eveleens to be very complete and covers all the relevant aspect. Some of the aspects that have to be included are even a bit too redundant and take up a lot of time. The content of the appraisal would not be taken into consideration by the consumer, since it is more of a concluding document to the sale of the house that is conducted for the bank.

Sustainability
Ms. Eveleens sees sustainability as a large concept of how materials are used, how they have been produced, at what cost, and how durable it is. She does not feel that it is a concept understood by the consumer, whom are mostly focused on energy efficiency. She believes the word should only be used among professionals, and not something that can be grasped by the consumers. We’re at the very beginning of the transition to the awareness of sustainability.

Developers are not interested in the concept at all and argue that the consumer does not want to pay for it. Ms. Eveleens counters that by saying that they would pay for it if it was offered or if it was the only choice they had. Especially since houses are more scarce in the suburbs, consumers care much less about the energy efficiency, and more about the location and the fact that they can buy the house.

Value of Sustainable Interventions
According to Ms. Eveleens, the energy efficiency has no influence on the final market value of a house. The consumer fails to judge the house based on its monthly costs, but instead focus on the location and aesthetics of the building and if this aligns with what they can afford. They look at their income and the mortgage, and fail to keep in mind what the operational costs are. Ms. Eveleens has experienced that the buyers don’t look at the monthly bills at all and don’t look at the bigger picture. In Ms. Eveleens opinion, the buyer does not consider the monthly bills of water/electricity/gas as part of the total costs and does not inquire about any sustainable interventions.

Stimulation of Sustainability
Unless the monthly costs become important for the bank, then it would not be necessary for the framework to include these things. It should not just come down to the mortgage payment, but the monthly costs.

Ms. Eveleens sees the banks and the government as those responsible for stimulating sustainability. The government should make sure to increase the awareness of sustainability among consumers, and the banks should be pushed to integrate the added value of lower costs...
monthly costs of a house.

The information about the sustainability of a house should partly come from realtor association. The individual realtor is not interested in the topic, but once the consumer is made aware (e.g., flyer) they do enjoy the information. The information should be made easily accessible and user friendly (e.g., calculation tools for insulation methods). This information should be integrated into the entire buying process.

**Outlook**

There's a visible trend towards sustainability and Ms. Eveleens also believes that there is a change of mentality that is not so much focused anymore on achieving continuous growth. The consequences of our actions on the environment are much more taken in mind and appreciate the quality of life. These developments are slowly progressing and thus it would also be demanded more by homeowners to start integrating sustainability. But this does need some encouragement and change for this transition. Within a decade this would definitely develop, with a top-down approach with the necessary resources of the government and banks.

**B7. Building Engineer: Anastasios Kokkos**

Anastasios Kokkos  
*Building Engineer*  
*Freelancer, Metabolic*

**Time:** 18:00 – 19:00  
**Date:** 02.06.2014  
**Place:** Amsterdam

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**Introduction**

Mr. Kokkos is a civil- and structural building engineer with a specialization in sustainable development. He is a freelancer currently managing a project named Schoonschip; a collection of fully sustainable residential buildings in Amsterdam North. His experience is primarily with residential multistory buildings, but also with the sustainability of specific building materials.

**Building process**

The building process is a complex processes involving many different stakeholders and massive amount of data to be coordinated. There is input from all the different parties, and the information coordination usually provides for miscommunication and difficulties in implementation. Every building project is different with regards to the approach and coordination, but there is often some conflict of interest between stakeholders such as those of spatial matter and the building engineers.

Mr. Kokkos believes that for the consumer the most important things of a building is the spatial design and their personal connection to the place. After this, he believes that also important are:

1. Window insulation and construction. The house should have at least double glass.
2. The mass of the construction. Thick walls indicate good insulation.
3. Individual console systems to control and monitor the comfort for the individual rooms.

**Sustainability**

Mr. Kokkos sees sustainability primarily as the comfort within a house. Primarily related to temperature, as you need to feel at ease in your own home.

He sees an increase in sustainability in the building process, as it is almost a must to take into sustainable aspects nowadays. However, Mr. Kokkos believes there is a serious lack of attention to the topic in the education system. It should be integrated in the courses, rather than having to choose it as a separate specialization like it is now.
B8. Appraiser DTZ Zadelhoff: Eelco Horstman

Eelco Horstman
Real Estate Appraiser
DTZ Zadelhoff

Time: 15:00 – 16:00
Date: 11.06.2014
Place: Amsterdam

Introduction
Mr. Horstman is an appraiser at DTZ Zadelhoff, working mostly with building corporations and developers to appraise building complexes. DTZ Zadelhoff is a large broker, investor, and appraiser in (primarily) commercial real estate.

Appraisal process
One of the main factors of the value of a building complex is the rent income. According to the liquidity of this income stream, the level of value is determined. In addition, one apartment deemed to be representative of the whole building, is visited and appraised to then be included in the appraisal of the whole building complex. However, if the whole building is rented out or there is an excessive amount of buildings in one assignment, no visual inspection takes place.

