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Influencing stakeholder motivation for energy-efficient buildings

A COMPARATIVE CASE-STUDY IN THE DUTCH HEALTCARE SECTOR

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ABSTRACT

REAL ESTATE IS AN IMPORTANT EMITTER OF GREENHOUSE GASES AND A SECTOR WITH OPPORTUNITIES FOR SUSTAINABLE DEVELOPMENT. FURTHERMORE, THE HEALTHCARE SECTOR IS A BULK CONSUMER OF ENERGY AND THEREFORE AN IMPORTANT SECTOR IF THE NETHERLANDS WANTS TO REACH ITS CLIMATE AGREEMENT GOALS. HOWEVER, THE AMOUNT OF LOW-ENERGY REAL ESTATE IN THE SECTOR REMAINS SMALL. THIS RESEARCH AIMS TO INCREASE THIS NUMBER BY UNDERSTANDING AND INFLUENCING STAKEHOLDER MOTIVATION.

MOTIVATION CAN BE HARNESSED BY REINFORCING THE COMMUNITY FORCE AND STIMULATING THE CONSUMER FORCE. THIS CAN BE DONE BY FRAMING SUSTAINABILITY AS CLIMATE ADAPTATION AND THEREBY HEALTH. THIS MEANS THAT SUSTAINABILITY BECOMES PART OF THE CORE BUSINESS OF HEALTH CARE ORGANIZATIONS. FURTHERMORE, A HEALTHY BUILDING OFFERS VISIBLE PROFILING OPPORTUNITIES THAT APPEAL TO EMPLOYEES, CLIENTS AND INVESTORS. THIS GIVES PRIORITY TO SUSTAINABILITY AND THEREBY INCREASES THE MOTIVATION TO WORK ON SUSTAINABLE AIMS. MONETIZING THESE ADVANTAGES BY INCLUDING THE BENEFITS OF A HEALING ENVIRONMENT IN AN INTEGRAL BUSINESS CASE MEANS THAT THE SUSTAINABLE CHOICE IS ALSO FINANCIALLY THE MOST ATTRACTIVE CHOICE.

IN THIS WAY, THE MOTIVATION OF DUTCH HEALTHCARE PROVIDERS TO MAKE THEIR REAL ESTATE MORE SUSTAINABLE CAN BE ENHANCED AND THE NUMBER OF SUSTAINABLE HEALTHCARE BUILDINGS CAN BE INCREASED.

COLOFON

TITLE

INFLUENCING STAKEHOLDER MOTIVATION FOR ENERGY-EFFICIENT BUILDINGS; A COMPARATIVE CASE STUDY IN THE DUTCH HEALTHCARE SECTOR

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Content

1. Introduction

Real estate is essential for people to live, work and satisfy social needs but the built environment and the construction sector also have a high impact on the environment (Ürge-Vorsatz et al, 2007). However, there are opportunities to reduce the climate impact of buildings and construction at little or moderate costs (Ürge-Vorsatz et al, 2007). This makes the buildings sector an important and relevant sector for sustainable development which is also increasingly recognized within the sector (Wallbaum et al, 2011)(Agentschap NL, October 2010). However, despite the opportunities that lie in this sector, the proportion of sustainable, green or energy-efficient buildings remains low (Wallbaum et al, 2011).

The challenge of sustainable real estate is additionally relevant in the healthcare sector for three reasons. First, because the sector is a bulk consumer of energy and thereby a large contributor of greenhouse gases (Agentschap NL, 2010). Second, the demands and wishes of 'users' put high demands on the livability of the buildings (Sociaal Cultureel Planbureau, September 2017) while, at the same time, it has to remain a workable space for the employees. Third, the sector gets increasingly important due to national trends such as an aging population

The sector aims to improve their sustainability, which is indicated by the Green Deal 2.0. for the period 2019-2021. On October 10th, 2018, over 130 actors in the Dutch health care sector signed the Green Deal 2.0. 'Duurzame Zorg voor een Gezonde Toekomst' (Sustainable Healthcare for a Healthy Future). The Green Deal 2.0. aims to increase the quality and availability of health care while simultaneously decreasing the environmental footprint of the health care sector (Green Deal C-226, December 2018). The participants recognize that healthcare providers have an important role as stakeholders and are expected to increase the sustainability of their organizations (Green Deal C-226, December 2018). However, it is also recognized that the sustainable choice has to be the most attractive option for healthcare providers (Green Deal C-226, December 2018). Consequently, an understanding of the motives for healthcare providers to improve the energy-efficiency of their real estate portfolio is considered important in order to reach the aims of the Green Deal 2.0. and contribute to sustainable development.

For the purpose of this research, sustainable development is defined as increasing the energy performance of healthcare real estate. This demarcation is made because of two reasons. First, because energy efficiency is the primary goal of the Green Deal 2.0. Second, because, as stated, the healthcare sector is a bulk consumer of energy. This means that the most opportunities for improving the sustainability of healthcare real estate lie in the improvement of the energy performance of healthcare buildings. Ultimately, this means that buildings that mitigate climate change are considered sustainable in this research. The aim of this study is to increase the number of sustainable buildings in the Dutch healthcare sector and thereby contribute to a more sustainable healthcare sector and the achievement of the Green Deal 2.0 goals.

1.1. Research problem statement

The Netherlands signed the COP21 Paris Climate Agreement and thereby stated the aim to reduce the production of greenhouse gases in order to avoid a two degree Celsius temperature rise. Signing this agreement led to a national climate agreement(Klimaatakkoord). For the commercial and social real estate sector, the Klimaatakkoord aims for a 1 Mton CO_2 reduction in 2030 compared to 1990. Buildings that are used for the purpose of providing healthcare services are defined as social real estate in both the COP21 Paris Climate Agreement and the Dutch national climate treaty.

In the climate treaty, the Dutch government expects an exemplary role for the social real estate sector (Rijksoverheid, December 17th, 2018). The Green Deal 2.0 is meant to commit actors in the healthcare sector to sustainable goals that go further than legal obligations. However, the number of Green Deal 2.0 participants is lower than the number of participants in the first Green Deal (MPZ milieuplatform Zorgsector, n.d.). Understanding the underlying motivations of healthcare providers to participate can bring possible ways to increase the sector's motivation to light.

1.2. Research aim and research question(s)

Stakeholder motivation influences stakeholder behavior and stakeholder behavior engages both the demand and the supply sides of the building sector (Wallbaum et al, 2011). Examples of stakeholder groups in the building sector that influence either demand or supply for buildings are, among others; project developers, engineering companies, clients, the board of healthcare organizations, and third parties affected by the project. Following this line of reasoning, this research studies stakeholder motivation for energy-efficient building development in the Dutch healthcare sector. The research provides an overview of stakeholder considerations in the decision-making process and introduces possible ways to positively intervene in the decision-making process.

Main aim is to enhance the amount of energy-efficient real estate in the Dutch Healthcare sector. In other words; this research aims to answer the question of how stakeholder motivation can be harnessed. This aim leads to the following research question:

What are possible intervention measures to enhance the motivation of Dutch healthcare providers to make their real estate more energy-efficient?

Answering the following sub questions enables an answer on the research question.

Sub-question 1) What are the most relevant forces in the motivation of Dutch healthcare organizations (focusing on elderly care and disabled care) to build new energy-efficient buildings or renovate existing real estate with the purpose of improving the energy efficiency of those buildings?

Sub – question 2) What are possible ways to motivate stakeholders to increase the energy-efficiency of existing and new healthcare buildings?

1.3. Research Scope

In order to have a clear understanding of the research questions and aims presented above, it is important that the scope of the research questions is clear. The following five demarcations are made with regard to the scope of this research:

First, as stated and explained in the introduction, these research questions solely focus on the energy efficiency of healthcare buildings.

Second, the Dutch government has set regulatory obligations for building owners with regard to the energy-efficiency of buildings. Since this research aims to develop intervention measures to enhance the motivation of stakeholders to make healthcare real estate more energy-efficient, an indicator for measuring 'enhanced motivation' of stakeholders is needed. Presence of enhanced motivation is indicated by organization's that do more than the legally required standards for energy-efficiency.

Third, only the 'care' section of the healthcare sector issubject to research. In this research, the 'care' section consists of healthcare providers that aim to limit disadvantages and symptoms related to old-age, mental and physical disabilities and disorders. Often it is about long-term or chronical healthcare. Examples, among others, are elderly care and disabled care. Although the 'care' and 'cure' sectors are not always so clearly dividable, solely intramural and extramural elderly- and disabled care are considered part of the scope. This means that buildings such as hospitals, general practitioner locations and mental health care facilities are excluded from the scope of this research.

Fourth, an increase in energy-efficiency can be achieved by opting for a new building or renovating an existing building.

Fifth, it is useful to state clearly that this research is only about the motivations of healthcare providers to build sustainable. It is assumed, based on previous research (Cordano et al, 2007), that motivation influences behavior but the actual behavior of healthcare providers is not part of this research.

1.4. Scientific and societal relevance of the proposed research

A case-specific understanding of stakeholder motivation for sustainable real estate can provide angles of approach for further research, and the development of theories, regarding sustainable development in the social real estate sector. This contributes to a scientific understanding on the dynamics in stakeholder motivation.

Improving a scientific understanding of the role of stakeholder motivation in the development of sustainable healthcare buildings contributes to solving an existing research gap because stakeholder motivation has the ability to influence both the supply and demand side for sustainable healthcare buildings. Previous scholars mainly focused on identifying various measures for increasing the number of sustainable healthcare building through either the demand or the supply side for sustainable buildings while stakeholder motivation is often seen as a superordinate topic (Wallbaum et al, 2011). See section 2.1. for a more in-depth substantiation on why stakeholder motivation can be regarded as a superordinate topic.

Consequently, a scientific focus on the role of stakeholder motivation and the forces that influence stakeholder motivation provides an opportunity to place supply or demand focused measures identified by previous scholars in the wider context of general decision-making in Dutch healthcare organizations. This research' focus on stakeholder motivation thereby enables a link between the hard (influencing economic mechanisms) and soft side of decision making (motivation to make a change).

The research also has societal relevance for two reasons.

First, since an understanding of the dynamics in stakeholder motivation provides an opportunity to evaluate the effectiveness of current policies that aim to improve energy efficiency in the healthcare sector by increasing the motivation of real estate owners to contribute to sustainability themselves rather than being forced by strict regulation (de Jong et al., 2017). Evaluating existing policies enables policy makers to improve the assumptions on which those policies are made and thereby provides an opportunity to improve the effectiveness of those policies (Gregory et al.,1994).

Second, understanding stakeholder motivation enables an understanding of the reasons for lagging behind on sustainable development. Addressing these reasons is expected to contribute to the Green Deal 2.0 aims and thereby the Dutch Climate Treaty aims. Furthermore, making the most efficient and effective decisions now is important because real estate that is developed now shapes the social and economic environment in which The Netherlands operates in the future and thereby the possibilities of achieving future sustainable aims (Yang, 2009).

2. Theoretical Framework

The theoretical framework presented in this chapter is structured around seven parts:

- Section 2.1. describes the importance of focusing on the role of stakeholders when studying the motivation of healthcare organizations to improve the energy performance of their real estate.
- Section 2.2. discusses the different types of existing stakeholder theories and substantiates the choices made with regard to the approach adopted for this research.
- Section 2.3. presents two widely adopted theories for stakeholder management within or by organizations.
- Section 2.4 contains a scientific description on the identification of relevant stakeholders for organizations with regard to sustainable development.
- Section 2.5. elaborates upon relevant theories for studying stakeholder motivation in relation to sustainable development in the real estate sector and substantiates why two of these theories are especially relevant for this research.
- Based on sections 2.1. – 2.5., a conceptual model was development that is presented in section 2.6.
- In section 2.7. the conceptual model is operationalized and translated into indicators.

2.1. The role of stakeholders in real estate development

Sustainable development considerations in construction projects means that simultaneous attention must be devoted to economic, social and environmental goals. When aiming to do so, two challenges arise. First, construction project initiation by definition entails making choices since large-scale construction project nearly always involve trade-offs among multiple objectives, such as narrow-scope economic goals, broader social objectives and environmental considerations. Second, in complex cases, specific subsets of objectives typically reflect the interests of stakeholder groups, such as project developers, consumers, and third parties affected by the project. These interests must ultimately be aligned to guarantee an effective increase in sustainable buildings.

Previous scholars identified various measures (e.g. Influencing the demand, Controlling the supply, Changing the management of existing buildings) that can increase the number of sustainable buildings but stakeholder motivation is often seen as a superordinate topic (Wallbaum et al, 2011). Stakeholder motivation influences the demand as well as the supply side of the construction sector and is additionally relevant for the management and maintenance phases of existing buildings (Wallbaum et al, 2011). Consequently, increasing stakeholder motivation is expected to have the potential to accelerate the process of sustainable development in the construction sector and thereby increase the proportion of sustainable buildings. As stated in section 1.3., this is one of the main reasons for this research' focus on stakeholder motivation.

Stakeholders in the construction sector are usually more complex than other sectors because of the environmental and economic relevance of the industry, the complexity of the construction process itself and the long lifespan of buildings (Yang, 2009). Buildings related to the healthcare sector further increase stakeholder complexity because the healthcare sector is a sector which has economic as well as social aims and therefore interests. Furthermore, it is a highly regulated sector in which costs are publicly-privately shared (Hutschemaekers & Tiemens, 2006). In order to grasp this complexity theoretically, the theoretical framework is structured around three parts. First, stakeholder management theories in section 2.2. Second, theories regarding stakeholder identification in section 2.3. Third, stakeholder motivation and decision-making in section 2.4. The conceptual model, presented in section 2.5., follows logically from this theoretical framework.

2.2. Stakeholder theories

The structures and dimensions of the relationship between society and businesses can be understood through stakeholder theory (Jones, 1995). There are multiple ways to theoretically define, interpret and approach stakeholders. These are usually divided into descriptive, instrumental and normative theories (Wallbaum et al, 2010). Descriptive approaches tell us *what happens*; instrumental approaches, describe *what happens if*; and normative approaches describe *what should happen* (Atkin & Skitmore, 2008).

The ability to describe stakeholder processes, derive intervention measures and draw normative conclusions explains the popularity of Stakeholder Management Theories (SHMTs) (Reed, 1999). Establishing the definition of a 'stake' is the most fundamental function of SHMTs. In a descriptive approach, this is based on the empirical relationship on how a company' activities affect other parties. In other words; how do firms and managers actually behave (Donaldson & Preston, 1995). An instrumental approach describes what happens if firms behave in a certain way (Jones, 1995).

Descriptive and instrumental theories of stakeholder management focus on the outcomes of stakeholder management; how it impacts the organization's financial and social performance, promotes organizational learning and drives innovation (Verbeke et al, 2013). In this way, descriptive and instrumental approaches contribute to an understanding of how management processes actually work and can be used for analytical purposes.

Both approaches are combined in the definition of Freeman (1984, p. 46), which is an example of a widely used analytical definition; *" Any group or individual who can affect or is affected by the achievement of the organization's objectives".*

A normative approach stresses stakeholder management theory as a somewhat doctrinaire instrument for management which means they can be used to elaborate upon normative obligations of management and organizations in general (Reed, 1999). An overview of the normative stream of stakeholder theory suggests that there is little agreement among scholars over its normative foundation. Several approaches have been advanced in the literature, focusing either on property rights or on the rise of capitalism, developing a feminist interpretation, concentrating on the principle of fairness, or on the common good. All these interpretations are subject to criticism, mainly because they are not connected to the reality of corporate behavior and stakeholder expectations. Consequently, researchers are divided over this subject (Lépineux, 2005).

In order to be able to answer the research questions and propose concrete intervention measures, an analytical (descriptive and instrumental) approach is adopted because it contributes to a better understanding of the case specific decision-making processes which is considered necessary for the identification of intervention measures. Consequently, Freeman's definition of stakeholders forms the basis for this research' understanding of stakeholder theories.

2.3. Stakeholder management

The different understandings and perspectives of SMHTs means that a standard approach for stakeholder management is missing (Roloff, 2008). However, two commonly used management approaches can be identified (Wallbaum et al, 2011).

