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The Roles of Housing Developers in Sustainability Transformations: Opportunities, Barriers, and Tradeoffs

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1 INTRODUCTION

The thesis seeks to understand how urban and rural housing developers perceive their role and responsibilities in the context of the need for deep transformations to sustainability in the housing sector, with particular emphasis on environmental sustainability and preservation of nature. While sustainability challenges have been addressed for a long time in planning and governance in Norway, current policies have been criticized for being premised on ecomodernism and reliance on unsustainable growth (Næss et al, 2019; Xue et al, 2016) and insufficiently addressing various issues. Among them, Norway is failing to meet targets for biodiversity and nature protection (Sabima et al, 2020) and agricultural land conversion (Skog, 2018). In response to the continuing encroachment on undeveloped land, some municipalities are starting to implement restrictions on land conversion (Rambøll, 2020; Sandberg, 2021). Meanwhile, housing developers are identified as powerful actors in Norwegian planning and urban development (Hanssen, 2021; Falleth et al, 2010) and are, as private actors, expected to have a strong stake and potential to contribute towards sustainability in the built environment (Storbjörk et al, 2018). However, it can also be expected that they will oppose restrictions on land use and perpetuate dependence on economic growth in planning (Skog, 2018). Published literature on sustainability in the built environment in Norway has tended to focus on planners and policymakers, and there is a need for a better understanding of the role of housing developers in advocating or hindering sustainability transformations. This thesis attempts to contribute to this knowledge gap, by addressing the following research questions:

1. How do developers understand the concept of sustainability and the value of nature?
2. What barriers and drivers do developers face to taking the lead in transformations to sustainability within the current market and policy context?
3. How do developers respond to pressures and policies to reduce greenfield development?
4. What role could developers potentially have in deep transformations to sustainability?

2 THEORETICAL BACKGROUND

In this chapter I will situate the thesis in the context of sustainability challenges related to the built environment in Norway, and the role of housing developers in responding to the identified need for deep transformations to sustainability, within the multitude of actors, institutions and factors shaping the built environment. While employing a broad understanding of sustainability, the thesis will mainly focus on environmental sustainability.

The study concerns sustainability challenges associated with the production of the built environment[1], which are substantial and constitute a threat to nature, necessitating reduced emissions and adaptation to climate change. Sustainability is a broad term, as presented in the following section, and the built environment impacts on most aspects of economic, social and environmental sustainability. As an example of the environmental impact, land use and land conversion are significant drivers of biodiversity loss globally (Rockström et al, 2009) and constitute the biggest driver of habitat loss in Norway (Sabima et al, 2020). This study places particular emphasis on the environmental issues caused by urban expansion, which compromises the conversion of greenfield, as well as the construction of buildings and infrastructure in urban and peri-urban areas. However, the study also addresses other environmental impacts associated with the building industry. In Norway, for instance, infrastructure and building development cause a large proportion of greenhouse gas (GHG) emissions and consume approximately 40% of material resources and 40% of energy resources nationally (Bygg21 og Grønn Byggallianse, 2018). The construction industry is also the largest source of waste in Norway (SSB, 2021).

In addition to the environmental challenges, many social challenges – and potential solutions – are related to the built environment. As the urbanization across the world continues, cities across the world are facing social issues such as affordability, segregation and overcrowding, and these factors as well as environmental factors such as pollution are negatively affecting public health (Ventriglio et al, 2021). Thus, balancing environmental, social and economic concerns can be considered a key role of planners in seeking to ensure financially viable, affordable and sustainable housing.

2.1 Sustainability and nature in the built environment

Peoples' understanding of "sustainability" and what constitutes "nature" can have a significant influence on how actors respond to the issues described above and appraise or address tradeoffs between them. Both *sustainability* and *nature* have been used to mean different things by and for different people in different contexts, and approaches toward sustainability and nature in planning

[1] The production of the built environment is complex and constitutes a wide array of actors, as well as direct, indirect and unclear drivers. In this thesis it is assumed that the most important actors that shape our built environment, are institutions for planning and regulation for planning and construction, and the construction industry compromising architects, developers/construction clients, clients, contractors, building material distributors and so on. Said actors are influenced by civil society, as well as legal and normative institutions, and it would not make sense to attempt to separate any of the actors from their context. The thesis is based on this network / institutional theory understanding of the production of the built environment. Meanwhile, the study particularly concerns the role of developers, and the relationship between developers and planning actors, and therefore these actors will be particularly emphasized going forward.

have undergone many developments over the past century. This section provides an overview of differing understandings of these terms and critiques of dominant ideas about sustainable development, and outlines some relevant discussions in the planning discourses on nature in urban planning.

2.1.1 Sustainability: Definitions and limits to growth

In response to the impending environmental and social crises our world is facing, the concept of **sustainability** has become ubiquitous in academia and other spheres of society since it was defined by the United Nations Brundtland Commission in 1987 as: "meeting the needs of the present without compromising the ability of future generations to meet their own needs" (Brundtland, 1987). In the Brundtland report, the notion of Sustainable Development was established and defined as relating to the social, economic and environmental dimensions of efforts to improve human well-being in the context of a finite planet. The UN Sustainable Development Goals (SDGs) and sub-goals adopted in 2015 are organized according to these three categories and have become a standard way of categorizing and justifying global efforts toward sustainability.