Of course, location is the most important aspect above all others. Besides this, and the rent, other valuable aspects of a house include: the size (m2), and whether or not it is independent (own entrance, kitchen, bathroom).

DTZ Zadelhoff doesn’t particularly always use a validation institute such as the NWWI, but they are more focused on meeting the accounting standards. They are RIKS certified and their appraisals meet all the PTA requirements.

Mr. Horstman believes the appraisal process to be an accurate representation of what the building is worth. Everything that needs to be taken into account is included, and otherwise it is noted.

DTZ Zadelhoff generates their own valuation models,

Sustainability
Mr. Horstman’s first thought by sustainability in real estate is the energylabel. When speaking of sustainability in the commercial real estate context, he associates this to BREEAM. He views the energy efficiency of a building separately to the energy consumption. The energy consumption of a building is independent from the efficiency, due to the different people in a house and different levels of usage.

The corporations have incorporated the energylabel, as one of the first, in order to map the sustainability of their buildings. However, at the moment this is no longer a priority due to financial instability and an overall decrease in building. Mr. Horstman is of the opinion that the industry should first improve on these aspects, and on professionalization before looking into sustainability. Renovations will happen eventually, so they can incorporate it then. Otherwise it is not something to be prioritizing. Sustainability in real estate is mostly applied to existing buildings, and not yet so much in new buildings. Corporations do have sustainability in mind, and they consciously make decisions in renovations in order to get a better energylabel.

Sustainable interventions
Interventions such as solar panels are primarily done by residents. One of the main barriers for investing in sustainable interventions by corporations is that they don’t get much, if any, benefits while still investing large amounts of money. The energy consumption is charged to the resident, so any investment made in energy efficiency will cause the resident to pay less
and does not make a difference for the corporation. Investing in sustainable interventions is more valuable as owner and user of the house.

People have been using sustainability as a mean to make their house more attractive opposed to other buildings.
C. Appraisal Framework

TAXATIERAPPORT
transactie woonruimte individueel (professionele opdrachtgever)

Versie: 1.1.

Dit rapport is geregistreerd bij <naam validatie instituut> onder nummer:
Referentie:

ALGEMEEN

A. OPDRACHT/OPNAME

Waardepeildatum : ..........- ......... - 201..
Bedrijfsnaam opdrachtgever : .................................................................
Naam opdrachtgever : .................................................................
Adres opdrachtgever : .................................................................
Opdracht namens opdrachtgever verstrekt door : .................................................................
Opdracht is uitgevoerd door taxateur : .................................................................
ingeschreven in het register : .................................................................
Lid van / aangesloten bij : .................................................................
Naam kantoor : .................................................................
Adres kantoor : .................................................................
Datum opname en inspectie : ..........- ......... 201..

B. OBJECT

1. Woningtype : .................................................................
   Bijzonder woningtype : .................................................................
   Adres : .................................................................
   Postcode, Plaats : .................................................................
   De (hemelsbreed gemeten) afstand tussen het vestigingsadres van het kantoor van de taxateur en het getaxeerde object bedraagt : .. km.
2. Verkoop onder Voorwaarden is van toepassing : Nee / Ja, het betreft de volgende variant: ……………

C. DOEL VAN DE TAXATIE

1. Het vaststellen van de marktwaarde ten behoeve van:
   a. het bepalen van de prijs bij : verkoop / aankoop / terugkoop
   b. …
2. Er is sprake van een arbitragetaxatie : Nee / Ja, namelijk met: ……………

D. WAARDERING

Het object is per waardepeildatum getaxeerd op:
- Marktwaarde : .................................................................
- Optioneel:
   Marktwaarde : .................................................................
   Bijzondere uitgangspunten:
   <beschrijving bijzondere voorwaarden>

Object: straat 1, 9999 ZZ Dorp
Datum: 01-09-2014
Rapportnummer: 1
Pagina: 1 (11)
E. VERANTWOORDING EN AANSPRAKELIJKHEID

1. Voorwaarden
   Op deze taxatie zijn van toepassing: .................................................................

2. Aansprakelijkheid
   De taxatie is uitsluitend bestemd voor genoemd doel en genoemde opdrachtgever. Er wordt geen verantwoordelijkheid aanvaard voor enig ander gebruik of gebruik door anderen dan de opdrachtgever.

3. Normblad Taxatierapport
   De taxateur verklaart de taxatie te hebben verricht: Ja / Ja, met uitzondering van ............................................................
   overeenkomstig het "Normblad Taxatierapport transactie woonruimte individueel (professionele opdrachtgever) versie 1.1.".

BIJZONDERE AANDACHTSPUNTEN

Deze opsomming geeft enige conclusies uit het rapport weer die voor het object van belang kunnen zijn. Voor een goed beeld van het getaxeerde object blijft kennisname van de integrale tekst van het rapport noodzakelijk.