First, organization-centered stakeholder management, which regards organization as a center that strategically considers the actions of other relevant actors while planning the organization's actions (Friedman et al, 2006). It is assumed that top managers/directors and the firm are one entity that functions as the center of a stakeholder network because this entity is in contact with all other stakeholders (Jones, 1995). Three assumptions have to be made to describe this relationship (Jones, 1995);

1) *Firms have relationships with many stakeholders (contracts).*

This is a relevant assumption for the purposes of this research since healthcare organizations have relationships and/or contracts with stakeholders that might have diverging interests. For example, healthcare offices, municipalities, clients, staff.

2) *Firms are run by professional managers.*

This assumption is relevant for this research since professional managers are expected to be able to make decisions in which the possibly diverging interest of stakeholders are represented.

3) *Firms exist in markets in which competitive pressures influence behavior but do not necessarily penalize moderately inefficient behavior.*

This assumption is relevant for this research since healthcare organizations exists in markets with competition and can therefore be influenced by competitive pressure to increase the energy performance of their real estate but at the same time, investments in an energy performance increase can be regarded as moderately inefficient economic behavior since there is a relatively long pay-back period that is influenced by uncertain factors like energy-prices and technological development.

Second, issue-focused stakeholder management, which assumes that an existing issue affects multiple kinds of stakeholders. For example, businesses, civil society, governmental and supranational actors. In this case, each stakeholder exists in networks with other stakeholders and influences, and is influenced by, all other stakeholders that have needs and wishes related to an issue (Wallbaum et al, 2011). Figure 1 (page 14) illustrates the differences between the two stakeholder management approaches.

However, in the issue-focused stakeholder approach, each stakeholder is a stakeholder of every other stakeholder in the network and vice versa (Roloff, 2008). This means that the organizational stakeholder approach is related to the issue-focused stakeholder approach since a global point of discussion (such as sustainability) can become part of a single company's business strategy and become the center of attention within a company which leads to a shift from an issue-focused stakeholder approach to an organizational stakeholder approach. An issue becoming the center of attention in a company and part of a business strategy means that stakeholders that initially were regarded as 'indirect stakeholders' are now treated as 'direct stakeholders'.(Wallbaum et al, 2011).

This research recognizes that both approaches are interlinked so a combination of the organization-centered and issue-focused stakeholder approach is developed by the author (see figure 2 on page 14). In this combination, indirect stakeholder groups as defined in the organizational stakeholder approach send out representatives to discuss an issue with the focal organization.

By doing so, stakeholders that were indirect stakeholders are now able to influence the motivation of the focal organization as direct stakeholders. The stakeholder representatives and the focal organization have to find a common agreement on the issue. This enables an overview of how Dutch healthcare providers can be influenced by a wider range of different groups of stakeholders related to an issue. Section 2.4. on 'Stakeholder Identification' elaborates further upon this subject.

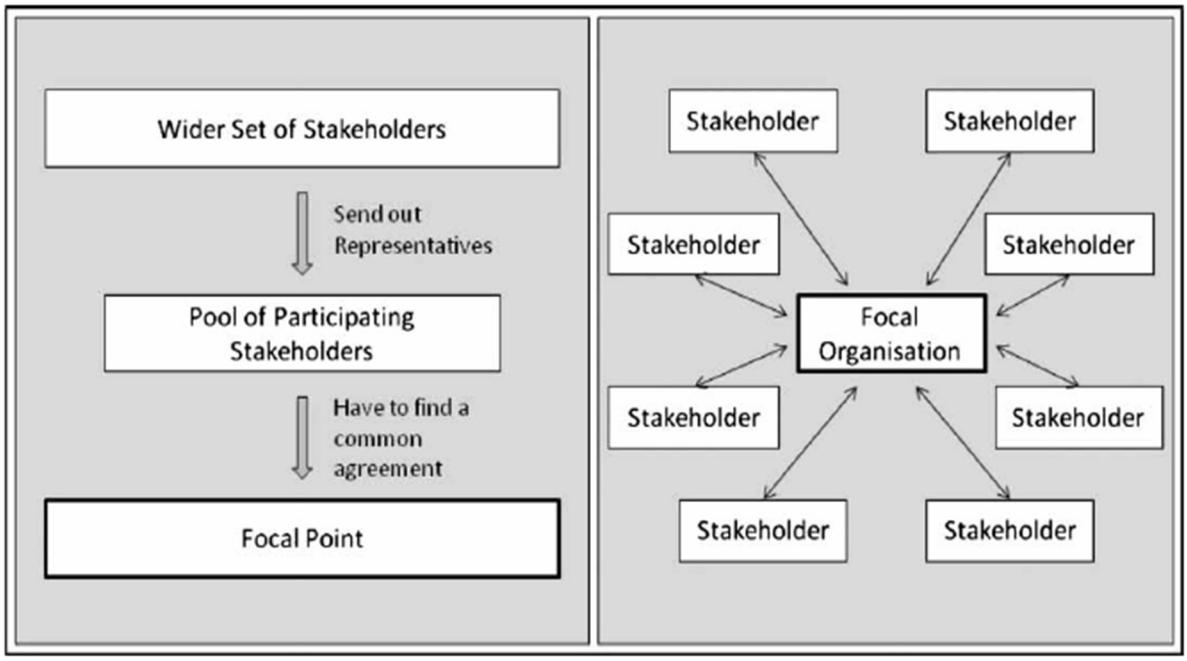


Figure 1: Issue-focused stakeholder approach versus organizational stakeholder approach (Wallbaum et al, 2011)

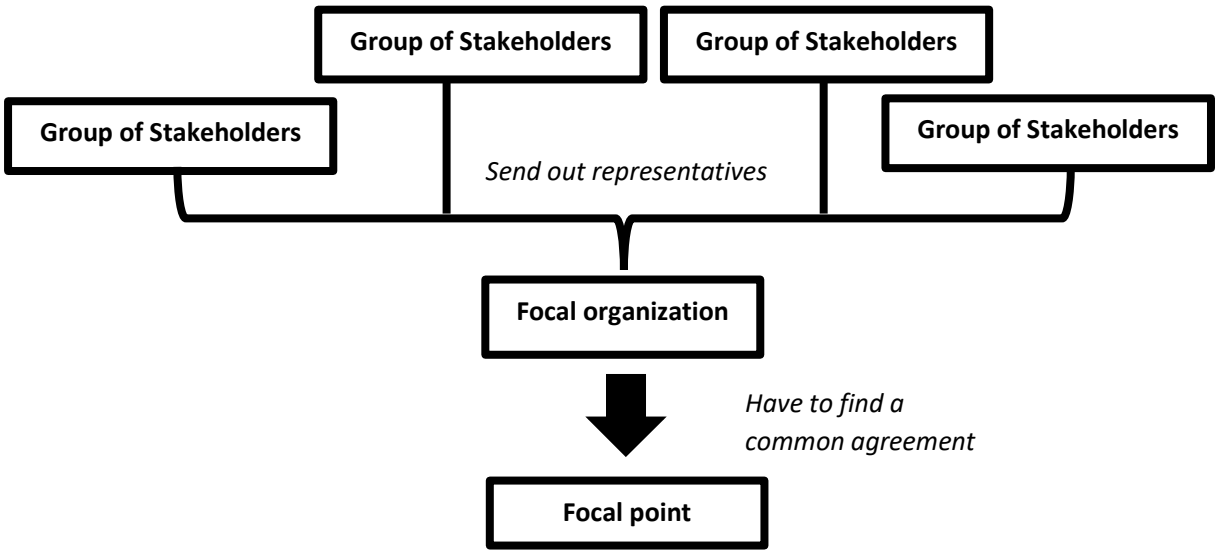


Figure 2: Combination of issue-focused stakeholder approach versus organizational stakeholder approach (Developed by author)

2.4. Stakeholder identification

As mentioned before, the identification of stakeholders depends largely on the management approach on which a research is based. For example, for the organizational approach, only stakeholders that are directly related to the organization are taken into account. Examples of typical stakeholders are; shareholders, customers, suppliers and distributors, advisors, employees and local communities (Friedman and Miles, 2006). Friedman and Miles (2006) call this 'internal' stakeholders. In contrast, the issue-focused approach also considers indirectly related groups or individuals, that can influence or are being influenced, as stakeholders (Friedman and Miles, 2006)(Roloff, 2008). For example; the natural world, future generations and civil society.

A structured identification of stakeholders is important in the construction sector for two reasons. First, the earlier mentioned large variety of stakeholders. Second, the long life-span of buildings means that the involved stakeholders and stakeholder-specific interests change over time (Yang, 2009). Since this research combines the organization-centered and issue-focused management approach, healthcare providers function as focal organizations while sustainability functions as the 'issue'.

Consequently, this research considers relevant stakeholders as stakeholders that have a direct influence on decision-making processes in healthcare organizations that are related to the issue sustainability. Stakeholder groups that have a direct influence on decision making processes are stakeholders that have an influence on the organization's image and behavior by influencing supply and demand. For example, consumers, staff, government, civil society, media. In contrast, stakeholder groups that do not have a direct influence on decision making processes but do have an interest in the outcome of those processes are stakeholders that do not influence the demand or supply for the offered services (healthcare services). For example; future generations.

2.5. Stakeholder motivation

The practice of healthcare organization's adopting more sustainable building practices in a sense of 'doing more than legally required' can be regarded as Corporate Social Responsibility (CSR).

The concept of CSR was first introduced by Bowen in 1953 who defined CSR as; "The obligation of businessmen to pursue desirable policies from the perspective of society's goals and values, and make decisions or conduct business within the context of them" (Bowen, 1953). In 1988, McGuire et al., provided a broader definition by explaining that CSR's obligations towards society extend beyond economic and legal obligations (McGuire et al., 1988). When looking at these definitions, an increase in the energy efficiency of healthcare real estate beyond legal requirements can be seen as CSR practices and must also be analyzed in the context of CSR theories.

However, Van Oosterhout and Heugens (2008) argue that CSR can only have meaning if it holds up against some normative principles that state (1) what is desirable, and (2) that business has a responsibility to contribute to addressing what is desirable.

This means that there must be a broad understanding of practices that are desirable for society, which seems to be an illusory idea since modern societies exhibit particular and conflicting interests (Scherer and Palazzo, 2007). In the case of conflicting interests and claims, Scherer and Palazzo (2007) suggest that power and urgency, will explain and determine corporate response and behavior.

When power and urgency are the main drivers of determining 'what is desirable' in the healthcare sector, investing in an increase of a building's energy efficiency will not have the required power and urgency since there are developments in the healthcare sector (rising demand for healthcare combined with a decrease in supply) that are considered more pressing and equally important topics in society.

Consequently, in order for decision makers to make energy-efficient real estate a topic for CSR in the Dutch healthcare sector, the first step is to motivate their stakeholders to give more urgency and power to sustainability. There are two theoretical models that are relevant for changing stakeholder motivation in the construction sector.

First, the 'circle of blame' (figure 3, page 18), introduced by Cadman (2000), argues that stakeholders in the building sector do not opt for sustainable building practices because other stakeholders in the sector are also not building sustainable. This means that stakeholder behavior is influenced by the behavior of other stakeholders and vice versa (Cadman, 2000). Cadman argues that sustainable building practices can be enhanced by breaking the circle of blame. Which can be done by introducing adequate incentives that can work as either push or pull factors. On one hand, consumers or end-users/owners create the demand (pull) for goods or services, in this case; buildings. On the other hand, providers of buildings (e.g. developers, engineering companies etc.) create the supply (push) of buildings.

The Circle-of-Blame is relevant for this research because it offers an understanding of how practices can be changed by changing the motivation of one of the players (owners/end users, designers & constructors, developers, investors) in the construction sector. Namely, by providing adequate incentives which influence the demand (pull) for energy efficient buildings. Increasing demand for energy efficient buildings by influencing

stakeholder motivation means that investors are more willing to invest in such buildings and developers are able to finance their projects. Designers and constructors will follow the developers since they are paid by developers. In this way, changing the motivation of one of the players means that the circle of blame can be broken. In this research, the intervention measures are directed towards the focal organization (elderly care of disabled care organization) and thereby aim to provide an adequate incentive to increase the demand for energy efficient buildings.

Second, the 'Four Forces Model' (figure 4, page 18), introduced by Das Gandhi (2006), which is a generic model that explains the process of sustainable decision-making through four driving forces. The model explains the need, the cause and the process of sustainable decision-making and development by focusing on cause and effect relationships. According to Das Gandhi (2006), there are four driving forces that contribute to a transformation of current 'unsustainable' practices to new 'sustainable' practices. Pressures from these four driving forces make firms to give more importance to environmental protection and lead to a reactive or proactive response by 'forcing' a sector, in this case the construction sector, to increase sustainable practices (Das Gandhi, 2006).

There can be multiple factors that can help explain the motivation of organizations to become more sustainable. However, in order to be able to develop intervention measures that can increase the motivation for energy efficient buildings, a clear understanding of the factors that have the most potential to influence this motivation is needed. By identifying case-specific factors (e.g. legislation, financial structures and influence of civil society) and categorize them into the four forces it is possible to detect which force is the strongest and which has the most potential to be strengthened (Das Gandhi, 2006). This enables the identification and development of intervention measures with the greatest potential to be effective by focusing the earlier described push-and-pull incentives on these forces (Das Gandhi, 2006). This makes it a useful model for this research because it provides a generic understanding of possible drivers for stakeholder motivation to 'green' current practices.

Naturally, in many cases, interfaces between the four different forces will arise, which means that one force can also influence the other (Das Gandhi, 2006. For example, the regulatory context in which stakeholders operate can influence the financial force they experience to adopt more sustainable practices can influence the financial force and vice versa. It is therefore important that these interfaces are recognized and addressed when using the four forces model for studying stakeholder motivation.

In order to answer the research question, the four forces model functions as a basis for understanding the drivers of motivation. An understanding of the drivers, and the interfaces between them, for different stakeholders to take a position in the decision making process is essential in order to identify measures that intervene in these drivers and thereby change the outcome of the decision-making process.

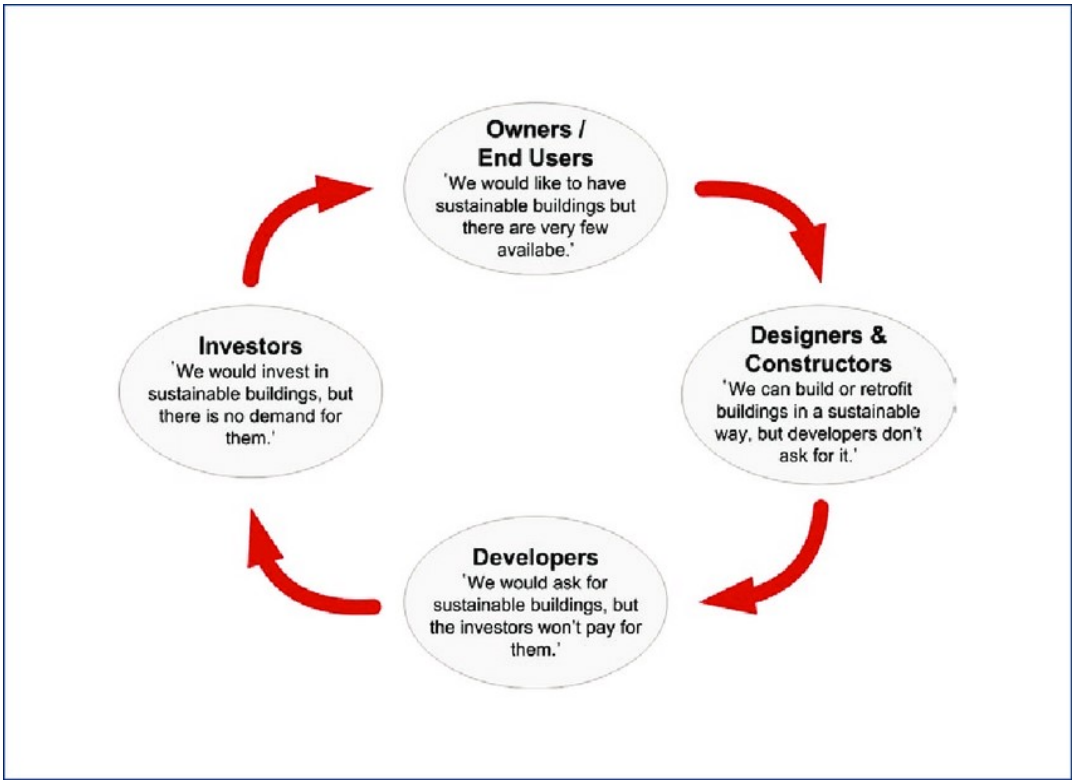
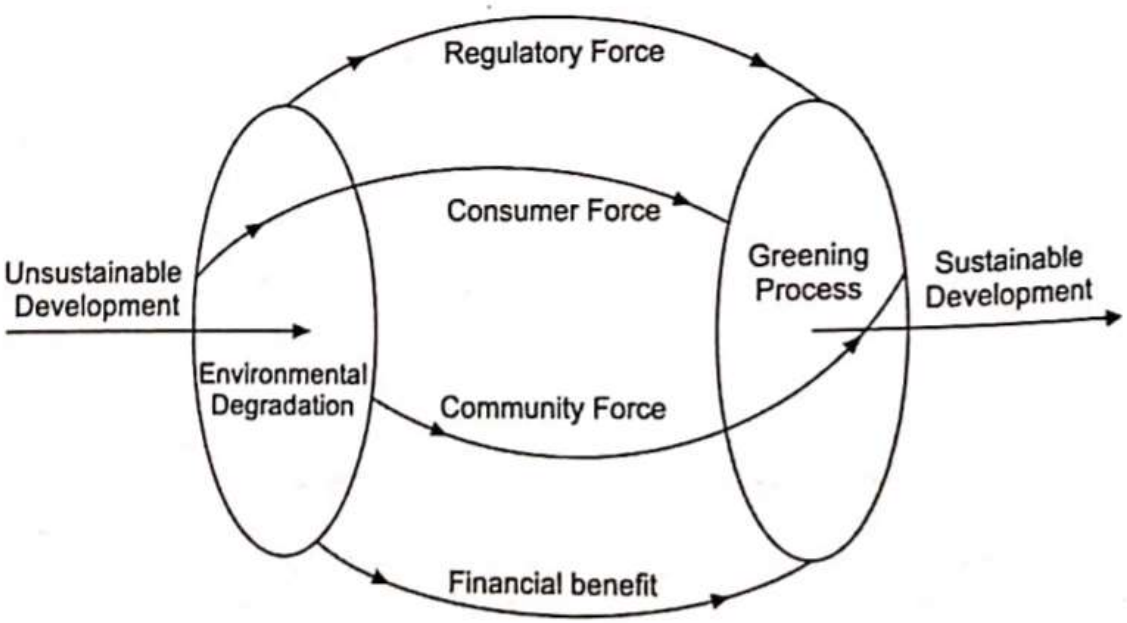