The SDGs have faced two notable critiques. Firstly, due to the potential for clear conflicts between the goals (Spaiser et al, 2017), and secondly, for being based on the contradictory assumption of economic growth as a normative underlying basis for improving human well-being, as evidenced in, for example, SDG 8: Decent Work and Economic Growth (Kallis, 2015; Hickel, 2019). The assumption that economic growth is compatible with sustainability is also one of the defining features of the perspective of **ecomodernism**. Ecomodernism maintains that ecosystem services are substitutable, and that environmental degradation can be decoupled from economic growth and consumption, meaning that it is possible to maintain current levels of consumption and capitalist structures without causing major degradation of nature (Næss et al, 2019; Kallis, 2015). To achieve decoupling, ecomodernist approaches to sustainability rely heavily on technological advancements to increase resource efficiency and capture carbon from the atmosphere. Implicit in ecomodernism is also a neoliberal understanding of the economy, with the assumption that market competition and economic growth will generate more efficient and sustainable solutions and eventual decoupling. Ecomodernism is considered to be the main approach to sustainable development in Norway and internationally (Næss et al, 2019).

Many academics now argue that economic growth is not only a poor indicator for human wellbeing, but studies suggest that it is impossible to decouple continued economic growth from excessive consumption and environmental degradation (Hickel, 2019; Hickel & Kallis, 2015; Xue, 2015; Haberl et al, 2020; Spash, 2017; Raworth, 2017). There is moreover no evidence of absolute decoupling anywhere in the world, and relative decoupling is "not sufficient to obtain long-term ecologically sustainable development" (Xue, 2015). Decoupling further relies on technology that does not yet exist (Næss et al, 2019), such as carbon capture and storage. The idea that economic growth leads to more sustainable consumption, the Environmental Kuznets Curve (EKC) hypothesis, has been disproved numerous times since it was proposed in 1995 (Stern, 2004). It has also been argued that negative economic growth may be inevitable in the near future, and that society should start to adapt to this reality rather than relying on continued economic growth as a basis for human well-being (Spash, 2017).

The above-mentioned arguments form a foundation for the degrowth movement and ecological economics, as well as what has come to be known as "Doughnut Economics". The Doughnut Economics framework was developed by Kate Raworth (Raworth, 2017), partly based on the Planetary Boundaries framework by Rockström et al (2009), and features a set of boundaries for the wellbeing of humans and the world's ecosystems. Recognizing that economic growth should not be an end in itself, the framework was designed to help human societies define a sustainable direction. In this thesis, I will refer to the definition of sustainability that has been put forward by Raworth. Paraphrased, this definition aims to ensure that all people have the resources needed to fulfil their human rights, while also ensuring that humanity's use of natural resources does not stress critical Earth-system processes to the point that Planetary Boundaries are exceeded and the Earth is pushed out of the Holocene (Raworth, 2012, p.4)

2.1.2 Theories of change

In this section I will briefly discuss the concept of *transformative change*, a concept which is often employed to describe and understand societal change toward sustainability, and is a key concept in this thesis exploring how housing developers can contribute to the changes needed to achieve sustainability. Transformative change can be distinguished from transition theory, which is also a common framework used in this context (see for instance Næss & Vogel; 2021; Gibbs and O'Neill, 2014; Hagbert & Femenias, 2016; Nykamp, 2020), but criticized for being too reductive, and embodying normative assumptions about economic growth, linear progression and technological fixes (Næss & Vogel, 2021; Gibbs & O'Neill, 2014). Transformative change, or *deep transformation,* is seen as more suited to describe the in-depth structural changes that are needed to achieve sustainability (Raworth, 2017; Hickel & Kallis, 2015; Næss, 2021).

Within organizational theory and a range of other fields, a distinction is often made between incremental and transformational change (Termeer et al, 2017; Westskog et al, 2021). Incremental change refers to many small changes or adjustments that are made over time without changing the underlying structures and assumptions governing human organisation and behaviour. Many scholars of climate change adaptation for example argue that incremental changes are insufficient to deal with the serious social and environmental consequences climate change poses for society and call for transformative actions and changes to the structures and systems driving human-induced (anthropogenic) climate change. The term "transformation" is defined by the IPCC as "a fundamental qualitative change...that often involves a change in paradigm and may include shifts in perception and meaning, changes in underlying norms and values, reconfiguration of social networks and patterns of interaction, changes in power structures, and the introduction of new institutional arrangements and regulatory frameworks" (Termeer et al, 2017, p.559).

2.1.3 Nature: Valuation and challenges

Humans are degrading natural ecosystems and extracting resources at a rate that is accelerating climate change and nature losses and threatening the basis of life and survival on earth (Rockström et al, 2009). The drivers and consequences of anthropogenic change processes are complex and interrelated. Rockström et al (2009) suggested nine planetary boundaries to give an overview of human impacts on the environment, among them chemical destabilization of soils, reduction of species biodiversity and land use change. In many cases, these planetary boundaries are already

being exceeded. In response, there are discussions in broad fields of research and in civil society on how we can preserve nature and the planetary life support functions that it provides. Due to the centrality of the concept of nature in the thesis, I would like to dwell a bit on the meaning of "nature".

The definition of nature is in itself plural and unclear – the word can mean "the external world in its entirety" or "humankind's original or natural condition" (as defined in the Merriam-Webster Dictionary, 2023) or "the phenomena of the physical world collectively, including plants, animals, the landscape, and other features and products of the earth, as opposed to humans or human creations" (Knowles, 2006). It has been pointed out by Erik Swyngedouw and Slavoj Žižek that the concept of nature, as used when discussing sustainability and in most political contexts, refers to an idealized, symbolic idea of an equilibrium state of "nature" outside of human intervention (Swyngedouw, 2007). This concept is blind to the fact that processes outside of human control are unpredictable, complex and adaptable, and that the line between "nature" and humans is often blurred. Swyngedouw (2007) calls for an increased understanding of humans embedded in nature rather than seeing humans and nature as opposites, as a part of the solution to sustainability transformations, while also politicizing our direction when it comes to the environment. In the planning discourse there is increasing recognition that nature exists in places that are heavily modified by humans as well. For example: cities and man-made infrastructures are also ecosystems and provide habitat for animals (Niemilä, 1999). Biodiversity can be relatively high in such "hybrid" spaces with high degrees of human modification (Lewis et al, 2019; Kowarik, Fischer & Kendal, 2022).