F. IN DIT RAPPORT KOMEN DE VOLGENDE BIJZONDERE AANDACHTSPUNTEN VOOR

| 1. Bij de taxatie zijn waardebeïnvloedende privaatrechtelijke bijzonderheden naar voren gekomen (vraag G.2): | ja | nee |
| 2. De waarde wijkt meer dan 15% af van soortgelijke objecten in de directe omgeving (vraag H.2.b.): | 0 | 0 |
| 3. De onderhouds- of bouwkundige staat is in zijn algemeenheid "matig of slecht" (vraag I.2.a.): | 0 | 0 |
| 4. De te verwachten kosten voor direct noodzakelijk herstel van achterstallig onderhoud t.b.v. de instandhouding van het object bedragen meer dan 10% van de getaxeerde marktwaarde (vraag I.2.c.): | 0 | 0 |
| 5. Bij de taxatie is naar voren gekomen dat er sprake is, danwel een vermoeden bestaat, dat verontreiniging aanwezig is (vraag J.2.): | 0 | 0 |
| 6. Een van de modelwaarden wijkt meer dan 10% af van de getaxeerde marktwaarde (vraag L.3.): (Let op: Dit item blijft leeg als geen modelmatig rapport beschikbaar is voor het getaxeerde object) | 0 | 0 |

De afwijking tussen modelwaarde en marktwaarde is:
<Naam modelwaardeleverancier 1>: 0,0 %
<Naam modelwaardeleverancier 2>: 0,0 %

NADERE GEGEVENS

G. PRIVAATRECHTELIJKE ASPECTEN

1. Geraadpleegde informatie
   Door de taxateur is de volgende informatie geraadpleegd:
   - eigendomsbewijs: Ja / Nee, omdat.................................................................
   - kadastraal plan: Ja
   - kadastraal uittreksel: Ja
   - overig: .................................................................

Object: straat 1, 9999 ZZ Dorp
Datum: 01-09-2014
Rapportnummer: Pagina: 2 (11)
2. Kenmerken *(delen die niet van toepassing zijn, vallen volledig weg)*

### a. Grondgebonden

<table>
<thead>
<tr>
<th>Sub-item</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceel/percel met opstal(len), kadastraal bekend als:</td>
<td>Gemeente: .................................................................</td>
</tr>
<tr>
<td></td>
<td>Sectie: .................................................................</td>
</tr>
<tr>
<td></td>
<td>Nummer(s): ...............................................................</td>
</tr>
<tr>
<td></td>
<td>Grootte: .......................................................................</td>
</tr>
</tbody>
</table>

1. Volle eigendom: Ja / Nee

2. Recht van (onder)erfpacht

<table>
<thead>
<tr>
<th>Sub-item</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>erfverpachter</td>
<td>.................................................................</td>
</tr>
<tr>
<td>datum vestiging</td>
<td>.................................................................</td>
</tr>
<tr>
<td>einddatum van het recht</td>
<td>.................................................................</td>
</tr>
<tr>
<td>herzieningsdatum canon</td>
<td>€........................................</td>
</tr>
<tr>
<td>eerstkomende indexering</td>
<td>.................................................................</td>
</tr>
<tr>
<td>De volgende standaard erfpachtvoorwaarden zijn van toepassing</td>
<td>.................................................................</td>
</tr>
</tbody>
</table>

3. Recht van opstal: Nee / Ja

<table>
<thead>
<tr>
<th>Sub-item</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>eigenaar</td>
<td>.................................................................</td>
</tr>
<tr>
<td>datum vestiging</td>
<td>.................................................................</td>
</tr>
<tr>
<td>einddatum van het recht</td>
<td>.................................................................</td>
</tr>
<tr>
<td>vergoeding</td>
<td>€........................................</td>
</tr>
<tr>
<td>eerstkomende indexering</td>
<td>.................................................................</td>
</tr>
</tbody>
</table>

**Bijzondere erfdienstbaarheden, bijzondere kwalitatieve rechten en verplichtingen of overige bijzondere lasten of beperkingen**

De taxateur heeft voorwaarden of andere bijzonderheden waargenomen die de waardeontwikkeling substantieel kunnen beïnvloeden.

### b. Appartement

<table>
<thead>
<tr>
<th>Sub-item</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Het appartementsrecht ondermeer rechtgevende op het uitsluitend gebruik van het appartement</td>
<td>Gemeente: .................................................................</td>
</tr>
<tr>
<td></td>
<td>Sectie: .................................................................</td>
</tr>
<tr>
<td></td>
<td>Complexaanduiding: .................................................................</td>
</tr>
<tr>
<td></td>
<td>Appartementsindex: .................................................................</td>
</tr>
</tbody>
</table>

Het aandeel in het geheel bedraagt: .../... aandeel

**Bijzonderheden t.a.v. het appartementsrecht**

- Bestuurder/administrateur: .................................................................
- KvK-nummer van VvE: .................................................................
- Periodieke en eenmalige bijdragen aan VvE: .................................................................
- De meest recente balans dateert van: .................................................................
- is vastgesteld door de VvE: Ja / Nee .................................................................
- Uit de meest recente balans volgt: €...................................................
- totaal van algemeen reservefonds en bestemmingsfonds(en): € .................................................................
- exploitatiesaldo: € .................................................................
- langlopende verplichtingen: € .................................................................
- Er is door de VvE een meerjaren onderhoudsplan opgesteld: Ja / Nee, .................................................................
- Het meerjaren onderhoudsplan loopt tot: .................................................................
- De taxateur acht het saldo van het algemeen reservefonds en het voor onderhoud bestemde fonds vol-
doende in relatie tot het meerjaren onderhoudsplan : Ja / Nee , .................................................................
- Bijzondere gebruiksbepalingen : .................................................................................................