Figure 3. Circle of blame in the construction sector (Cadman, 2007)

Figure 4. Four Forces model (Das Gandhi, 2006)



2.6. Conceptual model

The conceptual model (figure 5) below was developed by the author and combines the 'organization-centered' and 'issue-focused' SHMT with the 'four forces' and 'circle of blame' model. Representatives (see section 2.6. for an overview and substantiation of the force representatives) of the four forces (regulatory, consumer, community, financial) provide positive or negative incentives that influence the decision making process of the focal organization. to adopt sustainable building practices (to do more than legally required or not). In this way the forces and incentives (regulatory, consumer, community, financial) that change the motivation of relevant stakeholders can be identified. Although these forces are assumed to be partly outside an individual organization's sphere of influence, intervention measures can be identified that influence the focal organization's reaction to the incentives provided by stakeholders in the four forces and are therefore able to motivate the focal organization to adopt sustainable building practices. In turn, the sustainable decision-making of the focal organization (the healthcare organization) creates a pull incentive that influences the pool of participating stakeholders and breaks the circle of blame. This conceptual model is operationalized in section 2.7.

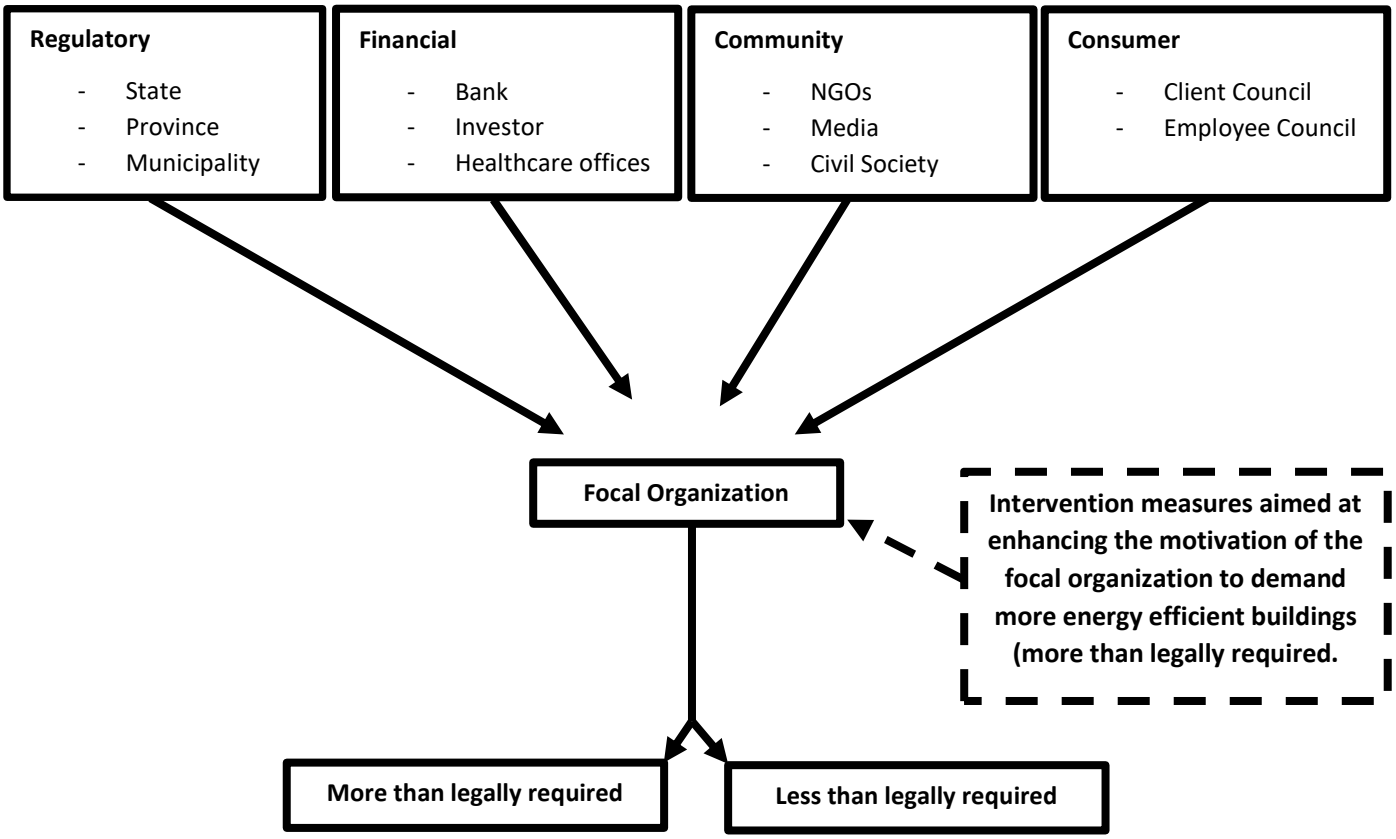


Figure 5. Conceptual model developed by the author

2.7. Conceptual Operationalization

The literature review part of the data collection, as explained in section 3.4, led to a list with the most important motivations, separated per force (regulatory, financial, consumer, community), in the decision-making process. These were analyzed in light of the interview results. However, a number of abstract terms and concepts had to be operationalized beforehand in order to enable a structured analysis of the interview results. The following section operationalizes these terms and presents indicators that were used to conduct analysis. The concepts that are being operationalized are the four forces; Regulatory, Financial, Consumer, Community. The concept of sustainable real estate has been defined earlier as; buildings that mitigate climate change.

In 2015, Realink Consultancy executed a research to the opportunities for saving energy in the Dutch healthcare sector (kansen voor energiebesparing in de zorg). This research was commissioned by the Rijksdienst voor Ondernemend Nederland (RVO) and researched the relationship between recent policy developments and opportunities for sustainable renovation in the Dutch healthcare sector (Müller, 2015). Furthermore, interviews with stakeholders, a survey and verification interviews with an expert panel led to a description of the different argumentations for sustainable renovation (Müller, 2015). The Realink Consultancy research is therefore considered useful as a starting point for this research. Müller' results are used by this research as a basis for developing indicators for possible motivations. However, this research focusses specifically on the care sector while the Realink Consultancy research considers the healthcare sector as a whole. Moreover, this research aims to develop intervention measures whereas the Realink Consultancy research aimed to map current situations. Müller' results were interpreted and summarized into two indicators per force. These are operationalized below.

Regulatory

The regulatory force relates to the influence that current and expected legislation have on decision-making. In other words; how important is being prepared for future legislation in current decision-making. For example; the norms that buildings are obliged to have in 2050 compared to the norms in 2030 in the two-part aim in the Dutch climate agreement; reduce the emission of CO_2 in the build environment with 49 % (relative to 1990) by 2030 and with 95% by 2050 (Rijksoverheid, December 12 2018). During the interviews, the respondents were asked for the role of future legislation in current decision-making. Furthermore, the question is whether regulatory norms function as drivers or barriers for healthcare organizations to improve the energy-efficiency of their buildings.

Indicators related to the regulatory force are therefore; Current Norms (1) and Expected Norms (2).

(1) Current Norms relate to the energy efficiency norms that are present at the moment. For example; under Dutch law, new buildings are obliged to be BENG (almost energy neutral) (RVO, n.d). If a building is obligatory designed to be almost energy neutral, opting for additional energy efficient investments to develop a true energy neutral building can be a small step. In this way, existing regulation can act as a catalysator for the decision-making process and is therefore considered as a possible motivation. In addition to this, obtaining a sustainability certificate such as the ISO 50001 or Green Deal 2.0 medals can avoid administrative burdens since it allows healthcare organization to not have to proof compliance with governmental regulations.

(2) Besides current norms, there are future norms that are not yet enforced in regulation but can be logically expected when related to governments' aims. For example, following the Dutch climate agreement, the Dutch government aims to have an almost energy neutral (49% reduction in greenhouse gases compared to 1990) built environment in 2030 but subsequently aims for an energy neutral built environment in 2050. Consequently, although current building permits require a minimum energy efficiency level of BENG (Bijna Energie Neutraal – Almost Energy Neutral) , it is logically expected that ENG (energy neutral) is required in the nearby future. This influences current decision-making because 'being prepared for the future' by doing more than legally required can be considered a wise choice in many instances. For example, designing a building now with isolation values that correspond with the ENG requirements avoids large renovation in the future when norms change from BENG to ENG (Müller,2015).

Financial

The financial force relates to two financial considerations that healthcare organizations make regarding sustainable investments. First, saving costs for energy, which is operationalized through the return on sustainable investment (ROSI). The question is if healthcare organizations are also motivated to invest in sustainable construction if there is only a small or very late ROSI, and if so, why. During the interviews, the respondents were asked for the way that they weigh economic and environmental values. Second, external financiers increasingly aim to invest more sustainable and therefore develop advantageous finance structures for sustainable project and/or organizations (Falkenbach et al. 2010). During the interviews, respondents were asked if they would increase sustainable aspects in order to qualify for these investment opportunities

Indicators related to the financial force are therefore; Costs Savings (1) and Investment Opportunities (2).

(1) Cost Savings relate to reducing the expenses for energy as a result of energy efficiency improving measures. The idea is that these measures either reduce the demand for energy or increase the renewable supply of energy. Examples are; additional isolation in walls, roof and floor, triple glass windows, PV panels and low temperature heating. These measures result in decreased energy usage which is reflected in the amount of euros spend on energy. Consequently, increasing energy efficiency leads to costs savings. Saving costs is considered as a possible motivation to be more sustainable (Müller, 2015).

(2) Investment Opportunities relate to the trend that external financers increasingly offer attractive finance structures for 'sustainable' organizations. These structures are advantageous because they are less expensive than traditional external financing and can consist of specific loans for sustainable measures and mortgages for sustainable organizations. The latter also relates to sustainable employer practices, CSR practices and a healthy 'sustainable' account balance. Attracting and obtaining these investment opportunities by being more sustainable is considered a possible motivation to be more sustainable.

Consumer

In this research, the consumer force relates to the influence of consumers preferences for building characteristics in the healthcare sector. Consumers can be regarded in general terms as the end-users of a building. In this case, two groups represent stakeholder in the consumer force; the employees that work in the build environment (1); the clients that make use of the healthcare services (2). Group 1 (employees) is assumed to be a homogenous group for both case categories (elderly care and disabled care/mental healthcare) but group 2 (clients) is considered as heterogeneous because the living environment preferences between elderly and disabled clients differ for three reasons; first, different ages put different demands on their environment. Second, the average size of intramural buildings differ. Third, disabled people tend to live their entire life in one intramural care organization while elderly only spend a few years in such a building. The consumer force itself is operationalized by the preferences for a sustainable building. During the interviews, the respondents were asked to explain the role of these preferences in their decision-making.

Indicators related to the community force are therefore; Ability to compete for clients (1) and Ability to compete for personnel (2).

(1) Ability to compete for clients relates to improving sustainable practices in order to attract clients that are sustainably oriented. It is expected that clients that attach value to sustainability wish to see this philosophy reflected in the healthcare organization. Furthermore, since sustainability receives increasingly more attention in media (Ester & Vinken, 2000), it is expected that future clients will be more sustainable-oriented and attach a higher value to sustainable practices. Consequently, the ability to attract (future) clients by being more sustainable than legally required is considered as a possible motivation for healthcare organizations.

(1) Ability to compete for personnel relates to the same line of reasoning as the ability to compete for clients but is deemed more important because of the current tight labor market. A tight labor market means that there is more work than people to carry out the work. This means that employees have more to choose and employers need to compete more intensively for suitable personnel. Following the aforementioned line of reasoning it is expected that a more sustainable building can help attracting sustainable-oriented personnel and therefore increases the ability to compete for personnel. Consequently, increasing the ability to compete for personnel can be regarded as a possible motivation to develop more sustainable buildings.

Community

The community force relates to the influence that civil society has on the motivation of healthcare organization to become more sustainable. In this research, the community force is operationalized in two ways. First, by selecting which basic type of motive for CSR (Corporate Social Responsibility) is underlying decision-making. In this case, CSR is merely seen as being energy-efficient in your real estate portfolio. Second, by assessing the organization' sensitiveness for competitive comparison. For example, the importance of benchmarks and certification schemes.

Indicators related to the community force are therefore; CSR motivation (1) and Sensitiveness for Comparison (2).

1) Based on the article written by de Jong & van der Meer (2017), three basic types of motives for engaging in CSR (in this case; developing sustainable real estate) can be identified:
    - *Intrinsic;* company engages in CSR because it wants to help out and make a societal contribution.
    - *Extrinsic;* self-focused, strategic or self-serving; organization engages in CSR because it expects financial or other benefits from its socially responsible behavior.
    - *Stakeholder-driven;* meeting societal expectations and stakeholder pressure.

The answers on questions asked during the interviews with general managers and/or directors has led to the selection of one dominant motive for CSR.

(2) Comparison sensitive organizations are organizations that wish to compare themselves with their competitors on the sustainability level of their buildings. More specifically, organizations that are sensitive for comparison are expected to be motivated to develop sustainable buildings in order to obtain a 'high' place on benchmarks, certification schemes or other comparison platforms (Müller, 2015). Consequently, sensitiveness for comparison is considered as a possible motivation.

3. Methodology

This chapter describes the research methodology used to answer the research question and is structured in the following way:

- Section 3.1. describes the adopted research strategy and approach
- The research strategy and approach is translated into the research method in section 3.2.
- Section 3.3. describes the criteria used to select the cases studied in this research.
- Section 3.4. elaborates upon the methods used to collect data from literature and the cases.
- Section 3.5. describes the way the collected data was analyzed.
- The reliability and validity of this research method is discussed in section 3.6.