In this thesis, **nature** will be used to refer to the non-human living world, including nature existing in highly modified urban spaces, as well as areas considered more "pristine", with less human impact. The concept of nature then also involves natural processes, networks and qualities that occur spontaneously without human intervention, like photosynthesis or biodiversity. Accordingly, the loss of nature then implies the loss of biodiversity and ecosystem functionality, including the loss of processes and complexities that existed prior to human modification. When speaking of particular geographies with higher or lower degrees of human modification of nature, specific terms will be used such as "greenfield" developments, "undisturbed ecosystems", "urban green space", etc.

In this thesis, particular attention is paid to the construction of buildings and infrastructure on previously unbuilt land, a process known as **greenfield development** or **land conversion**. Greenfield refers to previously unbuilt land, and thus greenfield development refers to the construction of any infrastructure, whether it is a building, a road, a building, a factory or a parking lot. Thus, it is often also simply referred to as the "paving over" of "nature", or "loss of nature", "nature degradation", and so on. Meanwhile, **brownfield** is the opposite of greenfield, meaning land that has already been built on or has undergone significant human modification, in particular (ex-)industrial land.

The construction of heavy human infrastructures such as buildings and roads causes irreversible damage to natural ecosystems (Skog, 2018; Vellend et al, 2007; McCormack, 2022), meaning that it is impossible to restore the land to productive agricultural land or a biodiverse ecosystem. Undisturbed ecosystems are created in the course of thousands of years, and the level of complexity and ecological values cannot be substituted by technology. As mentioned previously, land

conversion is considered to be the biggest threat to biodiversity and habitat (Rockström, 2009), and also reduces carbon storage in the soil and degrades soil quality (McCormack, 2022). While the emphasis of conservation efforts worldwide has been on remote, so-called "pristine" natures (like national parks), the recognition of high biodiversity in anthropogenic landscapes shows the necessity of mapping and preserving ecological qualities in such hybrid spaces as well (Lewis et al, 2019).

The way we value nature impacts on how we interact with it (Muradian & Gómez-Baggethun, 2021). While there exist frameworks with the explicit purpose of ascribing value to nature, such as the Ecosystem Services Framework (Muradian & Gómez-Baggethun, 2021), there are numerous other cases of nature being described and valorized on a spectrum from valuing nature based on its utilitarian value for humans, which is an **anthropocentric** perspective, to the "categorical moral stance" that natural subjects have a right to exist and embody **intrinsic values** (Muradian & Gómez-Baggethun, 2021). Different valuation systems come into play when it comes to how planners and politicians respond to the issue of land conversion. The emphasis on the apparent short-term utility of the ecosystem – such as producing monetary value or satisfying human demands – rather than preserving other long-term and more intrinsic aspects such as biodiversity, can be used to justify the piecemeal degradation of ecosystems (Kallis, Gómez-Baggethun & Zografos, 2012).

2.1.4 Nature in spatial planning theory and practice

The negotiation of conflicts between sustainability goals has been identified as one of the prevailing challenges and purposes of planning (Campbell, 1996; Oseland & Haarstad, 2022), and planning has been identified as having potential to push transformation on spatial and political levels (Xue, 2022). In the following chapter, I will expand on how nature and sustainability have been approached in the urban planning discourse.

> *Urbanisation has enormous impacts on biodiversity within the urban fabric (e.g. increase of exotic species), in nearby surroundings (e.g. habitat fragmentation and degradation) and in distant regions (e.g. appropriation of large amounts of resources and teleconnections).*
>
> *— Esmail et al, 2022*

Esmail et al (2022) outlined the development of approaches to increasing and enhancing green space in cities. Early approaches based on biodiversity conservation attempted to identify ecologically significant areas and implemented use restrictions using protected areas, and restoring degraded habitats to achieve higher ecological qualities. In other words, early spatial planning approaches delineated clear boundaries between "nature" and "human" spaces. "Fortress" (biodiversity) conservation policy have been criticized for decades in the field of international environment and development studies for constituting land-grabbing from indigenous peoples and private property owners (Domínguez & Luoma, 2020; Lin, 2019), and being implemented in a top-down manner which is unacceptable to local people and local governments (Fedreheim & Blanco, 2017; Overvåg, Skjeggedal & Sandström, 2016). In response to this and as part of New Public Management (Swyngedouw, 2007), conservation and environmental planning has increasingly

relied on voluntary measures and been decentralized to local communities (Fedreheim & Blanco, 2017). In many cases, private collaboration is also emphasized.

There is a movement, within spatial planning, towards solutions which serve both nature and humans, such as "**Nature Based Solutions**" (NBS) and blue-green infrastructures. This can be seen in the context of growing recognition of the significance of small-scale and highly modified urban green spaces for biodiversity (Derby Lewis et al, 2019), and the integration of the Ecosystem Services (ES) framework into planning (Esmail et al, 2022). The ES framework takes an anthropocentric view, measuring the value of nature in terms of its utility for humans (Muradian & Gómez-Baggethun, 2021). ES has been suggested as an aid for planners to allocate land uses, for instance by using the ES framework to identify which land is most valuable (Grunewald, 2021). It is also used to navigate tradeoffs between environmental issues and human needs (Deng, Li & Gibson, 2016), with the aim of finding "win-win" solutions where green spaces can be justified for their service to humans. NBS are essentially attempting such win-win scenarios, where environmental degradation is mitigated while allowing for urban expansion.