1. Volle eigendom : Ja / Nee

2. Recht van (onder)erfpacht : Nee / Ja, ..........................................................................................
   - erfverpachter : .........................................................................................................................
   - datum vestiging : ....................................................................................................................
   - einddatum van het recht : ......................................................................................................
   - canoon/vergoeding : € ...........................................................................................................
   - herzieningsdatum canon : .....................................................................................................
   - eerstkomende indexering : ....................................................................................................
   - De volgende standaard erfpachtvoorwaarden zijn van toepassing : .....................................

3. Recht van opstal : Nee / Ja
   - eigenaar : .............................................................................................................................
   - datum vestiging : ....................................................................................................................
   - einddatum van het recht : ......................................................................................................
   - vergoeding : € ....................................................................................................................... 
   - eerstkomende indexering : ....................................................................................................

Bijzondere erfdiensbaarheden, bijzondere kwalitatieve rechten en verplichtingen of overige bijzondere lasten of beperkingen:
De taxateur heeft voorwaarden of andere bijzonderheden waargenomen die de waardeontwikkeling substantieel kunnen beïnvloeden:

Nee / Ja, ...........................................................................................................................................

C. Complex:

1. Het complex staat op eigen grond : Ja / Nee

2. Recht van (onder)erfpacht : Nee / Ja, ..........................................................................................
   - erfverpachter : .........................................................................................................................
   - datum vestiging : ....................................................................................................................
   - einddatum van het recht : ......................................................................................................
   - canoon/vergoeding : € ...........................................................................................................
   - herzieningsdatum canon : .....................................................................................................
   - eerstkomende indexering : ....................................................................................................
   - De volgende standaard erfpachtvoorwaarden zijn van toepassing : .....................................

3. Recht van opstal : Nee / Ja
   - eigenaar : .............................................................................................................................
   - datum vestiging : ....................................................................................................................
   - einddatum van het recht : ......................................................................................................
   - vergoeding : € ....................................................................................................................... 
   - eerstkomende indexering : ....................................................................................................

Bijzondere erfdiensbaarheden, bijzondere kwalitatieve rechten en verplichtingen of overige bijzondere lasten of beperkingen:
De taxateur heeft voorwaarden of andere bijzonderheden waargenomen die de waardeontwikkeling substantieel kunnen beïnvloeden:

Nee / Ja, ...........................................................................................................................................

Object: straat 1, 9999 ZZ Dorp
Datum: 01-09-2014
Rapportnummer:
H. OMSCHRIJVING OBJECT EN OMGEVING

1. Object

a. Nadere omschrijving van het object : ………………………………………………………………………………………………………

b. Bouwaard en toegepaste constructie : ………………………………………………………………………………………………………

c. Installaties (merk / type /bouwjaar) : ………………………………………………………………………………………………………

d. Aantal groepen meterkast : …………groepen met / zonder aardlekschakelaar

e. Volgens opgave van heef het object de volgende vormen van isolatie
   - Dak : Nee / Ja, ………………………………………………………………………
   - Muur : Nee / Ja, ………………………………………………………………………
   - Vloer : Nee / Ja, ………………………………………………………………………
   - Glas : Nee / Ja, ………………………………………………………………………
   - Anders : Nee / Ja, ………………………………………………………………………

f. Bijzonderheden met het oog op duurzaamheid : ………………………………………………………………………………………………………

g. Bouwjaar : ……........................................................................................................

h. Gerealiseerde aanzienlijke wijzigingen/uitbreidingen : ………………………………………………………………………………………………………

i. Indeling : ................................... .............................................................................

j. Gebruiksoppervlakten
   - wonen : ………..m2
   - overige inpandige ruimte : ………..m2
   - gebouwgebonden buitenruimte : ………..m2
   - externe bergruimte : ………..m2

k. Indicatie bruto inhoud : ………..m3 (exclusief bijgebouwen als garages e.d.)