3.1. Research strategy

This research takes constructionism as an ontological position because it assumes that the social phenomenon, the willingness to build sustainable buildings, is produced through social interaction which is in a constant state of revision (Bryman et al, 2012. p 67). Since the motivation to make real estate portfolios more sustainable is the focal point of research, a constructionism point of view is assumed to be correct because the concept of sustainability is discourse-dependent and therefore subject to change (Ester & Vinken, 2000). Furthermore, this research takes an interpretative stance because it aims to interpret how stakeholders in the Dutch health care sector perceive the world, and the role of their real estate therein. This perception was interpreted by the researcher by placing it in a social-scientific frame or theory relating to existing theoretical concepts (Bryman et al, 2012).

Furthermore, this research is based on a deductive research approach in the sense that SHMTs form the basis for understanding stakeholder motivation and therefore guides the research in its aim to identify intervention measures that can enhance stakeholder motivation to incorporate sustainable building practices. Moreover, a theoretical understanding of what drives stakeholders motivation and how stakeholder motivation influences the decision-making process is the starting point for answering the research question. The process of deduction was employed to find measures that intervene in this decision-making process.

3.2. Research method

In this research, a comparative qualitative case study was conducted to allow for a comparison between stakeholder motivation in elderly care and disabled care organizations. Literature exploration and antecedent conversations with experts has led to the expectation that different key factors play a role for both categories. This is mainly due to the time that clients spend in a building, the amount and type of care provided and the related functional requirements of the buildings. The following differences can be observed;

First, disabled clients typically live their entire adult lives in a disabled care organization whereas elderly clients only spend a relatively short time in an elderly care organization.

Second, the type of provided care is different since disabled care organization primarily support clients with their day-to-day lives through some type of social employment or other daytime activities while clients in elderly care organizations are typically much less active and therefore need less activities but typically more intensive physical care.

Third, the financial considerations are different. Although both elderly and disabled care organizations are primarily paid through the Dutch healthcare system (unless clients have more private financial assets that allow them to spend more money on care) which provides a budget for long term care (wlz – Wet Langdurige Zorg), within the elderly care sector, organizations experience a faster change in clients since clients live shorter in elderly homes then disabled care organizations. Consequently, financial projections for the future are typically less certain for elderly care organization compared to disabled care organizations.

Fourth, the way in which a client chooses a care organization is different. For disabled people, this decision is often made by the parents whereas a client of elderly care organization typically chooses an organization themselves.

Consequently, it is important to look at both disabled as elderly care organizations in order to be able to identify effective intervention measures for the care sector as a whole. A comparison between elderly care organizations and disabled care organizations therefore contributes to the overall quality and generalization possibilities of the results. Section 3.3. further elaborates upon the criteria used to select the cases studied in this research.

3.3. Case Selection

In order to answer to research the motivation of healthcare organizations for sustainability and the influence of the four forces on this motivation, five healthcare organizations were examined in-depth.

The specific cases researched in this study were selected in a way that they represent the care sector as broad as possible by selecting cases that meet the following five criteria differently:

1) Type of care: The selected cases are divided between elderly- healthcare providers and disabled-care providers to allow a comparison for both categories. The elderly-care discipline is deemed extra relevant because it currently is the largest discipline within the Dutch 'care' sector (based on number of clients) and because the number of elderly in the Netherlands is expected to grow in the coming decades (Statline, October 2018). Following this line of reasoning, and thereby contributing to the societal relevance of this research, three elderly care and two disabled care cases were selected. Even though the selected cases differ in their focus on elderly care or disabled care, they all offer intramural as well as extramural care. This means they operate in a similar context of care provision and enables a fair comparison.
2) Size: The number of locations, it was important to have small as well as large organizations. An organization is considered small when the number of locations is lower than 50. Mid-sized when 50 till 150 locations are in use. A large organization has more than 150 locations in use.
3) Target group: The type of clients that the organizations considers as their main customers and the vision that the organization has on care. For example, clients with different socio-economic backgrounds, private financial assets or personal convictions on things that they find important. An attempt was made to also have cases with different religious background in order to see if this would have any unexpected influence on the organization's motivation for sustainability. Unfortunately, although a Christian healthcare organization was selected, it was not possible to interview an organization with a different religious identity since there are not many in The Netherlands and the ones written to did not agree with an interview.
4) Geographical location: The geographical spread of an organization's locations. The aim was to have organizations that are active in urban areas but also organizations with locations in more rural areas of The Netherlands.
5) Current level of sustainability: The extent to which organizations already made measurable efforts on increasing the energy efficiency of their real estate. This was measured by looking at possession and/or participation of recognized certification schemes such as the ISO standards or participation in the first Green Deal.

Selecting cases in this way, ensures that almost all types of elderly and disabled care organizations are represented in this study while also ensuring fair comparability, which in turn allows for the discovery of unexpected differences in stakeholder considerations and improves the generalizability of the results.

The cases that were selected based on the criteria above are introduced in more detail in chapter 4.

3.4. Data Collection

The data collection process consisted of two main steps.

First, a narrative literature review of scientific and case-specific documents such as annual reports and vision documents was conducted in the first stage of the research process in order to identify relevant stakeholders and gain background information on the cases.

Second, case-specific data for every 'force' (regulatory, financial, consumer, community) was collected through semi-structured interviews were held with representatives of the case organization and every force. In total, 15 interviews were held with 16 individuals (one interview was with two representatives) . The interviews were semi-structured in a sense that existing theory was checked while also allowing for the identification of additional factors. For each of the cases, the director or general manager was initially approached and asked for an interview, whereafter they provided the contact information of their real estate manager, client council representative and employee representative. In this way, one representative of every force was interviewed per case.

The data collection for every force is elaborated upon below in more detail, structured by the four forces.

Regulatory force: a policy document study of current legislation (e.g. building codes, energy efficiency demands, national sustainability norms, etc.) and expected legislation was conducted in order to map and summarize the legislative context in which stakeholders operate. Interviews were held with the director or general manager of the cases.

Financial force: an analysis of relevant financial legislation and context (e.g. energy prices, subsidies, public-private financial responsibilities, etc.) led to an overview of the financial context in which stakeholders in the Dutch healthcare sector operate. Thereafter, interviews were held with the real estate manager in which specific questions were asked about the influence of financial considerations on the motivation to be more sustainable.

In addition to this, in order to gain insights in the financial force outside of the organization, additional background interviews have been held with four financial institutions; one bank, a healthcare financing office and two real estate investors specialized in the Dutch healthcare sector. During these interviews, questions were asked regarding their motivation to implement sustainable financing structures as well as the (dis)advantages they experience regarding sustainable healthcare real estate development. These are treated as ‘background cases’ and are also introduced in chapter 4.

Community force: literature review and news article analysis was conducted to achieve an overview of the ‘communities’ opinion on the importance of sustainability in the healthcare sector. During the interviews with the director or general manager, specific questions were asked regarding their perception on the influence that civil society has on their motivation to make their real estate more energy-efficient.

Consumer force: literature review and trend analysis led to the identification of consumer value sets regarding sustainability in the healthcare sector. Thereafter, interviews were held with representatives of the consumer force for every case. Representatives of the consumer force are; client councils and employee councils.

However, while approaching the cases, it became clear that it was not possible to speak with all client councils and employee councils of every case due to unexpected sensitivity of the requested information. The requested information was considered 'sensitive' by the board of healthcare organizations since they did not want that clients and employees started to ask questions about the organizations sustainable practices as a result of the interview. This, and fear of a negative effect on public relations, is also the reason that all cases and results were analyzed anonymously.

In order to account for this, an additional interview was held with a national client organization (NCZ – Netwerk Cliënt en Raad Zorg). The missing interviews with client councils and employee councils are not deemed crucial because the subject of research is the perception of healthcare directors regarding their stakeholders.

3.5. Data analysis

After the data was collected, the influence of each force indicator (as explained in section 2.6. 'Conceptual Operationalization) on the organization's motivation was determined. This was done by following three steps, which will be explained here by going through the steps one by one.

Step 1) The influence of each indicator related to the forces on the motivation is discussed in text. Based on this, the factors were ranked on influence importance in each case. This was done by assigning value to each factor. Possible values are;

(-): minor influence on motivation

(±): intermediate influence on motivation

(+): strong influence on motivation

Step 2) based on the cumulative values of each case. Three lists were made with indicators that either have a minor, intermediate or strong influence on the motivation of healthcare organizations. Hereby comparing the influence of the four forces. This comparison allowed for the selection of indicators with the most potential to motivate organizations.

Mustaquim & Nyström (2014) argue that, in order to increase the motivation for sustainability, it is important to do three main things. First, make sure to harness the already existing motivation. Second, increase argumentation that currently does not receive enough attention but does have the potential to change an organization's motivation. Third, in order to make it possible to gain more motivation for sustainability, the respondents must be triggered positively and any dissonance that could prevent this happening must be reduced (Mustaquim & Nyström, 2014).

This means that the indicators that currently have a strong influence on motivation must be emphasized and the importance of minor influential indicators must be increased while by framing energy-efficiency as something that is positive for an organization.

Based on this, this research considers two categories as most promising. First, the factors with the greatest potential to change the organization' motivation; the factors with a minor (-) influence on current decision . Second, the most (+) influential factors on current decision-making .

Step 3) Developing intervention measures based on the indicators that either have a minor or strong influence on motivation. The intervention measures were designed in the following way; for the most influential factors (1), measures are designed that aim to put extra emphasis on these indicators during decision-making processes. For the least influential indicators (2), intervention measures were designed that aim to increase the influence of the indicators by framing energy-efficiency as a something that positively contributes to an organization. This allows for the development of intervention measures that specifically target those factors that have the most potential to change an organization' motivation.

3.6. Reliability & Validity

Traditionally, reliability is about the possibilities to repeat a study and get the same results while validity is about the question if a research really measures what it aims to measure (Bryman, 2012). However, these are often merely useful for quantitative research designs so Lincoln and Guba (1985) proposed an alternative way of discussing validity and reliability for qualitative research; trustworthiness (Guba & Lincoln, 1985). This section follows that approach.

First, credibility; is about the believability of the findings. For this research, the results are expected to be believable because of the large number of interviews (15 interviews) that was conducted with different types of stakeholders and decision-makers.

Second, transferability; is concerned with the question if the findings apply to other contexts. For this research, the transferability is expected to be high for organizations and firms in a similar sector but is expected to be low in other sectors because the results are stakeholder dependent.

Third, dependability; is concerned with the question if the findings are subject to change as a result of changes in time. For this research, the dependability is expected to be high because the characteristics of the four forces are largely influenced by time-specific governmental legislation, financial context, labor market conditions and societal discourses.

Fourth, confirmability; is concerned with the question if the researchers allowed his or her values to intrude to a high degree. As this research takes an interpretive stance, the findings are always somewhat subject to the researchers interpretation. Nevertheless, the large number of interviews, the semi-structured set-up of the interviews and the structured conceptual operationalization enable an adequate level of confirmability.

4. Case introduction

The cases are introduced by providing general information about the way the cases meet the five case selection criteria as described in section 3.3; type of care provided (1) , size (2), target group (3), geographical location (4) and existing sustainability level and vision (5).

In order to ensure the anonymity of the respondents, the cases are named alphabetically instead of using the real names of the organization. The reasons for this anonymity were explained in section 3.4.

Elderly care:

Case A (de Haven) is a small (2) elderly care organization that focuses on clients with Alzheimer (3). The organization provides intramural and extramural care as well as care at home (1). It is geographically oriented in the middle of the Netherland (4). The organization has a strong Christian background which is reflected in their vision and mission. The organization has no sustainability certificate (5).

Case B (MPC) is a small (2) elderly care organization that is locally oriented in the west of the country (4). The organization is well- known for its sustainable efforts but does not possess a sustainability certificate (5). The organizations vision is focused on giving responsibility back to the elderly. The organization vision is focused around 'well-being' and attaches value to individual initiatives (3). Case C offers intramural and extramural care (1).

Case C (Pro Senectute) is a mid-sized (2) elderly care organization that focuses on highly educated and wealthy elders that share common societal beliefs. The organization' mission is focused on providing a 'home-like' feeling by harmoniously living together (3). Its locations are located in the middle of the Netherlands but divided from east to west (4). Location is considered very important in their real estate development. One location was recently awarded a bronze Green Deal certificate (5). Case B provides intramural as well as extramural care (1).

Disabled care:

Case D (Philadelphia) is a large (2) disabled care organization. Its locations are centered around the middle of the Netherlands (4). The vision and mission are based on Christian concepts of charity (3). Regarding sustainability, the organization possesses a number of ISO certificates that provide and ensure sustainable principles in the whole organizational structure (5). However, these certificates define sustainability much broader than just environmental values. The organization provides intramural as well as extramural care (1).

Case E (Aveleijn) is a mid-sized (2) disabled care organization. It is primarily located in the east of the Netherlands (4). The mission focuses on 'a life with meaning' which is translated by encouraging their clients to participate in society through work, studying and volunteering (3). The organization offers intramural as well as extramural care (1). Case E does not possess a sustainability certificate (5).

Background interviews

Background interview (F) is an institutional investor in real estate. The organization invests pension and insurance funds. It is very active in the Dutch healthcare sector and expresses a concrete vision regarding the desired sustainability level of their portfolio. Their focus and vision is long-term and meant to spread risks in order to offer stable returns.

Background interview (G) invests in real estate for pension and insurance funds. Their healthcare fund is relatively new but growing. The organization is ambitious regarding sustainability. Because they mainly invest for institutional shareholders, their focus and vision is long-term and meant to spread risks in order to offer stable returns.

Background interview (H) is a large bank in the Netherlands and has a specific healthcare real estate department that finances real estate development. The organization provides loans and mortgages for healthcare organizations.

Background interview (I) is a care financing office that is mostly active in the middle regions of the Netherlands. Care financing offices set financial budgets for long term care such as elderly care and disabled care through contracts with health care providers. A separate budget is available for developing and maintaining real estate.

Background interview (J) is a national knowledge and learning network for local and central client councils and client council supporters in healthcare.

5. Results

This chapter contain this research' results and data analysis (based on the methodology presented in chapter 3) and describes the influence different indicators have on the motivation of healthcare organizations to increase the energy performance of their buildings.

The chapter is structured around the four forces of the conceptual model in the following way:

- Section 5.1. (regulatory force) discusses the legislative context (e.g. legal obligations with regard to the energy efficiency of healthcare buildings) in which Dutch healthcare organizations operate (based on literature study) and analyses the influence 'current norms' and 'expective norms' have on the motivation of the studied cases to increase the energy performance of their buildings (based on interviews).
- Section 5.2. (financial force) elaborates upon the financial context (e.g. the financial structures through which Dutch healthcare organizations are paid and how investments in real estate are financed) in which Dutch healthcare organizations operate (based on literature study) and analyses the influence 'cost savings' and 'investment opportunities' have on the motivation of the studied cases (based on interviews) to invest in increased energy efficiency of their real estate.
- Section 5.3. (consumer force) discusses current labor market and developments in the demand for elderly and disabled care (based on literature study) and analyzes the influence 'ability to attract clients' and 'ability to attract employees' have on the motivation of Dutch healthcare organizations to make their buildings more energy efficient (based on interviews).
- Section 5.4. (community force) discusses societal trends with regard to sustainability in the elderly and disabled care sector and analyzes the influence 'sensitiveness for comparison' and 'motivation for CSR' has on the motivation of elderly and disabled care organizations to develop more energy efficient buildings (based on interviews).

These four section's end with a sub conclusion by assigning a value of influence on motivation to each of the indicators (- minor influence or ± intermediate influence or + strong influence).

Thereafter, section 5.5. discusses the interfaces between the four forces.

5.1. Results- Regulatory force

The Dutch government signed the COP21 Paris Climate Agreement and thereby committed to international sustainable development goals. The treaty contains mitigation as well as adaptation aims. This treaty has been translated nationally in the Klimaatakkoord. For the build environment this means a reduction of 1 Mton CO2 reduction in 2030, compared to 1990, in the commercial and social real estate sector. To reach this goal, requirements for building development were set.

Starting in July 2020, all new buildings are required to be BENG (almost energy neutral) which sets three requirements; first, a maximum energy need per m². Second, a maximum fossil energy use per m². Third, a minimum percentage of renewable energy (RVO, n.d.).

Next to norms for new building, regulation for existing buildings was increased. Based on the Activiteitenbesluit article 2.15, section 1 which came into effect in 2008, building owners were obliged to execute all sustainable measures that can be earned back within 5 years (CE Delft, 2018). These measures are listed in the Erkende Maatregelen Lijst (list of acknowledges measures). However, this was not enforced and therefore ineffective. Consequently, since June 2019 are all organizations obligated to inform legal authorities on their efforts (RVO, n.d.).