2.2 Developers and private actors in transformations to sustainability

Urban processes are complex and involve a multitude of actors (Næss and Vogel, 2012), and it is unclear which is the actor with the most responsibility and power to make the necessary changes happen. Developers are considered to play a key role in the implementation of sustainability-related policies in urban development, in Norway and internationally (Storbjörk et al, 2018; Candel & Törnå, 2022). Yet, they have not received much attention in literature on this topic, as most literature on sustainability in the built environment is written from the perspective of and for planners (Næss & Vogel, 2012; Storbjörk et al, 2018; Taylor et al., 2012). There is increasing recognition that private sector actors have much power and potential to contribute to sustainability transformations, including in implementing sustainability policies (Storbjörk et al, 2018; Nesterova, 2020). Private actors are a cornerstone in the organization of modern society, and are expected to take risks, act as problem solvers, increase efficiency and provide resources and expertise (Häkkinen & Belloni, 2011). Private sector involvement in policy implementation is also expected to increase "legitimacy and sense of common ownership" (Storbjörk et al, 2018). The premise of market actors as profit-seeking and growth-dependent appears to be incompatible with sustainability, based on the link between growth and degradation, as argued by degrowth and ecological economics. However, Nesterova (2020) argues that this depends on how a "firm" is understood, and shows how a firm, understood as a collective production unit, could potentially operate within the degrowth understanding of sustainability. Raworth (2017) also provides numerous examples of how the economy (businesses, money, production) can be organized in a way that does not perpetuate growthism and resource depletion.

Going beyond the dichotomic question of whether private actors are sustainable or not, there is a need for a more nuanced understanding of the role of private actors in transformations to sustainability. Gibbs & O'Neill (2014) showed how so called "green" businesses are very

heterogeneous and move between different rationales, which makes it difficult to isolate "sustainable" businesses as a category and to generalize on the impact and role of such businesses.

Storbjörk et al (2018) studied the response of property developers to climate change, in the context of urban planning in Sweden, mapping responses on a continuum from proactive to inactive responses. A main finding of the study was that while the developers expressed willingness and initiative to respond to climate change in their policies and marketing (taking a proactive stance), interviews revealed a much more conservative attitude in practice, characterized by compliance (indicating a reactive response) or even avoidance of policies (an inactive response). While the respondents acknowledged and accepted that the municipality should set stricter regulations to push for sustainability transitions, they also emphasized that these regulations should not be *too* strict. This study and other relevant studies will be further outlined and discussed in *Chapter 7: Discussion.*

3 CONTEXTUAL BACKGROUND

The aim of this chapter is to provide a brief contextual background for the study. I will start by describing the case study of OBOS, the Greater Oslo Region, and providing the context for understanding the production of the built environment in Norway.

3.1 OBOS

OBOS was founded in 1929 and is today Norway's largest and oldest housing cooperative (Norwegian: *Boligbyggelag)*, among the 52 housing cooperatives operating in Norway (Martens, 2023; Wyller, 2022). Between 1935 and 1982, housing cooperatives were subject to housing price regulations and were subsidized by the government (via the National Housing Bank, *Husbanken*), and thus constituted an important part of the development of the Norwegian welfare state in the post-war era (Wyller, 2022). OBOS built 40% of the housing in Oslo in the 1970s (Martens, 2023). Following the deregulation of the housing market in 1982, OBOS now operates as a private commercial developer. OBOS has a complicated company structure and operates as a conglomerate with many subsidiaries located in Norway and Sweden, compromising mostly housing and commercial property developer companies but also consultancies and the OBOS Bank. Among them, OBOS Nye Hjem (ONH) is a developer subsidiary operating in the Oslo region and building medium- to high- density multifamily housing, while OBOS Block Watne (OBW) is a developer subsidiary which mainly develops low-density single family and chained housing in peri-urban areas. OBW operates all over Norway, but the respondents in this study work in the Oslo regional office. OBOS is known for their particular history as a social housing builder and position as a large member-owned housing cooperative, as well as for their contributions to the communities in which they operate, for instance through sponsoring sports infrastructure. Therefore, and despite its current position as a private commercial developer, OBOS is expected by civil society to be a less profit-oriented actor than other developers, exemplified in the recent "member uproar" where the members of OBOS protested the sale of a building in a housing complex to a private property management company (Lorch-Falch et al, 2021).

3.2 The Greater Oslo Region

The Greater Oslo Region refers to an area compromising Oslo (municipality and county) as well as 30 surrounding municipalities (Askheim, 2021). The area was defined in the White Paper on Large Cities (KMD, 2002), as one of several City Regions in Norway. The large city regions, or metropolitan regions, are drivers of growth, but also face particular challenges, such as population pressures, inequality and unaffordability (KMD, 2016). The Greater Oslo Region was defined by NIBR based on the collaboration between municipalities in the area, and how the economic development and commuting patterns in this region are interrelated and overlapping (Onsager, Gundersen & Sørlie, 2010). The Greater Oslo Region was chosen as a focus region in the thesis instead of, for instance, Oslo Municipality, as it compromises both highly urban metropolitan areas as well as rural, agricultural areas and commuter towns. It is therefore a suitable region in which to study land use

conflicts, and how the understanding and prioritization of nature protection might vary along the urban-rural continuum.