2. Omgeving

a. Wijk, stand, voorzieningen : ……………………………………………………………………………………………………………

b. De waarde wijkt meer dan 15% af van soortgelijke objecten in de directe omgeving : Nee / Ja, ………………………………………………………………………

c. De taxateur heeft omgevingsfactoren waargenomen die de waardeontwikkeling substantieel kunnen beïnvloeden. (bijv. omliggende industrie, bouwplannen, wijkontwikkeling, planologische ontwikkelingen)

I. ONDERHOUDSTOEESTAND / NIEUWBOUW
(delen die niet van toepassing zijn, vallen volledig weg)

1. Nieuwbouw

a. De taxateur heeft de bestek- of (bouw)tekeningen ingezien : Ja

b. De taxateur heeft het bestek / technische omschrijving of verkooopgegevens ingezien : Ja

c. De bouw is reeds aangevangen : Nee / Ja, de bouw bevindt zich in de fase…………………………………………………………
2. Bestaande bouw

a. In zijn algemeenheid kan de onderhouds- en bouwkundige staat van het object aldus worden omschreven:
   - binnenonderhoud: goed / voldoende / matig / slecht
   - buitenonderhoud: goed / voldoende / matig / slecht
   - bouwkundige constructie: goed / voldoende / matig / slecht

b. De taxateur heeft gebreken waargenomen die de waardeontwikkeling substantieel kunnen beïnvloeden:
   : Nee / Ja, .................................................................

c. De te verwachten kosten voor direct noodzakelijk herstel van achterstallig onderhoud t.b.v. de instandhouding van het object bedragen meer dan 10% van de getaxeerde marktwaarde:
   : Nee / Ja, ............................................................................

d. De indruk die de taxateur heeft verkregen van het object geeft aanleiding tot nader (bouwkundig) onderzoek:
   : Nee / Ja, ............................................................................

J. MILIEU/VERONTREINIGING

1. Geraadpleegde informatie
   In dit kader zijn door de taxateur de volgende instanties en/ of personen geraadpleegd:
   a. Kadaster: Ja
   b. Gebruiker / eigenaar: Ja / Nee, .................................................................
   c. .................................................. : ................................................ ...............................................................

2. Bijzonderheden
   a. Het Kadaster geeft een milieumelding:
      : Nee / Ja, ............................................................................
   b. Op basis van de onder J.1 geraadpleegde instanties of personen kan worden vastgesteld dat er sprake is/kan zijn van bodemverontreiniging:
      : Nee / Ja, ............................................................................
   c. Op basis van plaatselijke bekendheid ziet de taxateur bijzondere aanleiding om (een risico van) verontreiniging aanwezig te achten:
      : Nee / Ja, ............................................................................
   d. De taxateur heeft asbestverdacht materiaal waargenomen/ heeft aanwijzingen dat dit materiaal aanwezig is:
      : Nee / Ja, ............................................................................
   e. Het aangetroffen asbestverdachte materiaal heeft een waardeverminderend effect:
      : Nee / Ja, ............................................................................

3. Energielabel
   a. Het object beschikt over een energielabel, EPA of EPC-berekening:
      : Ja / Nee, ............................................................................
   b. Energielabelklasse: A/B/C/D/E/F/G/niet bekend

K. BEWONING

1. Eigen gebruik
   Volgens opgave van wordt het object:
   a. thans volledig bewoond door de eigenaar: Ja / Nee, .................................................................
   b. thans geheel of gedeeltelijk bewoond door derden: Nee / Ja, .................................................................
   c. onbewoond opgeleverd: Ja / Nee, .................................................................
2. Bijzonderheden omtrent de bewoning
Volgens de taxateur wordt het object: zorgvuldig/normaal/slordig/niet gebruikt.
Volgens de taxateur is er ernstige gebruiksschade geconstateerd:

3. Waarneming taxateur
De taxateur heeft signalen ontvangen die afwijken van de onder K.1. gestelde informatie:

L. ONDERBOUWING WAARDEDOORDEEL

1. Toegepaste methodiek
De onderhavige waardering is mede gebaseerd op:
- objectvergelijking: Ja / Nee, omdat .................................................................

2. Courantheid
Bij aanbieding aan de markt tegen de getaxeerde marktwarde zal deze marktwarde naar verwachting van de taxateur kunnen worden gerealiseerd binnen een termijn van circa 0 tot 3 maanden / 3 tot 6 maanden / 6 tot 9 maanden / 9 tot 12 maanden / anders omdat, .................................................................

3. Geraadpleegde modelmatige rapporten
Indien de taxateur ter onderbouwing van zijn taxatie één of meer modelmatige waarderapporten heeft opgevraagd en ontvangen, worden de gegevens daarvan hieronder weergegeven.