The respondents in all elderly care cases indicate that it is important that current norms are in place because it provides guidance and aims. Complying with legislation is considered as something that needs to be done but is not a motivation in itself (Transcript B, p3) (Transcript A, p2). Solely complying with current norms is sufficient (Transcript B, p3). In contrast to case A and B, respondents in C indicate that reducing the administrative burden can be a reason for obtaining a sustainability certificate but it is never the main motivation to participate in iniatives like the Green Deal. Illustrated by the following quote; "Reducing administrative burdens is always good but it is never an aim in itself" (Transcript C, p1).

The same is applicable for the disabled care sector. Case E states that current norms do not influence the motivation to be sustainable (Transcript E(2). Complying with legislation is something that is not optional and must be done, but it is not part of the organization' motivation (Transcript E(1), p2). This is different for case D. Case D possesses the ISO 50001 certificate for the whole organization (Transcript D(2), p1), Keeping this certificate means that progress has to be made which is sometimes difficult but it ensures that the organization keeps working on sustainability in an integrated and organization-wide manner (Transcript D(1), p2). This also means that the administrative burden is reduced since the organization is not surprised at moments that compliance with governmental legislation must be proven. This was also one of the reasons for obtaining the ISO 50001 certificate (Transcript D(1),p2).

Furthermore, next to current legislation, there is expected legislation which is needed to reach the climate treaty aims. The most important are; a minimum energy label for healthcare buildings in 2021, all new buildings have to be energy-neutral buildings (ENG) in 2030 (Green Deal, October 2018).

Expected norms like these have more influence on the motivation for elderly care organizations to become more sustainable. For example, Case A opted for a thermal energy storage system and no gas connection without legal

obligation because the organization believes that it leads to a frontrunner position even though governmental legislation is always subject to change (Transcript A, p2). Expected legislation is always something that is taken into account during decision making processes and definitely increases the motivation to make different decisions now (Transcript B, p3). Meaning that they try to estimate upcoming regulations and try to make decisions now in order to also be able to comply with future norms. This is also illustrated by case C since they recently developed a new building without a natural gas connection which was not obligated at that time but the organization expected that the Dutch government aimed to disconnect the build environment from natural gas (Transcript C, p2).

A similar influence of the regulatory force is present inthe disabled care sector. Case D tries to be prepared for future legislation as much as possible (Transcript D (2), p2) and expresses a motivation to do more than legally necessary if financially possible (Transcript D(1),p2). A number of new buildings without natural gas connection is an example thereof (Transcript D(1), p2). Therefore, expected legislation has a strong influence in Case D. Case E states that expected norms are an important part of the decision-making but recognizes that legislation changes fast while construction projects take long which makes it difficult to remain frontrunner (Transcript E(2), p2). For Case E, it is about improving standards in every project, expected legislation just guide these standards (Transcript E(2), p2). Expected legislation is important but being prepared for future legislation is not seen as the real aim.

Based on the above, this research concludes the following for the regulatory force:

It becomes clear that in the elderly care sector, expected norms have much more influence on the motivation to become more sustainable than current norms. This study therefore argues that current norms have minor influence while expected norms have strong influence on motivation in de elderly care sector. Just like by elderly care, expected norms have more influence on the motivation of disabled care organizations to become more sustainable than current norms but the difference is not as large as in the elderly care sector. This study concludes that current norms have minor influence while expected norms have intermediate influence on motivation in the disabled care sector.

	Elderly care	**Disabled care**
Current norms	Minor influence	Minor influence
Expected norms	Strong influence	Intermediate influence

5.2. Results - Financial force

Financing structures in long term health care are complex. So, this section only discusses financing ways that are relevant for real estate investment. Long term health expenses is largely paid through taxes (VWS, n.d.). The healthcare sector is financed by regional healthcare offices that distributed maximum budgets set up by the NZa (Nederlandse Zorgautoriteit) (NZa, n.d.). Until 2009, healthcare organizations could present a (re)building plan to the Bouwcollege, which would, if accepted, then pay all construction and maintenance costs for the entire exploitation period (Jonkman, 2015). However, since 2012, healthcare organizations receive a normative budget from the Dutch national healthcare authority (Nederlandse Zorgautoriteit; NZa) for each client which means that organizations are made responsible for their real estate exploitation. Each year, healthcare offices set maximum tariffs for expenditures on buildings; the NHC (Normative Housing Component) tariff (NZa, n.d.).

The normative housing component (NHC) is a production-related normative payment for renovation, new construction and maintenance. This reimbursement consists of an indexed annual contribution that is sufficient to cover interest, depreciation and maintenance expenses over the entire life cycle of a new long term care provision. An occupancy rate of 97% and a set investment standard is assumed. The NHC does not include a reimbursement for investments in inventory. The costs for energy are also not part of the NHC tariff (NZa, n.d.). In short, the NHC is a standardized amount of money that the healthcare provider receives per client for housing.

Healthcare organizations are not obliged to strictly separate the budgets for housing and care provision but it is strongly advised by healthcare offices and the Dutch healthcare authority in order to ensure the quality of care and the financial health of the organization. Moreover, all interview respondents indicate that they do not want to use care budgets for housing because providing care is the core business while housing is only a part of that (Transcript I, p2). Furthermore, according to ActiZ, health care organizations spend more than the budget on care which goes at the expense of investments in real estate and thereby sustainable investments (ActiZ, 2018). Health care offices recognize a synergy between the quality of the building and the quality of care that an organization is able to provide (Transcript I, p2).

Investments meant to improve the energy efficiency of existing buildings also has to be paid from these budgets. However, the benefits end up in different budgets because energy costs are paid from the care budget. For example, additional roof insulation (the costs) is paid from the NHC budget but the lower energy bill (the benefits) as a result of this additional roof insulation ends up in the care budget (Nederlandse Zorgautoriteit, n.d.) Moreover, the costs of energy are a small part of the business case because healthcare organizations pay lower prices rates for utilities so the payback period for sustainable measures such as solar panels are longer than for the commercial or private sector (RVO, n.d.). Here a link with the regulatory force comes forward, since a differentiation in governmental taxes are the main reason for the lower energy prices for healthcare organizations. Please see section 5.5. for an elaboration regarding this.

Case A indicates that the payback period of sustainable measures is important but that it is also possible to take other values into account in the business case (see section 5.5.). Furthermore, energy-saving measures are paid back relatively late due to the low price for utility (Transcript A, p3) . According to case B; cost savings are a part of the business case. The business case has to be correct but case B also takes the effects on the wellbeing of

our clients, employees and environment into account (Transcript B, p4). Saving costs is not the main motivation to be sustainable. Case B does not have a certain period in which investments should be earned back. Sustainability is allowed to costs more (Transcript B, p1). So, cost savings have an intermediate influence in case B as well as A. For case C, the payback period of sustainable measures are linked to the life span of the element (Transcript C, p2). However, sustainable investments do not need to have a payback period if it has other advantages such as marketeering value, a healthy working environment, increased client' wellbeing (Transcript C, p 2).

The respondents in the disabled care sector indicate that housing investments should stay within the NHC tariff and that sustainable measures is a part of this (Transcript D(2), p3). The business case has to be correct so cost savings are important (Transcript D(1), p3). However, case D assesses the business case in an integrated way so also other advantages such as marketing value and wellbeing for employees and clients are taken into account (Transcript D(2), p4). For Case E, the payback period of a measure is not reason to take a measure or not (Transcript E(2), p3). However, disabled care organizations are paid with tax money so that needs to be spent in a responsible way. So, to avoid reduced quality of care, sustainability investments should only come from NHC budgets (Transcript E(1), p3). However, it depends on the type of measure, some measures that can be regarded as sustainable are not earned back but are still implemented, like sustainable client transport (Transcript E(1), p3).

Since 2018, the NHC budgets are officially negotiable which means that the healthcare office is allowed to increase or decrease the NHC budget based on the quality of housing and thereby introduce a negative or positive incentive to improve the quality of housing (VNG, 2017). Healthcare offices did not make use of this option until now (Transcript I, p1). Furthermore, healthcare offices indicate that this option will also not be exploited in the nearby future (Transcript I, p1). This is due to policy difficulties on how to assess the quality of housing and create suitable incentives through negotiation (Transcript I, p2).

Simultaneously, the Dutch government announced that 4 million euro would come yearly available for sustainable development in the healthcare sector. Starting in 2019, healthcare offices were supposed to support specific sustainable initiatives with this money (ActiZ, 10 October 2018). However, healthcare offices indicate that it is too difficult to assess the quality of sustainable initiatives and suitable money distribution (Transcript I, p4). So, the additional sustainable budget resulted in an additional 0,18% on top of the NHC budget for all healthcare organizations (ActiZ, 10 October 2018).

Furthermore, healthcare real estate is often owned by investors which means that the investor is responsible for maintenance, renovation and other investments. In this case, the healthcare provider rents the building and uses the NHC for this (Platform Duurzame Huisvesting, 2016). However, energy expenses are paid by the healthcare provider. This creates a split incentive for sustainable investments that reduce the demand for energy because the healthcare provider receives the benefits of investments done by the investor/owner. Mutual consultation is often seen as the solution (Platform Duurzame Huisvesting, n.d.). However, similar sustainable aims are an important prerequisite for this (Transcript G, p3).

The role of real estate investors in the healthcare sector is growing. In 2018, a record amount of money was invested, namely 1 billion euro. Which is a growth of more than 33% compared to 2017 (Skipr, 23 januari 2019). Next to this, the number of investors is growing since foreign investors discovered the Dutch health care real estate market. It is a popular market with safe returns due to a rising demand and relatively high budgets (Skipr, 23 januari 2019). moreover, there is a trend where healthcare organizations sell their real estate to the investor in order to rent it back from the buyer (Skipr, 23 januari 2019). This way, the healthcare organization can focus completely on providing health care since real estate quality is the responsibility of the owner.

In the eyes of investors, sustainability is often seen as 'future-proof' and therefore a safe investment (Transcript F, p2). Sustainable real estate is expected to have a higher value than traditionally build real estate (Transcript G, p1) For this reason, investors are willing to buy and develop buildings that are regarded sustainable which results in a lower demand for their return on investment (Transcript F, p4). Furthermore, investors are sensitive for comparison. Benchmarks are considered important and motivational. The GRESB benchmark indicates the average level of sustainability of a healthcare real estate portfolio. Both respondents pursue an ambitious place on this benchmark. Consequently, investors are motivated to obtain sustainable buildings in their portfolio and push healthcare organizations to cooperate (Transcript G, p3).

When real estate is property of the healthcare organization, (re)building, renovating and maintenance has to be paid by the organization itself. These projects are often financed by banks. Healthcare organizations that do not have enough available budget for real estate investments borrow money from banks to invest (Transcript H, p1).

Banks increasingly offer advantageous loans for sustainable investments. For example, in 2018, Rabobank announced to invest 400 million euro in sustainable healthcare real estate (Skipr, 31 may 2018). Healthcare organizations are also aware of this (Transcript D(1), p3). Examples of advantageous loans are a longer maturity of the loan. However, although it is the plan for the future, case H does not yet offer a lower interest for sustainable organizations and building plans (Transcript H, p1).

Banks indicate that sustainable certificates are a welcome tool to prove a certain level of an organization's sustainability (Transcript H, p2). However, For case H, connecting advantageous financing to sustainability has more to do with a sustainable vision and aim within an organization than sustainable housing (Transcript H, p3). Related to this, respondents indicate that 'sustainable personnel policies' are an important factor in the decision-making regarding the distribution of advantageous loans (Transcript H, p2).

Investment opportunities has an intermediate influence for Case A. External financing was not necessary in the latest projects of case A but the organization is aware that investors value sustainability (Transcript A, p3). Case A would take additional sustainable measures if that would mean favorable financing but only if the costs of this additional step do not outweigh the benefits (Transcript A, p3). Investment opportunities have an intermediate influence in Case B because the organization is willing to take additional sustainability measures in order to obtain advantageous financing (Transcript B, p5). However, Case B states that the aim is to reach their goals. The way these goals are reached is less important so increased investment opportunities is not a motivation in itself (Transcript B, p4). Case C is also aware that investors have advantageous financing structures for sustainable

investments and is willing to take additional efforts in order to obtain financing (Transcript C, p3). However, the respondent' experience is that the last step is often a big step and that additional investments are often higher than the benefits of that step (Transcript C, p4).

Just like in Case B en C, Case D is aware of advantageous financing structures for sustainable investments (Transcript D(2), p3). Having the ISO 50001 certificate increases the organization' trustworthiness (Transcript D(2), p3). However, according to respondents, the additional money available for sustainable measures is not always spend efficiently by investors because the focus should be on renovating or rebuilding existing real estate instead of building new (Transcript D(1), p3). Attracting advantageous financing is only a part of the motivation to be sustainable (Transcript D(2), p3). Case E indicates that it is important to choose a 'green' bank or investor if external investment would be necessary (Transcript E(1), p4). However, Case E realizes that this preference is only possible when the organization is financially healthy. Otherwise, different decisions regarding additional sustainable investments might be made (Transcript E(1), p4).

Based on the above, this research concludes the following for the Financial force:

In the elderly care sector, cost savings have an intermediate influence on the motivation to become more sustainable in case A and B but have a minor influence in case C. In comparison, this study concludes that costs savings have an intermediate influence in the disabled care cases D and E.

Investment opportunities are considered a factor with intermediate influence on the motivation to increase sustainable efforts in all elderly care cases. The same is true for the disabled care cases; investment opportunities have an intermediate influence in both cases.

	Elderly care	**Disabled care**
Costs Savings	Intermediate influence	Intermediate influence
Investment Opportunities	Intermediate influence	Intermediate

5.3. Results – Consumer force

Since the consumer force is made up by two groups (clients and employees) that have very different needs, expectations and challenges themselves but are also treated differently by healthcare organization this section is divided into two parts. First, ability to compete over clients is discussed. Second, the ability to compete over employees is discussed.

Clients

The Dutch population is aging. There is an absolute as well as relative growth in elderly. PBL expects 4,6 million people older than 65 years in 2040 (Groot, de et al.,2013).

Furthermore, there is a 'double-aging' trend; the percentage of people older than 65 years is growing while the number of people older than 80 years is growing faster due to a higher life-expectancy (Groot, de et al.,2013). The change in population structure is made graphically visible in figure 5.

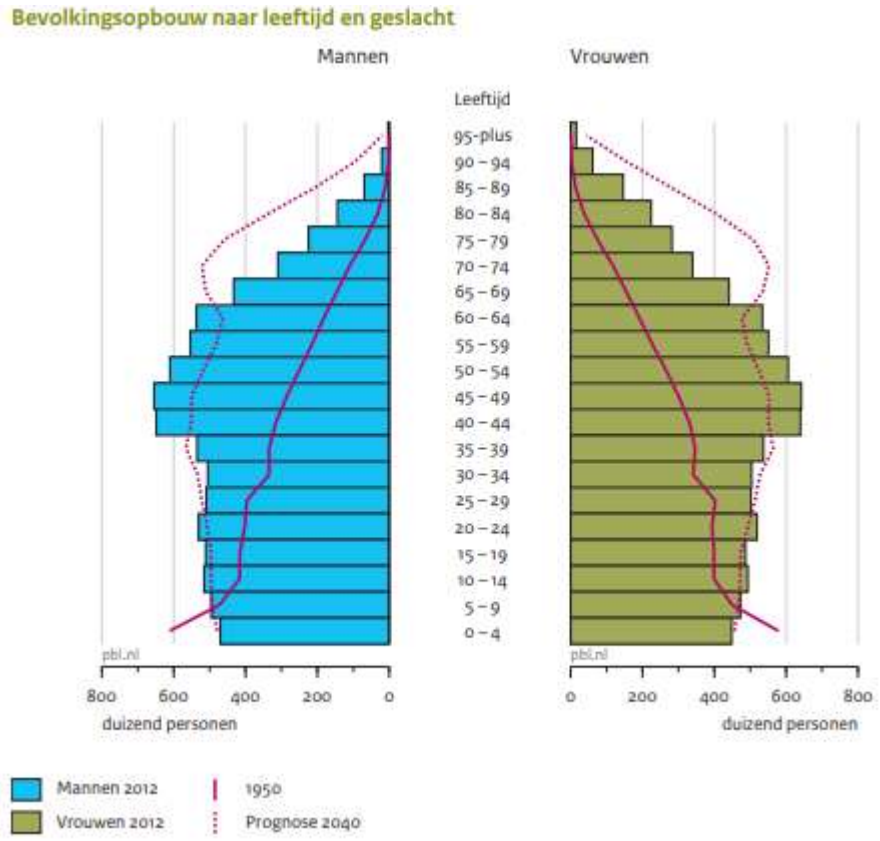


Figure 5: Population structure by age and gender (de Groot et al., 2013).