Of importance to the discussions in this thesis "Central municipalities provide half of the remaining fully cultivated farmland in Norway" (Skog & Steinnes, 2016, p.194). This can be explained by the generally accepted theory that settlements historically concentrates on the areas with the highest quality agricultural land. This historical settlement pattern is now in direct conflict with housing and other pressures related to urban expansion.

3.2.1 Sustainability challenges

Greater Oslo, like other metropolitan regions in Europe, is facing challenges on many aspects of sustainability, with the issues of low affordability receiving particular attention recently in literature and the media. Large cities in Norway are characterized by high consumption levels and emissions per capita relative to the rest of the country (Næss & Moberg, 2021), as well as air pollution and sprawl.

According to Næss et al (2019), encroachment on natural land and cultivated areas has been low in Oslo compared to other European cities, relative to the population and building stock growth of the city. This can be considered a success of anti-sprawl policies which changed the direction that had prevailed until the '80s. Oslo expanded outward with low population densities in the latter half of the 20th century, but this trend came to a halt in the 1980s when outward expansion was "significantly reduced" as a result of the instatement of densification policies. After this, population density has steadily increased, particularly within the inner city. According to Hanssen (2021), the population growth in municipalities surrounding Oslo has been higher than growth in the city of Oslo, and centre-periphery tensions in the Greater Oslo Region are a contributing factor to the urban sprawl in more rural municipalities (Hanssen, 2021). Further, Skog & Steinnes (2016) argue that on a national level, "urban areas in the most central municipalities experience the most significant urban sprawl". Development pressure on both farmland and natural areas is a concern in the Viken region, especially near larger cities such as Oslo (Onsager, 2020). The conversion of greenfield to residential areas – known as urban sprawl – is a particular issue in more peripheral municipalities in the Oslo Region (Onsager & Eika, 2022). It would seem that the urban nexus of Oslo is still generating urban sprawl, which is displaced outside of the city's borders.

The combination of a neoliberal housing market, population pressure and densification policies has made housing in Oslo unaffordable and is widely understood to have contributed to segregation in access to welfare (Hanssen, 2021). Reflecting social challenges in other urbanizing regions, the Oslo region is becoming increasingly unaffordable (Cavicchia, 2021) and segregated (Ljunggren & Andersen, 2015; Cavicchia & Cucca, 2020), and low-income and immigrants groups are increasingly living in cramped conditions (Bredvold & Inderberg, 2022).

3.3 Policy and planning for sustainability in Norway

The built environment is produced by a complex set of actors on different levels. On the state level, there is a wide array of laws and areas of government that impact on the location, construction and use of buildings and infrastructure. Municipal governments make the majority of decisions

concerning land use and creating the conditions for construction in Norway. Norway has "one of the most decentralized systems in Europe" (Hanssen, 2021, p. 128) when it comes to distribution of governance. Local municipalities and cities have a high degree of local autonomy and responsibility when it comes to urban planning, and the strongest planning autonomy in Europe when it comes to land use planning (Hanssen, 2021). The regional level is relatively weak; this level has limited responsibilities and regional plans are often overlooked by national and local governments. Meanwhile, Norwegian policies for urban development and sustainability have been characterized as fragmented (Hanssen, 2021), compromising sectorial policies rather than an overarching urban policy.

The problem of local noncompliance with national guidelines is often attributed to a lack of competency in municipalities (Nykamp, 2020), especially small, remote and sparsely populated municipalities that struggle to attract and afford staff with sufficient knowledge of environmental issues (Hanssen, 2021). On the other hand, private entrepreneurs have acquired a more prominent role in urban development in Norway, as they are as a rule the actor initiating the development of zoning plans (Falleth et al, 2010)[2]. This has been seen as part of the turn toward neoliberalism in Norwegian planning in the 1980's, which was characterized by a relegation of housing policy to the market and the "deregulation and re-organization of the public sector" in line with New Public Management (see also Swyngedouw, 2007) and a trust in public-private partnerships as more efficient and effective (Falleth et al, 2010). In the contemporary planning regime in Norway, local governments rely on private developers to ensure affordable housing, and there is evidence of informal and hidden agreements between developers and local municipalities (Skog, 2018; Falleth et al, 2010). These conditions put developers in a powerful position. According to Falleth et al (2010), this power asymmetry in favour of private actors is justified by the prioritization of *output legitimacy.* Accordingly:

> *"Achieving tangible results" in urban development is the ultimate judgement for local politicians. Important tangible results for politicians are the speedy provision of urban space, new dwellings and more jobs. (Falleth et al, 2010)*

3.3.1 Policies for sustainable building

Sustainability has been on the political agenda in Norway for decades, and there is a comprehensive policy mix in place to push for sustainability in the built environment. The Norwegian government employs the Brundtland Commission definition of sustainability, and uses the 17 Sustainable Development Goals (SDGs) to guide development on both national and municipal levels (KMD, 2019; Hanssen, 2021).

Nykamp (2020) evaluated the policy context for sustainable building (applying the term "green building") in Norway using the policy mix framework and transition theory. The policy mix was characterized by Nykamp (2020) as consistent and self-reinforcing, with combination of "push" and "pull" factors: On one hand, building regulations which were gradually raised, and on the other hand

[2] In their study, Falleth et al (2010) quote data from 2005 showing that around 90% of urban zoning plans were made by private developers; although this the numbers are outdated, it is likely that this is still the case today.

support of “forerunners” and pilot projects which “pull” the rest of the industry. The policies consist of regulatory, economic and informational instruments. In terms of regulatory instruments, sustainable construction is implemented through building codes, such as passive house standards, and requirements for construction companies, such as waste sorting. Regulatory policy (the Planning and Building Act, specifically) also sets the limits for what can and should be specified in zoning plans and public procurements. The main economic instruments for sustainable building mentioned were Enova and Husbanken. Enova provides funding for technical innovation and upgrades to existing buildings. Specifically, Enova “subsidizes up to 50% of the extra cost if the building project goes beyond the minimum standard specified in the building codes” (Nykamp, 2020, p.6). While certification systems are not mandatory, they are used to determine the eligibility of a project to receive funding via Enova. In this way, the certification system BREEAM (Building Research Establishment Environmental Assessment Method) is promoted through public policy.