<table>
<thead>
<tr>
<th>Aantal geraadpleegde rapporten</th>
<th>Bron</th>
<th>&lt;naam modelwaardeleverancier&gt;</th>
<th>&lt;naam modelwaardeleverancier&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Getaxeerde marktwarde (zie D.)</td>
<td></td>
<td>&lt;naam modelwaardeleverancier&gt;</td>
<td>&lt;naam modelwaardeleverancier&gt;</td>
</tr>
<tr>
<td>Percentage afwijking ten opzichte van de getaxeerde marktwarde</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Modelwaarde</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Betrouwbaarheidspercentage</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Verkoopprijs getaxeerde object</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Verkoopdatum getaxeerde object</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gecorrigeerde verkoopprijs getaxeerde object</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Postcodemodel</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Straatmodel</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kenmerkenmodel</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Referentieobjecten

<table>
<thead>
<tr>
<th>Objectgegevens</th>
<th>Woningtype</th>
<th>Perceelsoppervlakte</th>
<th>GO Wonen</th>
<th>Inhoud</th>
<th>Bouwjaar</th>
<th>Verkoopprijs</th>
<th>Verkoopdatum</th>
<th>Gecorrigeerde verkoopprijs</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;Naam modelwaardeleverancier 1&gt;</td>
<td></td>
<td></td>
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<tr>
<td>&lt;Naam modelwaardeleverancier 2&gt;</td>
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</tr>
</tbody>
</table>

Commentaar taxateur op modelmatig rapport van <naam modelwaardeleverancier 1>:

Commentaar taxateur op modelmatig rapport van <naam modelwaardeleverancier 2>:
M. PUBLIEKRECHTELIJKE ASPECTEN

1. Geraadpleegde informatie
   a. Door de taxateur is gebruik gemaakt van de volgende informatiebronnen:
      a. Kadaster: Ja
      b. Gemeente: Ja
      c. ...............................................: ................................................
   b. Het gebruik als woonruimte is
      - toegestaan conform bestemmingsplan: Ja / Nee, ................................................
      - toegestaan op andere wijze: Nee, Ja, ................................................
   c. Er zijn aanschrijvingen ex. Art. 13 t/m 16 Woningwet resp. een voorraanzegging daartoe: Nee / Ja, ................................................

2. Bijzonderheden
   Op basis van de geraadpleegde informatiebronnen (zie M.1) en zijn plaatselijke kennis acht de taxateur de volgende waardebeïnvloedende bijzonderheden vermeldenswaardig:
   a. Vestigingseisen: .................................................................
   b. Gebruiksbelemmerende bepalingen: .................................................................
   c. Verkoopbelemmerende bepalingen: .................................................................

3. Wet voorkeursrecht gemeenten
   Het object is opgenomen in een (voorlopige) aanwijzing als bedoeld in de Wet voorkeursrecht gemeenten: Nee / Ja, ................................................

4. Monument
   Blijkens de inschrijving in het Kadaster is er een adviesaanvraag voor, dan wel registerinschrijving van het object:
   - als beschermd monument (ex artikel 3 Monumentenwet 1988): Nee / Ja, ................................................
   - tot beschermd stads- of dorpsgezicht of voorstel daartoe (ex artikel 35 Monumentenwet 1988): Nee / Ja, ................................................
   - tot door de gemeente of de provincie verklaard beschermd monument: Nee / Ja, ................................................

N. NADERE MEDEDELINGEN

O. BIJLAGEN
   Verplichte bijlagen:
   - Kadastraal uittreksel
   - Kadastrale kaart
   - Foto’s

Aldus gedaan en opgemaakt te goeder trouw, naar beste kennis en wetenschap te ................................................ op ................................................
   en vervolgens (digitaal) ondertekend door: <naam taxateur>
P. FOTO‘S (MET ONDERSCHRIFT)

Q. DOOR DE TAXATEUR AANGEREIKTE REFERENTIEOBJECTEN (indien ingevuld)

<table>
<thead>
<tr>
<th>Adresgegevens referentieobject:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Woningtype:</td>
<td>--</td>
</tr>
<tr>
<td>Perceelsoppervlakte:</td>
<td>--</td>
</tr>
<tr>
<td>Gebruiksoppervlakte wonen:</td>
<td>--</td>
</tr>
<tr>
<td>Inhoud woning:</td>
<td>--</td>
</tr>
<tr>
<td>Bouwjaar:</td>
<td>--</td>
</tr>
<tr>
<td>Verkoopprijs:</td>
<td>--</td>
</tr>
<tr>
<td>Verkoopdatum:</td>
<td>--</td>
</tr>
<tr>
<td>Bron gegevens:</td>
<td>--</td>
</tr>
</tbody>
</table>

Geef aan in hoeverre het referentieobject te vergelijken is met de getaxeerde woning:

<table>
<thead>
<tr>
<th>Adresgegevens referentieobject:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Woningtype:</td>
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<tr>
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<tr>
<td>Bron gegevens:</td>
<td>--</td>
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</tbody>
</table>

Geef aan in hoeverre het referentieobject te vergelijken is met de getaxeerde woning:

<table>
<thead>
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<th></th>
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<td>Inhoud woning:</td>
<td>--</td>
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<tr>
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<td>--</td>
</tr>
<tr>
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<td>--</td>
</tr>
<tr>
<td>Verkoopdatum:</td>
<td>--</td>
</tr>
<tr>
<td>Bron gegevens:</td>
<td>--</td>
</tr>
</tbody>
</table>

Geef aan in hoeverre het referentieobject te vergelijken is met de getaxeerde woning:
Normblad Taxatierapport transactie woonruimte individueel (professionele opdrachtgever), behorende bij het model “Taxatierapport transactie woonruimte individueel (professionele opdrachtgever) versie 1.1.”