The aging population leads to an increased demand for care and suitable housing (VROM-Raad, 2005). Furthermore, the importance and services in the direct living environment increases with an aging population (Groot, C. de et al.,2013). This is due to a decrease in health and thereby the geographical range in which daily activities and social contacts can take place (Filius, 1993). This means that nearby shops and public greenery become more important for the quality of life of elderly (Groot, C. de et al.,2013). Moreover, a growing group of pre-seniors (older than 50) indicates a preference for independent living as long as possible (RVO, 2017).

These future generations of elderly are relatively rich due to additional pensions and increased participation of woman in the labor market (Groot, C. de et al.,2013). The preference for independent living is in line with governmental policy which encourages private responsibility (VROM-Raad,2005). These societal changes combined with regulatory policy has led to a decrease in intramural capacity of healthcare organization from 150.000 places in 1980 until 84.000 places in 2010. In the same period, the number of people older than 80 doubled (Groot, C. de et al.,2013).

However, despite governmental policy and societal trends, the demand for intramural care is expected to rise due to the higher life expectancies and a related growth in Alzheimer decease which makes intramural care often inevitable (Iersel, J. van et al., 2009). The consequences are shortages in intramural care supply (Raad voor de leefomgeving en infrastructuur, 2014). So, health care organizations need to increase their supply of intramural housing, in order to meet this demand.

The demand for disabled care is also rising due to two reasons. First, the absolute population is growing (TNO, 2011). Second, better healthcare quality means that heavily-disabled people get older. The increased demand for disabled healthcare means that organizations are aiming for growth (Transcript D(2), p5). For disabled people, the quality of life is closely related to the quality of housing because housing need to be adapted to their disability in order to experience freedom and independence (Vlist. van der, 2014). Some trends in housing are; more privacy, bigger living space, wish for more individual control over the direct environment (TNO, 2011). However, due to suitable housing shortages, it is not always possible for disabled people to choose where to live (Vlist. van der, 2014).

Furthermore, there are possible contradictions between energy efficiency and the quality of living due to the way energy efficiency increases are often reached. This has to do with the most efficient set-up of a buildings installations and the necessary isolation values and is due to two reasons.

First, *“the most efficient set-up of a building' installations often means automatic presence-sensitive lighting, centrally controlled heating and an inability to open windows. These measures increase the energy-efficiency but reduce the level of control on the living environment”* (Transcript D(5), p5). Having control over the direct environment contributes to the quality of life for people that already depend largely on other people (TNO, 2011).

Second, highly isolated building often deal with bad indoor air quality (Ross et al, 2004). Bad indoor air quality leads to health and productivity problems (Singh, 1996). These are important considerations for healthcare organizations since a high quality of life and a healthy environment are considered important for health provision (Singh, 1996).

In case A, energy-efficiency is not used to compete for clients since clients choose organizations because of location, living experience and reputation of the organization (Transcript A, p4). However, Case A states that clients value sustainability but more in regard to visible measures such as gardens and garbage reduction (Transcript A, p4). Case B states that Sustainability increasingly gains importance for clients. *"That’s not necessarily about saving energy but clients appreciate a broader way of looking at sustainability, for example; a*

healthy living and working environment" (Transcript B, p6) . The organization tries to create such an environment and encourages and facilitates client' personal initiatives. This makes that people like to live there, it is not about the building' energy-label (Transcript B, p6). According to case C, energy-efficiency is currently not an important subject for clients because clients are often satisfied with a suitable place, sustainability is then not an important criterium (Transcript C, p3). However, if sustainability can be translated as a higher quality of life (such as greenery, natural light, good air quality) it would appeal to clients (Transcript C, p3). Furthermore, respondent expect energy efficiency will be increasingly important for future clients (Transcript C, p1). But at the moment, energy efficiency is not considered by case C as a way to compete for clients (Transcript C, p2)

A similar image arises in the disabled care cases. Case D indicates that the quality of real estate is an important aspect for clients (Transcript D(2), p4). This has to do with a feeling of happiness which is broader than saving energy, it is for example about greenery, natural light and indoor decoration (Transcript D(2), p4). However, sustainability is for clients about visible things, due to their disability it is difficult for most clients to understand the complexity of climate change (Transcript D(1), p4). For Case E, clients choose an organization because of the culture, location and quality of the building, not because its energy-efficient (Transcript E(2), p4)(Transcript E(1), p4).

Based on the above, this research concludes the following for the Consumer (client) force:

For all cases in the elderly care sector, the ability to compete for clients has a minor influence on the motivation to make buildings more energy-efficient. The same can be concluded for the disabled care cases; the ability to compete for clients has minor influence on the organization's motivation to increase the energy efficiency of their real estate.

	Elderly care	**Disabled care**
Ability to compete for clients	Minor influence	Minor influence

Employees

In 2017, around 1,19 million people were employed in the healthcare sector (TNO, 2011). 33% is working in the elderly care and 13,8% in the disabled care sector. However, while the demand for employees is rising, the supply of labor is decreasing (ActiZ, n.d.).This is due to an aging working force and growing discontent in the sector (ActiZ, n.d.). Employees experience stress and a heavy workload (ActiZ, n.d.).This results in employees leaving the sector and a higher illness rate. In 2017, almost 6% of the working force was long-term absent due to stress-related illnesses (Zorgvisie, 2018). This is a growth of 16% since 2013. The costs of replacing the employees that are ill was 567 million euro in 2017 (Zorgvisie, 2018). Next to this, the turnover rate in the healthcare sector is high. 15,8% of employees left the sector in 2018 (Zorgvisie, 2018). Healhtcare organizations that are not able to keep their employees are putting more workload on the remaining staff. In turn, this leads to an increased illness rate (Trouw, 2018) This has led to a 80% rise of vacancies in 2017, making a labor shortages one of the biggest problems in the healthcare sector (Trouw, 2017). Moreover, Human Capital is the most expensive production factor for healthcare organizations (CBS Statline, march 2019). Replacing personnel or temporary employee

costs were rising over the last years (Ernst & Young, 2018). Thereby making the battle for employees an important challenge for the coming years (Ernst & Young, 2018).

In case A sustainability in the sense of energy-efficiency is not a priority for employees when deciding for an employer (Transcript A, p6). However, at the same time sustainability in the sense of an atmosphere in a building with regard to lighting, air quality and greenery is considered important to ensure working pleasure by Case A (Transcript 1, p5). Case B notices an increased interest for sustainability among employees (Transcript B, p7). However, *"employees do not decide to work for us because of our energy label, it is about an organization' culture and working environment. Sustainability can be a part of that"* (Transcript B, p7). According to case C, employees have a lot to choose but an energy-efficient organization is not the first criterium (Transcript C, p4). However, employees do search for a pleasant working-environment so sustainable in the sense of wellbeing can be a way of profiling on the labor market (Transcript C, p4).

According to the respondents employees mostly choose for the content of their work, the locations, the image of the organization (Transcript D(1), p5). Although the atmosphere and quality of a building are important, sustainability is not an influential factor.. A pleasant working environment is considered important to attract and keep employees (Transcript D(2), p6). This can be part of sustainability (Transcript D(2), p6). For Case E, respondents state that energy-efficiency is not an important aspect when choosing and employer (Transcript E(1), p5).

Based on the above, this research concludes the following for the Consumer (employees) force:

The ability to compete for employees has a minor influence on the motivation of healthcare organization to make their buildings more energy-efficient. This is true for all cases in the elderly care as well as the disabled care sector.

	Elderly care	**Disabled care**
Ability to compete for employees	Minor influence	Minor influence

5.4. Results - Community Force

Although sustainability problems are perceived as complex due to the global nature of environmental problems, Dutch citizens feel that the individual can make a difference and should take personal responsibility (Ester & Vinken, 2000). Furthermore, sustainable firms experience a better image in Dutch society than unsustainable firms which means that sustainable efforts are a good way of profiling an organization in the market (Hughen et al, 2014). Disabled care case E recognizes the advantages of sustainability for marketing purposes and states that the "possibility to use a wide influence range and thereby set an example was part of their motivation to implement CSR policies (Transcript E(1), p1). The organization does not want to be low on a benchmark (Transcript E(1), p6). Benchmarks is welcome so that good examples can be shared but a high position on a benchmark can also decrease efforts (Transcript E(1), p6). Disabled care case D confirms this by stating that they *"experiences benchmarks as positive and that a low position would increase efforts"* (Transcript D(1), p5). *"But on the other hand, a good position would also mean prioritizing and possibly decreased efforts*" (Transcript D(2), p6). However, this is not their main motivation for sustainable efforts (Transcript E(2), p1). Instead, the core reason for CSR policies is an intrinsic motivation to care for the environment (Transcript E(1), p1).

For elderly care case B, a sustainable image and possibilities to marketeer sustainable efforts has a strong influence on sustainable decision-making. As illustrated by the following quote; "*Image is important and a benchmark helps with that, I do not hesitate to show that I am the best boy in class*" (Transcript B, p8). The same is true for elderly case C since the respondents acknowledges the PR-value of sustainability and expresses plans to use that. Illustrated by the following quote; "*We intend to present ourselves with this; in the next few years we have a nice place for you if you want to work or live in a healthy and positive way*" (Transcript C, p4). Disabled care case D agrees by stating that *"image is important for us but our sustainable efforts are not exploited enough as a PR value (Transcript D(1), p2)".*

In contrast, elderly care case A respondents state that they are not influenced by sensitiveness for comparison. Benchmarks, certificates and image were not considered important for implementing sustainable policies (Transcript A, p5). Case A believes that this is not speaking to their target audience. The respondents think that this is mainly due their location in a strong Christian environment and their own Christian roots which means that they target a very specific and locally orientated group with their own beliefs and convictions (Transcript A, p5).

Support from directors and top management for CSR policies is one of the most important facilitators for sustainable initiatives. The development of a sustainable vision is seen as an important condition for effective sustainable CSR policies (Casey & Sieber, 2016). However, sustainability is a context-dependent concept with three main pillars; economic, environmental and social (or profit, planet, people), which means that the used definition depends on the focus, interest and framing of the concept in a certain context (Ghahramanpouri et al, 2013). Dutch healthcare organizations typically frame sustainability in the 'planet and environmental pillar' by equating sustainability with saving energy (Skipr, September 2018). The CSR policy of disabled care case D is focused on reducing the organization' climate footprint while increasing the social footprint of clients (Transcript D(2), p1). The respondents indicate three reasons for their sustainable aims; a sense of responsibility, spending

money in a good way and providing a good future for their clients who often live and die within the organization (Transcript D(1), p2). Sustainability is thereby seen as part of the organization' business to ensure a continuation of disabled care (Transcript D(1), p5).

Healthcare organizations feel a societal pressure to contribute to sustainability and acknowledge a responsibility for working on sustainable aims (Transcript E(1), p1). However, this is not necessarily because healthcare organizations are publicly financed (Transcript E(1), p6). Instead, sustainability is seen as part of their 'job' since caring for clients is closely related to caring for the world that clients, and future clients, live in (Transcript, B, p2). Elderly cases A and B confirm that the motivation to become more sustainable is primarily intrinsic (Transcript A, p1)(Transcript B, p2). A feeling of responsibility towards our environment and future generations is stated as the main reason for sustainable measures. The same applies for elderly care case C, where respondents state that the motivation to join the Green Deal and thereby contribute to a more sustainable world was intrinsically based (Transcript C, p1). For elderly care A this is partly due to the Christian idea of stewardship (Transcript A, p1) while case B states that their sustainable motivation starts with interest for the topic and a feeling of responsibility for the world and their (future) clients (Transcript B, p2). Thereafter, *"scientific or societal arguments are searched and found that support this interest and belief"* (Transcript B, p2). In this case, increasing wellbeing through sustainable development is the real aim. The organization feels responsible for the neighborhood and environment (Transcript, p7).

Based on the above, this research concludes the following for the Community force:

Intrinsic motivation has a strong influence on the motivation to work on CSR policies in all cases, for the elderly care cases as well as the disabled care cases. Since all cases express an intrinsic motivation as the main reason for sustainable development, CSR motivation can be considered as a factor with strong influence on the motivation to become more sustainable. A more differentiated image arises when it comes to the factor 'sensitiveness for comparison'. For the elderly cases B and C, sensitiveness for comparison is an important reason to increase sustainable efforts in case they score low compared to competitors. The PR value of sustainability is fully recognized by these two cases and has therefore strong influence on their motivation to become more sustainable. In contrast, elderly case A states that sensitiveness for comparison does not influence their effort for sustainability and therefore has a minor influence on their motivation. This is probably due to their specific target audience. For the disabled care cases D and E, sensitiveness for comparison is considered to have an intermediate influence on their motivation for sustainability since both cases recognizes the value of benchmarks, and the influence on their motivation if they are ranked low, but also indicate that a high position on a benchmark could also mean that efforts decrease due to shifting priorities.

	Elderly care	**Disabled care**
Motivation for CSR	Strong influence	Strong influence
Sensitiveness for comparison	Strong influence	Intermediate influence

5.5. Interfaces between forces

As stated in section 2.4., interfaces between the four different forces will arise, which means that one force can also influence the other. It is therefore important that these interfaces are recognized and addressed when using the four forces model for studying stakeholder motivation. This section addresses two relevant interfaces that came to light during this research.

First, the regulatory force influences the financial force. For example, (1) the government can directly influence the financial force by making budgets available for sustainable investments (ActiZ, 10 October 2018). (2) a differentiation of taxes between in order to promote renewable energy and discourage fossil fuel use (Rijksoverheid, n.d.) means that the rate of return on sustainable investments is getting more positive. Consequently, sustainable investments get more profitable and therefore more desirable. (3) Since healthcare organizations are largely paid with tax money, this money must be spent in a responsible way. So, to avoid reduced quality of care, sustainability investments should only come from NHC budgets. This system of separated budgets for housing and care is influenced by the regulatory force (Transcript E(1), p3).

Second, the regulatory and financial force can influence the consumer force. For example, future generations of elderly are relatively rich due to additional pensions and increased participation of woman in the labor market (de Groot, et al., 2013). The preference for independent living is in line with governmental policy which encourages private responsibility (VROM-Raad, 2005). A result is that future clients in the elderly sector place higher demands on their living environment when moving to a elderly care organization. More investments in the quality of the buildings means that less money is available in the NHC budget to invest in specific sustainable measures.

6. Most relevant forces

In this chapter, the most relevant forces for enhancing the motivation of healthcare organizations to develop more energy efficient buildings are identified by taking two steps. (based on chapter 5).

First, the force indicators are categorized according to their influence on the motivation to develop more energy efficient buildings (see figure 7, page 49). As stated in the methodology section; the categories with minor influence and strong influence are considered the most promising to develop effective intervention measures for increasing motivation. Second, a comparison is made between the elderly care and disabled care sector (see figure 8 and figure 9, page 49).

Based on chapter 5 and the aforementioned summarizing figures, this research does not find relevant differences between disabled care and elderly care. Although 'sensitiveness for comparison' and 'expected norms' are considered more influential in the elderly sector compared to the disabled sector, the differences are considered marginal. Consequently, this research concludes that the most relevant forces are the same for organizations in the disabled care sector as well as the elderly care sector.

The forces that need to be addressed in the elderly care as well as the disabled care sector are the Community and Consumer force. These are discussed in more detail in section 6.1. and 6.2.

6.1. Community

The factors that relate to the community force currently have a strong influence on motivation. Healthcare organizations express an intrinsic motivation for sustainability. Providing care for clients is related to taking care of client' environment and future clients (Transcript E(1), p2). However, there is a lack of priority given to sustainability because there are other issues, related to care provision, that require more attention. These are: a shortage of qualified employees, a high rate of absenteeism, the growth of demand, the changed financial system in 2012 when healthcare organizations became responsible for their own real estate exploitation and the societal trend that elderly are expected to live longer at home.