3.3.2 Densification and limits to urban expansion

Densification, or development within set boundaries (preferably on brownfield) in order to avoid the encroachment on natural land, has been the dominant approach taken in sustainable urban development in Norway and internationally, constituting the “emblematic policy of sustainable planning” (Næss et al, 2019). However, recent research is showing how densification is not a panacea for sustainability, both in terms of global emissions, and local land use. On the one hand, densification has been associated with lower emissions, as people’s dwellings are smaller, transport distances are shorter and public transport stands for a higher proportion of travels (Høyer & Holden, 2003). However, these arguments are usually based on a narrow scope of environmental impact, not including displaced emissions resulting from consumption patterns. Planning research in Norway has shown how the carbon footprint of households in high density areas is often actually larger than that of those living in low density areas, due to different consumption patterns (Holden & Norland, 2005). Urban metabolism scholars have, for instance, shown how cities consume vast amounts of resources and contribute to extraction that is also geographically displaced (Inostroza & Zepp, 2021), and densification in the global north has relied on displacement of polluting industries to poorer areas of the world (Næss, 2021).

The second critique of densification comes from the degrowth movement. As mentioned in the previous chapter, continued economic growth is considered unsustainable. Meanwhile, Næss et al (2019) note that "the dominant approach to environmental policy [in Norway and the EU] is that there is no fundamental contradiction between environmental sustainability and growth in production and consumption” (p5) and further that the “need to increase the building stock is often taken for granted” (p.3) in policy for urban sustainability in Norway and the EU. From an ecomodernist perspective, densification is seen as a way to mitigate the environmental effects of continued economic and housing stock growth, if outsourced emissions are not considered. More recent studies argue that decoupling as a way to achieve the Paris agreement goals is unlikely to succeed, and that growth in the housing stock must be halted and housing consumption needs to be reduced in Norway (Xue et al, 2016).

3.3.3 Piecemeal land conversion and policy responses

Piecemeal land conversion is receiving increasing attention from civil society in Norway, as environmental organizations such as Sabima and Naturvernforbundet have brought attention to the issue (see, for instance, Sabima, 2023). The biggest threat to biodiversity in Norway is land use change (Artsdatabanken, 2021), which has been tied to residential development, and shown to have a correlation with population growth and increase in per capita floor space (Næss & Moberg, 2021). A 2020 report by several environmental organizations in Norway showed that Norway had failed to reach 41 of the 43 Aichi targets, which are targets for nature protection established by the United Nations Convention of Biological Diversity that Norway signed to in 2010 (Sabima et al, 2020). Norway has also received criticism from OECD for failing to meet targets for nature conservation and restraining land conversion (OECD, 2022). While some municipalities are starting to map out the ecological quality of natural areas within their jurisdiction – known as *area accounting* – this is not standardized nor obligatory, meaning that there does not exist a comprehensive overview of the ecological quality of natural areas in Norway (Hagen et al, 2022). Nevertheless, other indicators suggest that the conversion rate most likely has not been reduced (Sabima et al, 2020).

The conversion of agricultural land, one category of unbuilt land, is an issue that has not received adequate attention to date in the literature (Skog, 2018). Conversion of farmland is considered to be one of the major threats to the future food supply. The government of Norway has set a national maximum target concerning the quantity of of arable land that can be converted annually – but this target has been repeatedly surpassed (Skog & Steinnes, 2016). According to Skog & Steinnes (2016), the majority of farmland conversion happens in relation to urban areas, and urban sprawl processes.

In response to piecemeal land conversion, land use management tools are being developed and deployed in Norway that aim to limit or redirect development to avoid encroaching on nature. Some municipalities have received media attention for implementing the strategy *area neutrality* (for instance Sandberg, 2021). These strategies should be seen in the context of densification as the overarching goal of urban policy in Norway (Hanssen, 2021) and existing conflict-laden nature conservation policies in rural areas (Fedreheim & Blanco, 2017). While densification policies can be considered a response to urban sprawl, densification in the Norwegian context is implemented on a premise of growing the housing stock (Næss et al, 2019), and land is valued in purely economic terms as a default, without tools for evaluating other qualities and values that are provided by nature (McCormack et al, 2022).

Area neutrality as a system, or concept, was developed in response to these challenges. The main purpose of the concept is to reduce greenfield development, and achieve “net zero” loss in nature (McCormack et al, 2022). According to Nordre Follo’s website, area neutrality means “to reuse and densify areas that are already developed, rather than converting more nature” (Nordre Follo, 2023). While the best practice according to the area neutrality system is to avoid greenfield development completely, the concept permits compensation as well in line with the net-zero logic. Compensation here means to restore a degraded ecosystem elsewhere in compensation for the development on nature, with the logic that the total “nature” remains constant (McCormack et al, 2022). While area neutrality can be considered as a method for setting limits to development on greenfield, it is not necessarily in contradiction with ecomodernism. Some studies emphasize the intention of area neutrality in allowing continued “development and urbanization (…) in stride with expected

population growth" (McCormack et al, 2022, p. 2), and area neutrality relies to some extent on financial measures like land charges (Sabima, 2023; McCormack et al, 2022) which could be considered a monetization of nature (Muradian & Gómez-Baggethun, 2021).