Inleiding
Met betrekking tot het getaxeerde object verklaart de taxateur
- dat hij, noch een kantoor of onderneming waarbij hij direct of indirect enig belang heeft, betrokken is bij een financieringsaanvraag, koop of verkoop (transactie);
- dat hij zich bij het uitvoeren van de taxatieopdracht niet heeft laten leiden door vooraf bepaalde of gewenste uitkomsten, waarden, adviezen en/of conclusies;
- te beschikken over plaatselijke kennis van het gebied waarin het getaxeerde object is gelegen.

De beschikbare tijd en het kostenaspect brengen met zich mee dat aan het onderzoek en de rapportage van de taxatie grenzen moeten worden gesteld. Dit normblad geeft de contouren van die grenzen aan voor een taxatie op basis van het landelijk model: Taxatierapport transactie woonruimte individueel (professionele opdrachtgever). De opbouw van dit modelrapport is als volgt: Indien bij ja/nee- of nee/ja-vragen de eerste optie van toepassing is dan volstaat de enkele melding daarvan. Indien de tweede optie van toepassing is, geeft de taxateur een toelichting.

Dit normblad is van toepassing voor zover niet nadrukkelijk in het rapport anders is vermeld.

Bij de taxatie wordt rekening gehouden met een scala aan (wegings-)factoren en informatiebronnen e.d. Slechts een deel van bij de beoordeling betrokken gegevens is in het rapport opgenomen. De beoordeling en de rapportage zijn afgestemd op het doel van de taxatie. De taxateur is graag bereid tot het verstrekken van een nadere toelichting.

Voor zover ook informatie is ingewonnen bij derden zoals de gemeentelijke overheid, wordt dat in het rapport expliciet aangegeven. Bij deze taxatie is de taxateur er vanuit gegaan dat de gegevens geleverd door deze derden juist zijn.

Privaatrechtelijke aspecten
Teneinde inzicht te krijgen in de juridische gesteldheid van het object wordt de taxateur geacht op de hoogte te zijn van de inhoud van het kadastraal plan, het kadastraal uittreksel (niet ouder dan 14 dagen voor de waardepeildatum) en, indien mogelijk, het meest recente eigendomsbewijs. De opdrachtgever dient er voor zorg te dragen dat informatie over bijzondere erfdienstbaarheden, bijzondere kwalitatieve rechten en verplichtingen of overige bijzondere lasten of beperkingen aan de taxateur ter hand worden gesteld. Bij gebrek aan deze informatie wordt als uitgangspunt door de taxateur genomen dat er geen bijzonderheden zijn. Aan de hand daarvan wordt in hoofdlijnen een beeld gegeven van de eigendomsrechten, eventuele zakelijke rechten en andere rechten en verplichtingen.

Bij appartementsrechten doet de taxateur onderzoek naar het bestaan van de belangrijkste periodieke en eenmalige bijdragen. In de regel zal de administrateur/bestuurder van de betreffende vereniging of recente (financiële) bescheiden van de vereniging als informatiebron dienen. De geraadpleegde stukken van de vereniging van eigenaren worden als bijlage bij het rapport gevoegd. Bij erfpachtrechten zal de taxateur zich vergewissen van de erfachtvoorwaarden.

Omschrijving object en omgeving
De taxateur verstrekt de opdrachtgever een beeld van het object en zijn omgeving. De informatie wordt gegeven op basis van visuele waarneming en plaatselijke bekendheid van de taxateur.

Bij de indeling van het object wordt uitgebreid beschreven welke bijzonderheden er per vertrek aanwezig zijn ter ondersteuning van de gemaakte foto’s. Er wordt bij nieuwbouw gebruik gemaakt van het bestek / verkoopgegevens en de bestek- of (bouw)tekeningen welke door de opdrachtgever zijn aangereikt en welke onderdeel (zullen) vormen van de koop-/aannemingsovereenkomst.

De omschrijving van het object vindt plaats conform de laatste uitgave van de ‘fotowijzer woningen’, een uniformering van begrippen en definities van woningen, vastgesteld door NVM, VastgoedPRO, VBO Makelaar, VNG en Waarderingskamer. De gebruikersopervlakten zijn gemeten conform de meest recente meetinstructie, vastgesteld door NVM, VastgoedPRO, VBO Makelaar, VNG en Waarderingskamer.

Onderhoudstoestand
Ten behoeve van de waardering vormt de taxateur zich een beeld van de onderhoudstoestand van het object. Dit gebeurt op basis van een visuele -steekproefsgewijze- inspectie. Dit betekent dat geen oordeel wordt gevormd over elk onderdeel afzonderlijk, noch over elementen die aan het zicht onttrokken zijn. Nadrukkelijk is geen sprake van een bouwkundige keuring. Het oordeel van de taxateur is derhalve geen garantie voor het aan- of afwezig zijn van gebreken.
Bij de beoordeling van de onderhoudstoestand staan de waarde bij vervreemding en het eventueel bestaan van buitengewone instandhoudingskosten centraal. Gebreken die hierop niet van wezenlijke betekenis zijn, blijven buiten beschouwing.