This poses challenges for healthcare organizations. Furthermore, the current care budgets are not sufficient to cover all costs on average (Actiz, n.d.). Moreover the costs of energy are only a marginal part of an organization' costs (Actiz, n.d.). Consequently, saving energy is often seen as an additional burden that costs a lot, takes time and requires effort from employees. Respondents indicate that sustainability can never go at the expense of quality of care (Transcript D(1), p4).

6.2. Consumer

The factors that relate to the consumer force currently have a minor influence on motivation since an energy-efficient building is not considered as an important reason for clients and employees to choose a healthcare provider.

Aspects that are much more important for clients are; location, quality of care and the general quality of the building (Transcript D(1), p5). Naturally, the atmosphere in the apartments and general area's is an important aspect of opting for a healthcare organizations. Sustainability can be a part of that (Transcript D(2), p4). Furthermore, clients indicate an interest in sustainability but this is mostly regarding visible subjects such as garbage recycling or healthy food (Transcript E(1). Due to this, the ability to compete for clients is not an important motivation for health care organizations to invest in the energy performance of their real estate.

A similar image arises for employees since employees mainly choose their employer because of the type of work and clients, salary and secondary labor conditions although the location and the general atmosphere in a building are also considered important (Transcript E(1), p4). However, employees have a lot to choose due to labor market shortages which creates an incentive for healthcare organizations to increase the ability to compete for employees.

Elderly Care					Indicator				Disabled Care
Force	**Case A**	**Case B**	**Case C**	**Cumulative**		**Cumulative**	**Case D**	**Case E**	**Force**
Regulatory	±	-	±	±	Current norms	±	+	-	Regulatory
	+	±	+	+	Expected norms	±	+	±	
Financial	±	±	-	±	Cost Savings	±	±	-	Financial
	±	±	±	±	Investment opportunities	±	±	±	
Community	+	+	+	+	CSR motivation	+	+	+	Community
	-	+	+	+	Sensitiveness for comparison	±	+	-	
Consumer	-	-	-	-	Ability to compete for clients	-	-	-	Consumer
	-	-	-	-	Ability to compete for employees	-	-	-	

Figure 7: level of indicator influence on motivation.

Elderly Care		
minor influence	**intermediate influence**	**strong influence**
Ability to compete for employees	Costs Savings	Expected norms
Ability to compete for clients	Investment opportunities	CSR motivation
	Current norms	Sensitiveness for comparison

Figure 8: Indicators ranked according to influence in the elderly care sector.

Disabled Care		
minor influence	**intermediate influence**	**strong influence**
Ability to compete for clients	Current norms	CSR motivation
Ability to compete for employees	Expected norms	
	Cost savings	
	Investment opportunities	
	Sensitiveness for comparison	

Figure 9: Indicators ranked according to influence in the disabled care sector.

7. Motivating healthcare organizations

Chapter 6 concludes that the forces with the most potential for enhancing the motivation of healthcare organizations to develop more energy efficient real estate are the Community and Consumer force (for elderly care as well as disabled care).

Based on section 6.1. and 6.2., this research concludes that the intervention measures should reinforce the already existing intrinsic motivation, take away barriers and prioritize sustainability.

This chapter presents the possible ways of doing so and is structured around two parts.

- The general substantiation of the intervention measures proposed by this research is discussed in section 7.1.
- Section 7.2. translates the substantiations presented in section 7.1. into a 3-step set of practical and concrete intervention measures.

7.1. Towards intervention measures

The interviews show that increasing the well-being and quality of life of clients is the main aim for healthcare organizations (Transcript B, p2). In itself, this is not surprising since this 'providing care' is the core business of healthcare organizations. However, at the same time, a personal drive, intrinsic motivation and an understanding of the necessity of sustainable development cause healthcare organizations to be motivated to also work towards goals related to sustainability (Transcript E(1), p1)(Transcript A, p1)(Transcript C,p1).

An ideal situation could arise if healthcare organizations can work simultaneously on both goals. This is definitively possible since sustainable development can be directly linked to human health (Smith et al, 2014). Consequently, sustainability can be 'framed' as a way of increasing health. Thereby making sustainability a part of an organization' core-business; providing care.

Prioritizing sustainability by framing the concept of sustainability as climate adaptation instead of mitigation can make sustainability a part of the core business of healthcare organizations since climate adaptation aims to decrease the negative effects of climate change such as heat stress, air pollution and extreme weather (Smith et al, 2014). So, working on climate adaptation helps creating a healthy living environment for people (Smith et al, 2014).

Furthermore, climate adaptation measures such as green roofs, green facades and water storage systems are visible measures which also strengthens the sensitiveness for comparison factor because it creates marketing opportunities that can appeal to clients and investors (Transcript B, p2). Respondents indicate that a healthy living environment that contributes to the wellbeing of clients would be an important factor in the decision-making process when choosing a health care provider (Transcript B, p6). Moreover, a healthy living environment would also be a more desirable investment for directors (Transcript B, p5).

A healthy living environment would also stimulate the consumer force or the ability to compete for clients and employees because it contributes directly to the quality of care (Van den Berg, 2005). A health care organization is able to distinguish on the quality of housing that contributes to the quality of care provided. Creating a healthy building means creating a healing environment (Huisman et al, 2012). Aspects that are considered part of a healing environment are: a view on or contact with nature/greenery, natural light and a healthy indoor climate in a building (Tanja-Dijkstra, 2018)(Charmel & Frampton, 2009)(van den Berg, 2005). These measures contribute to health because of a reduction in stress, painkiller demand reduction and a reduction in the recovering time after an operation (Huisman et al, 2012). This results in a lower demand for care and therefore lower costs for the health care organization (Malkin, 2003).

Furthermore, a building that is considered healthy for clients can also be considered healthy for employees (Chamel & Frampton, 2009). The same measures that reduce stress for clients also reduce stress for employees which results in less absenteeism and increased productivity of employees (Malkin,2003). Personnel that experience less stress and feel healthier make less mistakes and are better able to provide good quality care (Chamel & Frampton, 2009). Furthermore, providing a healthy and productive working environment can be a way of attracting qualified personnel, keeping qualified personnel and avoiding absenteeism (Malkin, 2003). Moreover, the visible nature of these measures can help communicating the organization' sustainable aims and thereby attract and include employees and clients by working on these aims.

In short, framing sustainability as climate adaptation instead of mitigation motivates healthcare organizations to improve the sustainability of their real estate because climate adaptation relates to health. In this way, sustainability becomes part of an organization' core business by improving the quality of care which offers ways to attract and keep employees and clients. So, creating a healthy building helps motivating healthcare organizations to be more sustainable.

In order to avoid motivational and financial barriers due to uncertainty with regard to the effects of climate adaptive measures on health and wellbeing, it must be unambiguous what a healthy building or healing environment entails.

The concept of a ‘healing environment’ was already introduced in the 19th century by Florence Nightingale (Niemeijer, 2012) and is further developed and defined over the last decades into the concept of Evidence Based Design (EBD). EBD defines design measures that are scientifically considered as measures that have a measurable positive effect on health and productivity (Huisman, et al 2012). Consequently, this research proposes to use EBD for defining a healing environment.

Moreover, framing sustainability as 'healthy' and making it part of the organization' core business also offers indirect advantages related to the financial force in two ways. First, a healthy building contributes to a sustainable personnel policy which increases the organization' chance of obtaining advantageous financing (Transcript H, p4). Second, the societal trend and focus on health and sustainability means that investing in those themes is 'future – proof' in the definition of investors (Transcript G, p3). Consequently, investing in a healthy building increases the possibility of selling the property for a high price .

However, making sustainability a priority by focusing on the health aspects of sustainability does not mean that the need to be more energy-efficient should be neglected. Therefore, in order to address both themes, health care organizations should invest in measures that create a healing environment while improving the energy efficiency of the building. For example; a green roof or facades offers users contact with nature and is therefore part of a healing environment but at the same time provides advantageous thermic values in winter (Huang, 2013). As well as isolation values in summer (Delemarre & Somers, 2012).

To conclude, it is possible to motivate health care organizations to (re)build more sustainably by connection sustainable aims with the organization' core activity. Creating a healing environment that also increases the energy efficiency of the building helps organizations with reaching their sustainable aims while increasing the quality of care provided and the ability to attract clients and employees.

However, translating this general idea of motivating healthcare organizations into concrete intervention measures is a necessary step in order to be effective. Concrete intervention measures are presented in section 7.2.

7.2. Intervention measures

Based on chapter 6 and section 7.1., the intervention measures should combine two aims:

- Reinforcing the community force by bringing sustainability closer to the core business of care provision for people
- Stimulate the consumer force by creating a healing environment that adapts to a changing climate while simultaneously improving the energy performance of buildings in a way that it exceeds existing regulatory standards.

In order to make the sustainable choice the most attractive and desirable option, this two-fold aim should be reached while avoiding additional costs for health care organizations. The intervention measures proposed in this section are aimed at the focal organization; the healthcare organization.

The three-step intervention measures presented below can be used in conversations, meetings and other consultation opportunities by stakeholders such as consultants, municipalities, investors, client councils and employee councils to motivate decision-makers to build sustainable.

Step one: monetize the health benefits of a healing and climate adaptive building. The health benefits, explained in chapter 6, can lead to lower costs in three ways. First, a healing environment means that clients feel happier, healthier and therefore demand less care. Less demand for care means a costs reduction because less personnel is needed for the same amount of clients (Malkin, 2003). Second, a healing environment reduces absenteeism and increases productivity which increases human capital (Malkin, 2003). An increase in human capital results in an important costs reduction since labor costs are the largest part of a health care organization's business case (Transcript B, p4). Third, a healing environment offers visible distinguishing opportunities which can be used to attract clients and employees (Transcript C, p 2). It is possible to put a price on these benefits by translating

increased productivity, marketing advantages, reduced absenteeism and reduced demand for care in avoided (salary) costs. Pricing these benefits means that they can be taken into account while designing a business case.

Step two: design an integral business case where both the care budget as well as the housing budget are considered in an integrated way. This means that investments in real estate and sustainability can have a positive effect on the care budget (VNG, 2017). In this way, investing in sustainability becomes more profitable since payback periods are reduced. An integral business case means that investing in sustainability becomes more desirable.

Step three: Invest in measures that increase the health aspects of a building while also reducing the demand for energy. In this way, a healthy building can be designed that contributes to the quality of care while also complying with sustainable legislation. Consequently, the building adds value to the care provision process, the livability inside and around the building and increases the economic viability of the organization and its real estate assets (Transcript F, p4).

In summary, it is possible to motivate health care organizations to invest in sustainable buildings by framing sustainability as climate adaptation which contributes to health. This can be done in practice by monetizing indirect health and marketing benefits on clients and employees and take this into account in an integral business case.

8. Conclusion

This research did not find radical differences between disabled care and elderly care organizations. Healthcare organizations in both sectors are intrinsically motivated for sustainability but do not give priority to energy-efficiency due to other challenges that demand attention. Examples are; a rising demand for care due to an aging population, labor market shortages, a lack of the availability qualified personnel, a high rate of absenteeism among existing employees, different demands on housing and a recently changed financing structure. As a result, increasing energy efficiency and complying to governmental legislation is seen as unwelcome additional challenge.

Financial incentives to be more energy efficient are small for two reasons. First, energy prices and the related long rate of return on investment. Second, the benefits of a lower energy bill end up in different budgets than the budget the costs of investments are paid from.

Furthermore, clients and employees do not choose a healthcare organizations because of their energy-efficient buildings and vision. The quality of care and the general atmosphere in a building are considered more important factors in the decision-making process. The influence of clients and employee considerations on the healthcare organization' motivation is therefore considered low.

However, although it has not necessarily to do with the way healthcare is publicly financed, healthcare express a sense of responsibility to work on sustainable aims and see sustainability as an integral part of providing 'care'. Consequently, this research concludes that the community and consumer force are the two most promising and relevant forces to increase motivation.

Motivation can be harnessed by reinforcing the community force and stimulating the consumer force. This twofold aim can be reached by framing sustainability as climate adaptation and thereby health. In this way, sustainability becomes part of the core business of health care organizations. Furthermore, a healthy building offers visible profiling opportunities that appeal to employees, clients and investors. This gives priority to sustainability and thereby increases the motivation to work on sustainable aims.

In order to ensure that the sustainable choice is also financially the most attractive one, the benefits of a healing environment on the quality of care, employee productivity, employee absenteeism, image and marketing have to be monetized and included in an integral business case. Subsequently, healthcare organizations should invest in combinations of measures that create a healthy building and increase energy-efficiency at the same time. In this way, sustainable motivation can be harnessed.

9. Discussion

The structure of this chapter is as follows. First, the trustworthiness of the conducted study are discussed. Second, the lessons learned section presents the researcher' observations that fall outside the research' scope but are considered relevant and worth discussing. Third, remaining knowledge gaps and suggestions for further research are presented.

Reliability and validity

In this section, the four aspects of trustworthiness are evaluated one by one.

1) Credibility: the results are considered to be believable because of the large number of interviews (15 interviews) that was conducted with different types of stakeholders and decision-makers.
2) Transferability; the transferability of this research is considered to be rather high for organizations and firms in a similar sector but is expected to be low in other sectors since the results are stakeholder dependent. Extrapolating the research' results to a different sector means that different stakeholders are involved with different values, which is expected to lead to different findings.
3) Dependability; for this research, the dependability is expected to be high because the characteristics of the four forces are largely influenced by time-specific governmental legislation, financial context, labor market conditions and societal discourses.
4) Confirmability; as this research takes an interpretive stance, the findings are always somewhat subject to the researchers interpretation. This could have been relevant in the conclusion that the differences between elderly care and disabled care are marginal and therefore not taken into account. A different interpretation of the case study results could have led to a different conclusion on this subject. However, it is argued that the large number of interviews, the semi-structured set-up of the interviews and the structured operationalization of the variables allow for an adequate level of confirmability.

In short, although the dependability is rather high, the large number of interviews increase the credibility, transferability (within similar sectors) and confirmability. So overall, the trustworthiness of this research is considered to be high.

Observations on leadership

During the interviews, a lesson came to light that falls outside the scope of this study but is nevertheless considered important for increasing the motivation of healthcare organizations. Namely; the importance of leadership and individual initiative regarding sustainable motivation. The organizations that expressed sustainable motivations all had an individual that put sustainability on the agenda. An individual in the organization that sets an example and convinces others regarding the importance of the subject led to an increased involvement of personnel, clients and other stakeholders. Organizational involvement and support is considered vital for facilitating sustainable decision-making. Consequently, in order to increase the effectiveness of the intervention measures, this research argues to focus the intervention message on a person that is

receptive for the ideas and is also in a position to create a sustainable movement on the work floor, among other clients or in the board of directors.

Further research

In order for the intervention measures to be truly effective and practically applicable, four suggestions for future research are made. First, more scientific evidence for the influence of buildings on health, productivity and absenteeism would convince more decision-makers of the importance of a healthy building and living environment. Second, more scientific evidence on how to monetize health and productivity effects of buildings in an integral business case. Naturally, there are existing ways of taking indirect effects into account in a business case. One example is the total costs of ownership method. However, a practical and understandable method that values a building' health effects on clients and personnel for healthcare organizations heavier while simultaneously ensuring a healthy financial position is desirable. Third, a 'store' should be made that lists measures that combine positive health effects with energy-efficiency. In order to develop such a store, more research to measures that combine both aims is considered necessary. Fourth, this research argues that there are multiple opportunities for the healthcare sector to cooperate with governmental institutions to work on a healthy, livable built environment. For example, municipalities wish to improve climate adaptability of their cities and address societal challenges such as loneliness among the elderly. This research argues that progress on both themes and the sustainability of the Dutch healthcare sector can be made if forms of public-private cooperation is sought and found. Furthermore, schools in are increasingly searching for cooperation with private companies in order to make education better suitable for real life practices and questions. Healthcare organizations cooperating with schools on sustainable health subjects can not only help increase the quality of education and health provision but also offers lower investment costs.

References

Atkin, B., & Skitmore, M. (2008). Stakeholder management in construction. *Construction Management and Economics*, *26*(6), 549-552.

Bowen, H.R. Social Responsibilities of the Businessman; Harper: New York, NY, USA, 1953. 2.