As a new concept, there are so far no published empirical studies on the implementation of area neutrality in Norway. Therefore, the way it will be implemented and the outcomes it will have remains to be seen. As mentioned, rezoning land "back" to Agricultural, Nature and Open Space (**LNFR**)[3] can be seen as one of the first outcomes of the strategy (Nordre Follo, 2023). This study will briefly assess how private actors have responded to such early outcomes of area neutrality policy.

[3] LNFR (Landbruks, Natur, Frilufts- og Reindriftsområder) is the zoning category used in the Norwegian planning system to designate "green" areas, intended for agriculture, outdoor recreation, nature and traditional reindeer herding. In areas zoned as LNF, building activities are only permitted in "direct" relation to the aforementioned activities. Housing can be permitted in LNFR areas according to detailed zoning plans, but LNFR is generally not intended to be built-up areas. (KMD, 2020)

4 METHODOLOGY

This geographical focus of this study is Greater Oslo Region (Stor-Oslo), with the housing developer OBOS as the case. The author worked for the housing developer conglomerate OBOS for 7 months on sustainability topics, an experience which formed an important backdrop for the study, and provided contextual knowledge that helped to design the research and situate and explain the findings. The empirical data for the thesis constitutes 8 semi-structured interviews with staff based at two large housing developers that are operating in the region, OBOS Nye Hjem (ONH) and OBOS Block Watne (OBW). ONH and OBW are both subsidiaries of the developer conglomerate OBOS. In addition, a selection of municipal plans from the region and OBOS' annual report have been reviewed to triangulate the interview findings. The interview findings are detailed in *Chapter 5: Findings from interviews*, and the findings from policy documents can be found in *Chapter 6: Policy Context*.

The study employs a qualitative approach that emphasizes the experience and understanding of participants (Clark et al, 2021). Qualitative studies are well suited to investigate and understand nuances in respondents' experiences of a particular phenomenon. As Kvale (2007) explains: "a qualitative research interview seeks to cover both factual and meaning level". This approach is well suited to the context of planning and the built environment, which is characterized by complexity and high degrees of context dependency. Further, the meaning and scope of the concept of sustainability is highly contested, and therefore it was important to choose a method that would enable participants to reflect on how they understand the concept, and where that understanding came from. The primary method chosen was one-on-one qualitative interviews with a careful selection of respondents. Other methods, such as focus group discussions or participant observation were deemed inappropriate and possibly compromising the position of the researcher within the company. While the researcher's own experience was used as a basis in purposive sampling and developing the interview guide, the findings generated are the result of independent study.

In qualitative research, there is a recognition that the research process itself may influence the participants (Clark et al, 2021, p.357) and that participants may change their opinion or their description (revealing their own contradictions) during the interview (Kvale, 2007, p.13). Therefore, "most qualitative researchers prefer a research orientation that involves as little prior contamination of the social world as possible" (Clark et al, 2021, 357). This open approach, intentionally avoiding "ready-made categories and schemes of interpretation" (Kvale, 2007, p.12) has been termed "qualified naïveté". Both Kvale (2007) and Clark et al (2021) pointed out the balance between the importance of having good knowledge of the context and existing research – while at the same time maintaining this openness. The way this balance was struck in the context of this study, was to obtain both academic and experiential knowledge prior to carrying out data collection, but keeping the interview guide open, and maintaining an inductive and iterative approach throughout by for example adjusting the sampling and adding supplementary interview questions according to emerging themes. The coding process also followed an inductive approach, where codes were based on themes that emerged from the data rather than existing theory.

4.1 Sampling method

The purpose of the study was to investigate the roles and perspectives of housing developers in the Greater Oslo Region in relation to sustainability and sustainable land use considerations. The author worked with a developer company (ONH) prior to undertaking the research, and this allowed for purposive sampling of respondents from this developer that would be able to shed light on the topic from different angles, and thus give a broad representation of perspectives from within the subsidiary companies. In terms of Clark et al's (2021, pp. 377-78) delineation of areas of sampling, the choice of the particular developer conglomerate – the context – can be considered a typical case, although the choice of this developer was mainly due to convenience since I had through my employment gained valuable contextual knowledge and insights that helped to shape the study.

The sampling of participants was aligned with maximum variation sampling, meaning to "select cases or units to ensure as wide a variation as possible in terms of [identified] characteristics" (Clark et al, 2021, p.379), as well as sequential sampling. Based on personal experience, it was expected that respondents'' views on sustainability issues would differ based on their roles in the company. In particular, working with finance, project management or environmental strategy was expected to impact the experience the individual would have with sustainability challenges. Further, the company divides its employees into departments that work on different phases of housing development, and it was expected that some crucial decisions and considerations are taken at early phases. For these reasons, respondents were chosen to represent the following roles in the company: Managerial level corporate sustainability policy, early- stage investment phase, and implementation phase. Respondents also have different degrees of seniority within the company.

In line with the sequential sampling method, more participants were added through snowball sampling as deemed relevant in the course of carrying out the interviews. Initially, six interviewees from one company were interviewed based on the aforementioned criteria. The development company as a rule does high-density residential projects within the more urbanized parts of Oslo. However, during the process of conducting interviews, it became apparent that a central issue to the thesis might be more pronounced in another (sister) company: OBW. OBW does mainly low-density projects in rural areas, and it was expected that this difference from ONH would be important to the thesis topic. Therefore, two more respondents were interviewed from OBW. The respondents from ONH are A, B, C, D, E, and H, while the respondents from OBW are F and G.