De taxateur zal een nader (bouwkundig) onderzoek adviseren als naar zijn oordeel twijfel of onduidelijkheid bestaat over de bouwkundige of onderhoudstoestand.

Bij de inschatting van de kosten voor herstel van achterstallig onderhoud is uitgegaan van uitvoering van de werkzaamheden door derden (professionelen).

**Milieu/Verontreiniging**

De taxateur verricht geen technisch onderzoek naar de aanwezigheid van stoffen in grond of grondwater, of naar materialen die schadelijk zijn voor mens, milieu of gebouwen, of naar de aanwezigheid van stoffen die de waarde beïnvloeden. Er is uitsluitend gebruik gemaakt van de in het rapport vermelde bronnen.

In het rapport wordt een globale indicatie van de milieutoestand van het object gegeven, gebaseerd op visuele inspectie, plaatselijke bekendheid van de taxateur en de door de taxateur geraadpleegde informatiebronnen. De taxateur raadpleegt in ieder geval het Kadaster en de bronnen waarnaar het Kadaster in verband met de betreffende locatie verwijst.

Indien er geen melding wordt gemaakt van een negatief milieuaspect betekent dit niet dat er geen negatieve milieuspecten zijn. Het feit dat er negatieve milieuspecten worden vermeld betekent niet altijd dat deze milieuspecten bewezen zijn. Verder onderzoek kan gewenst zijn.

In met name oudere objecten kan sprake zijn van asbestverdachte materialen, die lang niet altijd bij een taxatie kunnen worden opgemerkt.

Indien de taxateur verontreiniging en/of asbestverdachte materialen aanwezig acht, dient de taxateur aan te geven op welke plaatsen deze verontreiniging en/of asbestverdachte materialen aanwezig ( kunnen) zijn.

**Onderbouwing waarde-oordeel**

Het rapport bevat een onderbouwing van de waardering. In de regel gebeurt dit door middel van objectvergelijking, waarbij de taxateur aangeeft welke objecten bij de vergelijking een rol hebben gespeeld. Mocht de objectvergelijkingsmethode buiten beschouwing zijn gebleven, dan zal de taxateur dit in het rapport motiveren en aangeven welke andere, door de markt geaccepteerde methode hij heeft gebruikt. Tenzij in het rapport expliciet anders is aangegeven, hanteert de taxateur voor zover van toepassing de marktwaarde zoals hierna gedefinieerd.

**Marktwaarde**

Het geschatte bedrag waartegen vastgoed zou worden overgedragen op de waardepeildatum tussen een bereidwillige koper en een bereidwillige verkoper in een zakelijke transactie na behoorlijke marketing, waarbij de partijen met kennis van zaken, prudent en niet onder dwang zouden hebben gehandeld.

Indien de getaxeerde waarde betrekking heeft op een (nog) niet bestaande situatie dan licht de taxateur dit in het rapport toe en kan naast de marktwaarde een tweede (of volgende) marktwaarde opgenomen worden die duidelijk betrekking heeft op de fictieve situatie, waarbij duidelijk is aangegeven welke uitgangspunten de taxateur heeft gehanteerd. Indien sprake is van volledige nieuwbouw kan volstaan worden met het enkel vermelden van de marktwaarde uitgaande van een conform de aannemingsovereenkomst gerealiseerde woning.

**Publiekrechtelijke aspecten**

De taxateur doet onderzoek naar het eventueel bestaan van (vooraankondigingen tot het nemen van) besluiten ex artikel 13 tot en met 14 lid 1 Woningwet als concrete omstandigheden duiden op het mogelijk bestaan van dergelijke besluiten of vooraankondigingen.

De taxatie kan geen uitputtend planologisch onderzoek bevatten. De gegevens in het rapport mogen niet als volledig worden beschouwd en zijn uitsluitend gebaseerd op de genoemde informatiebronnen. De publiekrechtelijke vereisten voor vestiging, gebruik en/of (ver) bouw (waaronder vergunningen) worden niet onderzocht, tenzij nadrukkelijk anders met de opdrachtgever is overeengekomen. Ingeval er concrete aanleiding bestaat voor nader onderzoek naar de publiekrechtelijke gesteldheid van het object of zijn omgeving zal de taxateur daarvan melding maken.

**Visuele objectpresentatie**

Het taxatierapport bevat afbeeldingen van het vooraanzicht, het straatbeeld, de achtergevel, de tuin, de badkamer, de keuken, de woonkamer, de slaapkamers, het toilet, de bergzolder, de garage/berging, de technische ruimte (waaronder de c.v.- ketel) en de meterkast (voor zover deze ruimten en elementen aanwezig en fotografeerbaar zijn). De foto’s dienen de actuele situatie zo goed mogelijk weer te geven.