Bryman, A. (2012). Social Research Methods. *Oxford University Press*

Cadman, D. (2007). Centre for the study of sustainable building: the carbon challenge. *University of the West of Bristol*.

Casey, D., & Sieber, S. (2016). Employees, sustainability and motivation: Increasing employee engagement by addressing sustainability and corporate social responsibility. *Research in Hospital Management, 6(1), 69-76.*

CE Delft, (July 2018). Erkende Maatregelenlijsten; evaluatie van de uitvoeringspraktijk. 18.7P06.084 *Ministerie van Infrastructuur en Milieu.*

Charmel, P., Frampton, S.B. (2009). De patient op de eerste plaats; mensgerichte zorg volgens Planetree. Maarssen, Utrecht: *Elsevier Gezondheidszorg*.

Cordano, M., Frieze, I.H. and Ellis, K.M. (2004) *Entangled affiliations and attitudes: an analysis of the influences on environmental policy stakeholders' behavioral intentions. Journal of Business Ethics*, 49(1), 27–40.

De Brucker, K., Macharis, C., & Verbeke, A. (2013). Multi-criteria analysis and the resolution of sustainable development dilemmas: A stakeholder management approach. *European journal of operational research*, *224*(1), 122-131.

de Jong, M. D., & van der Meer, M. (2017). How does it fit? Exploring the congruence between organizations and their corporate social responsibility (CSR) activities. *Journal of business ethics,* 143(1), 71-83.

Delemarre, M.A., Somers, P. (2012). De isolerende werking van begroeide daken in de zomer; isolerend vermogen begroeide daken, fictie of feit?. Lectoraat Innovatie Bouwproces en Duurzaamheid Hogeschool Rotterdam, *Ingenieursbureau Gemeentewerken Rotterdam.*

Donaldson, T. (1999). Making stakeholder theory whole. *Academy of Management Review*, *24*(2), 237-241.

Donaldson, T., & Preston, L. E. (1995). The stakeholder theory of the corporation: Concepts, evidence, and implications. *Academy of management Review*, *20*(1), 65-91.

Ernst & Young accountants LLP. (2018) Barometer Nederlandse Gezondheidszorg 2018; rendement stijgt ten koste van personeel. *EY Building a better working world 155010315.*

Ester, P., & Vinken, H. (2000). Sustainability and the cultural factor. Results from the Dutch GOES Mass Public Module. *Dutch National Research Programme on Global Air Pollution and Climate Change, Report*, *410*(200), 048.

Falkenbach, H., Lindholm, A. L., & Schleich, H. (2010). Review articles: environmental sustainability: drivers for the real estate investor. *Journal of Real Estate Literature*, *18*(2), 201-223.

Filius, F.C. (1993), Huishoudensopheffing en woningverlating in een vergrijzende samenleving, Utrecht: *Faculteit Ruimtelijke Wetenschappen, Universiteit Utrecht.*

Freeman, R. E. (1999). Divergent stakeholder theory. *Academy of management review,* 24(2), 233-236.

Friedman, A.L. and Miles, S. (2006) Stakeholders: Theory and Practice, *Oxford University Press, Oxford.*

Ghahramanpouri, A., Lamit, H., & Sedaghatnia, S. (2013). Urban social sustainability trends in research literature. *Asian Social Science*, *9*(4), 185.

Gregory, R., & Keeney, R. L. (1994). Creating policy alternatives using stakeholder values. *Management Science*, *40*(8), 1035-1048.

Groot, C. de et al. (2013), Vergrijzing en woningmarkt, Den Haag: PBL.

Lépineux, F. (2005). Stakeholder theory, society and social cohesion. *Corporate Governance: The international journal of business in society*.

Lincoln, Y. S., & Guba, E. G. (1986). But is it rigorous? Trustworthiness and authenticity in naturalistic evaluation. *New directions for program evaluation*, *1986*(30), 73-84.

Huang. E.C. (2013) De thermische werking van begroeide daken in de winter. *Innovatie Bouwproces en Duurzaamheid Hogeschool Rotterdam.*

Hughen, L., Lulseged, A., & Upton, D. R. (2014). Improving stakeholder value through sustainability and integrated reporting. *The CPA journal*, *84*(3), 57.

Huisman, E. R., Morales, E., van Hoof, J., & Kort, H. S. (2012). Healing environment: A review of the impact of physical environmental factors on users. *Building and environment*, *58*, 70-80.

Hutschemaekers, G. J. M., & Tiemens, B. G. (2006). Het einde van een sectorale GGZ: Ontwikkelingen, trends en controverses.

Iersel, J. van, K. Leidelmeijer & A. Buys (2009), Senioren op de woningmarkt, achtergrondrapportage, *Amsterdam: RIGO)*

Jonkman, E. (2015). Professioneel beheer: de sleutel tot succesvol (beleggen in) zorgvastgoed?. *FRIS - Hanzehogeschool, Vastgoed en Makelaardij.*

Jones, T. M. (1995). Instrumental stakeholder theory: A synthesis of ethics and economics. *Academy of management review*, *20*(2), 404-437.

Malkin, J. (2003). The business case for creating a healing environment. *Center for Health Design Business Briefing: Hospital Engineering & Facilities Management*, *1*.

McGuire, J.; Sundgren, A.; Schneeweis, T. Corporate social responsibility and firm financial performance. Acad. Manag. J. 1988, 31, 854–872.

Mohan Das Gandhi, N., Selladurai, V., & Santhi, P. (2006). Unsustainable development to sustainable development: a conceptual model. *Management of environmental quality: an international journal,* 17(6), 654-672.

Mustaquim, M., & Nyström, T. (2014). Designing persuasive systems for sustainability-a cognitive dissonance model.

Ng, E. (Ed.). (2009). Designing high-density cities: for social and environmental sustainability. *Routledge.*

Niemeijer, C. (2012). *De toegevoegde waarde van architectuur: voor de zorg in ziekenhuizen*. Eburon Uitgeverij BV.

Oh, S., Hong, A., & Hwang, J. (2017). An analysis of CSR on firm financial performance in stakeholder perspectives. *Sustainability*, *9*(6), 1023.

Raad voor de leefomgeving en infrastructuur (2014), Langer zelfstandig, een gedeelde opgave van wonen, zorg en welzijn. *Den Haag; Publicatie RLI.*

Reed, D. (1999). Stakeholder management theory: A critical theory perspective. *Business Ethics Quarterly*, *9*(3), 453-483.

Roloff, J. (2008). Learning from multi-stakeholder networks: Issue-focused stakeholder management. *Journal of business ethics, 82(1), 233-250.*

Ross, C., Menezes, J. R. D., Svidzinski, T. I. E., Albino, U., & Andrade, G. (2004). Studies on fungal and bacterial population of air-conditioned environments. *Brazilian archives of biology and technology*, *47*(5), 827-835.

RVO (2017). Collectief Particulier Opdrachtgeverschap & Zorg voor Elkaar; een onderzoek naar de succesfactoren van CPO en Zorg projecten. *Ministerie van Binnenlandse Zaken en Koninkrijksrelaties.*

Singh, J. (1996). Impact of indoor air pollution on health, comfort and productivity of the occupants. *Aerobiologia*, *12*(1), 121-127.

Smith, K., Woodward, A., Campbell-Lendrum, D., Chadee, D., Honda, Y., Liu, Q., ... BUTLER, C. (2014). Human health: impacts, adaptation, and co-benefits. In C. B. Field, V. Barros, & D. J. Dokken (Eds.), *Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part A: Global and Sectoral Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* (1 ed., pp. 709-754). Cambridge UK : Cambridge University Press.

Tanja-Dijkstra, K (2018). Hoe helend zijn helende omgevingen?. *Nederlands Tijdscrift Geneeskunde.* 2018;162:D3160

TNO (2011). Trendanalyse Verstandelijk Gehandicaptenzorg. ISBN 978-90-5986-377-4.

Ürge-Vorsatz, D., Danny Harvey, L. D., Mirasgedis, S., & Levine, M. D. (2007). Mitigating CO2 emissions from energy use in the world's buildings. *Building Research & Information, 35(4), 379-398.*

Van den Berg, A.E. (2005). Health Impacts of Healing Environments; a review of evidence for benefits of nature, daylight, fresh air, and quiet in healthcare settings. *The architecture of hospitals. ISBN:9032703447*

Verbeke, A., & Tung, V. (2013). The future of stakeholder management theory: A temporal perspective. *Journal of business ethics*, *112*(3), 529-543.

Vlist, A. van der (2014) Onder de pannen?; rapportage van de meldactie wonen onder mensen met een beperking, chronische ziekte of psychische aandoening. Ieder(in).

VROM-Raad (2005), 'Oude bomen? Oude bomen moet je niet verplanten. Advies over ouderenbeleid en wonen', *Den Haag: VROM-Raad.*

Wallbaum, H., Feige, A. & Krank, S. (2011). Harnessing stakeholder motivation: towards a Swiss sustainable building sector. *Building Research & Information*, *39*(5), 504-517.

Yang, J., Shen, Q., & Ho, M. (2009). An overview of previous studies in stakeholder management and its implications for the construction industry. *Journal of facilities management, 7(2), 159-175.*

Internet Sources

ActiZ (10 October 2018). *Vragen over verhoging NHC in verband met duurzaamheid.* Accessed on 12-09-2019. Retrieved from; https://www.actiz.nl/nieuws/ouderenzorg/2018/10/vragen-over-verhoging-nhc-in-verband-met-duurzaamheid

Actiz (n.d.). *Feiten en Cijfers*. Accessed on; 11-09-2019. Retrieved from: https://www.actiz.nl/2016/feiten-en-cijfers.

ActiZ (Juni 2018). *Budget verpleeghuiszorg: kostendekkende tarieven nodig als basis voor kwaliteitsverbetering.* Accessed on; 12-09-2019. Retrieved from: https://www.actiz.nl/feiten-en-cijfers-overzicht

Agentschap NL. (October 2010). *Energiebesparing in de zorg.* NL Energie en Klimaat. Accessed on; 15-05-2019. Retrieved from: https://www.rvo.nl/sites/default/files/bijlagen/Energie%20besparen%20in%20de%20Zorg%20-%20beurskrant%20SEN%20DOW%20101007.pdf

CBS Statline (8 march 2019) *Zorginstellingen; financiën en personeel*. Accessed on 25-05-2019. Retrieved from: https://opendata.cbs.nl/#/CBS/nl/dataset/83626NED/table?dl=AF0C

Green Deal (October 2018). Green Deal; Nederland op weg naar duurzame zorg. Accessed on 05 – 05 – 2019. Retrieved from: https://www.greendeals.nl/green-deals/nederland-op-weg-naar-duurzame-zorg

Green Deal C-226. (December, 2018). *Duurzame zorg voor een gezonde toekomst.* Accessed on: 02-05-2019. Retrieved from: https://www.greendeals.nl/green-deals/duurzame-zorg-voor-gezonde-toekomst

MPZ milieusector zorgsector (n.d.) *Green Deal Duurzame Zorg voor een Gezonde Toekomst*. Accessed on: 02-05-2019. Retrieved from; https://milieuplatformzorg.nl/green-deal/

Nederlandse Zorgautoriteit (n.d.). Beleidsregelen CA-300-497*; Invoering en tarieven normatieve huisvestingscomponent (NHC) en inventaris nieuwe zorgaanbieders.* Accessed on: 11-09-2019. Retrieved from: www.zorgkennis.nl

Platform Duurzame Huisvesting. (n.d.). Infographics split incentive. Accessed on 10-09-2019. Retrieved from: https://www.platformduurzamehuisvesting.nl/infographics/infographics-split-incentive/

Platform Duurzame Huisvesting. (26/10/2016). *Onderzoek: Steeds meer beleggers stappen in zorgvastgoed.* Accessed on 20-09-2019. Retrieved from: https://www.platformduurzamehuisvesting.nl/2016/10/26/onderzoek-steeds-meer-beleggers-stappen-zorgvastgoed/

Rijksoverheid. (December 12, 2018*). Ontwerp van het Klimaatakkoord; hoofdstuk gebouwde omgeving.* Accessed on: 15-05-2019. Retrieved from: https://www.klimaatakkoord.nl/gebouwdeomgeving/documenten/publicaties/2018/12/21/gebouwdeomgeving

Rijksoverheid. (December 17, 2018). *Verduurzaming bestaande utiliteitsbouw; achtergrond notitie*. Accessed on 18 – 05 -2019. Retrieved from: https://www.klimaatakkoord.nl › publicaties › 2019/01/08

Rijksoverheid (n.d.). *Energiebelasting*. Accessed on 12-09-2019. Retrieved from; https://www.rijksoverheid.nl/onderwerpen/milieubelastingen/energiebelasting

RVO (n.d.). Energieprijzen utiliteitsbouw. Accessed on 12-09-2019. Retrieved from: https://energiecijfers.databank.nl/dashboard/dashboard/energieprijzen/

RVO (n.d.) Informatieplicht voor bedrijven en instellingen. Accessed on: 12-09-2019. Retrieved from: https://www.rvo.nl/onderwerpen/duurzaam-ondernemen/energie-besparen/informatieplicht-

energiebesparing/bedrijven-en-instellingen

RVO. (n.d.) Energieprestatie-BENG. Accessed on: 12-09-2019. Retrieved from: https://www.rvo.nl/onderwerpen/duurzaam-ondernemen/gebouwen/wetten-en-regels-gebouwen/nieuwbouw/energieprestatie-beng?utm_campaign=1792065253&utm_source=google&utm_medium=cpc&utm_content=344236639653&utm_term=beng&adgroupid=70804901473

Skipr (31 may 2018). Rabobank investeert 400 miljoen in verduurzaming van zorgvastgoed. Accessed on 16-06-2019. Retrieved from; https://www.skipr.nl/actueel/id34754-rabobank-investeert-400-miljoen-in-verduurzaming-van-zorgvastgoed.html

Skipr (18 september 2018). *Duurzaamheid gaat over meer dan kostenbesparing.* Accessed on 02-06-2019. Retrieved from; https://www.skipr.nl/blogs/id3677-duurzaamheid-gaat-over-meer-dan-kostenbesparing.html

Skipr (23 januari 2019). Record: bijna miljard euro geïnvesteerd in zorgvastgoed. Accessed on 20-06-2019. Retrieved from:https://www.skipr.nl/actueel/id37272-record%3A-bijna-miljard-euro-geinvesteerd-in-zorgvastgoed.html

Sociaal en Cultureel Planbureau. (September 2017). Ouderen in verpleeghuizen en verzorgingshuizen; landelijk overzicht van hun leefsituatie in 2015/'16. *SCP publicatie 2017-18*. Accessed on 24 – 06 – 2019. Retrieved from; https://www.rijksoverheid.nl/.../ouderen-in-verpleeghuizen-en-verzorgingshuizen.pdf

Statline. (October, 2018). Bevolking; Kerncijfers. Accessed on 24 – 06 – 2019. Retrieved from: https://opendata.cbs.nl/statline/#/CBS/nl/dataset/37296ned/table?ts=1552570949103

Trouw (21 februari 2018). Door ziekteverzuim lekt ruim een half miljard euro weg uit de zorg. Accessed on; 11-09-2019. https://www.trouw.nl/nieuws/door-ziekteverzuim-lekt-een-half-miljard-euro-weg-uit-de-zorg~b7dda6b1/

Trouw (20 november 2017). Personeelstekort in de zorg is in een jaar tijd bijna verdubbeld. Accessed on 06 – 07 – 2019. Retrieved from: https://www.trouw.nl/nieuws/personeelstekort-in-de-zorg-is-in-een-jaar-tijd-bijna-verdubbeld~bb646e3c/

VNG. (juni 2017). Ontwikkelingen NHC voor 2018. Accessed on 12 – 07 - 2019. Retrieved from; https://www.zorgkennis.net/kennisbank/4800-ontwikkelingen-nhc-voor-2018/.

VWS-Ministerie van Volksgezondheid Welzijn en Sport (n.d.). Monitor Langdurige Zorg – Uitgaven en volume. Accessed on; 11-09-2019. Retrieved from: https://www.monitorlangdurigezorg.nl/kerncijfers/uitgaven-en-volume

Zorgvisie (21 februari 2018). Langdurig ziekteverzuim in de zorg neemt toe door hoge werkdruk. Accessed on 11-09-2019. Retrieved from: https://www.zorgvisie.nl/ziekteverzuim-zorg/