The importance of variance in municipal policies for the developers' practice of sustainability became apparent through the interview process, and therefore a short review of municipal plans and OBOS' annual report was conducted to triangulate and explain the interview data. Municipal plans (kommuneplan) were selected for analysis through purposive sampling, with an emphasis on maximum variation (Clark et al, 2021, p.379), as was done with the interview participants. Firstly, Oslo Kommune and Nordre Follo were selected based on their relevance to the topic and the interviews; these are municipalities where important and conflictual projects are located, and municipalities where the developers are particularly active. Three more municipalities were chosen to make the sample more representative of the Greater Oslo Region in terms of variation in relation to nature policies. The environmental organization Sabima has developed ranking of municipalities based on their nature-oriented policies, and this list was used for sampling (Sabima, 2022). As Oslo

Kommune and Nordre Follo are middle to high on the rankings in the Oslo Region, two additional municipalities were chosen from the bottom of the list: Gjerdrum and Indre Østfold. For contrast, Nesodden was also chosen as it is ranked first on the Sabima list, indicating that its nature-oriented policies are amongst the most ambitious in Norway.

4.2 Interview methodology

Semi-structured interviews were carried out by the author one-on-one with each respondent, with each interview lasting between 60 and 90 minutes. The respondents were contacted through email and asked to fill out a consent form in advance. Three of the interviews were carried out in person at the office of OBOS. The remaining six were carried out through Microsoft Teams.

An interview guide[4] was designed with generic topics and questions that could be tailored to the different contexts of the respondents to ensure that the responses would be comparable, in line with the methodology for semi-structured interviews as described in Clark et al (2021) and Kvale (2007). The combination of a generic guide with set questions and themes, and openness to respondent contexts, ensured flexibility to capture important additional dimensions associated with respondents' different knowledge, experience, perspectives and roles. The interview guide for each interview was therefore slightly different, for three reasons. Firstly, prior to any of the interviews, the interview guide for each of the respondents varied somewhat based on their known access to information and roles, to emphasize the different kinds of knowledge of the process and what kind of issues and decisions each respondent was likely to be involved in. For instance, respondents working in investment were asked particular questions about what is included in their Due Diligence Report, but the environmental strategist was not expected to know these details. On the other hand, the environmental strategists were asked about how the environmental strategies of the company came about in the first place, a question that the investment department staff was not expected to answer.

Secondly, the interview guide was amended throughout the interview process to improve the quality of the questions, based on responses from previous respondents. For instance, the question "what characterizes projects where high environmental ambitions are set?" was difficult for respondents to answer directly due to the wording. The questions were therefore divided into several parts, asking first about the degree of variation between projects, then why it varies, and lastly about specific examples of projects with high and low ambitions, and how these relate to the reasons for variation. Thirdly, questions were gradually added based on my increased understanding of the topic to allow for probing further into topics that turned out to be particularly disputed or of particular interest, in line with the general inductive approach taken in the study. An example is the concept of *nature risk assessment*, which came up in the interview with respondent B. The topic seemed particularly important, and was therefore brought up in later interviews when not mentioned spontaneously by respondents.

[4] Generic version can be found in Appendix.

As the study also concerns the underlying beliefs of the respondents about how sustainability is understood and defined, it was particularly important to obtain spontaneous reactions and avoid inducing bias through the questions. For instance, in cases where we had already spoken for 10 minutes about nature conservation, the respondent would probably think about this first when asked what constitutes "sustainability" for them. Care was therefore taken to avoid asking questions too directly, and avoid leading questions, and particular attention was paid to the order of questions and topics so that the interview guide would not lead the participants onto a particular track (following recommendations by Kvale, 2007). In terms of order, the most value-oriented questions such as "what do you associate with sustainability" and "how do you work with nature in projects" were asked earlier in the interview. Follow-up questions were employed to further probe topics that were not mentioned in responses to the initial, broader questions. Themes that had emerged in the course of the interview process were asked last, to see if they were spontaneously mentioned. In this way, I was able to get a sense of the associations of the respondents to a topic, and what aspects they would not automatically think about.

Throughout the interviews, participants were encouraged to describe, give examples from their experience, and define terms in their own words.

4.3 Coding and analysis methodology

The interviews were transcribed in their original language, Norwegian, with the help of Microsoft Teams live transcription. The transcriptions and policy documents were all coded and analyzed in the original language. Statements were only translated to English when included in the thesis as a direct quote. Translation adds another layer of interpretation by the researcher, as discussed further below.

The interviews were then analyzed through thematic analysis, with several rounds of reviewing codes and themes as suggested by Clark et al (2021, p.538). Initially, the thought was to code the data as a main analysis method. The transcripts were loaded into MaxQDA, and several rounds of inductive thematic coding were carried out. A challenge with this method was that there is much overlap between the themes and the statements. For instance, statements about how environmental measures put the company at a competitive disadvantage relate to the topic of competition itself, but is also indicative of customer demand, related to the role of the market, and lack of government regulation. Another issue with the software-based coding method was that picking out short quotes takes the information out of context and may in itself not accurately represent the point the respondent was trying to make, or the weight associated with that particular statement in relation to other statements. These issues are known as *fragmentation*, and the loss of context. Coding in qualitative research is often criticized for this particular problem (Clark et al, 2021, p. 536).

To retain the context of statements, themes identified in the coding process were reviewed through re-readings of the interview transcripts, in line with the Framework approach (Clark et al, 2021, p. 539), with particular emphasis on repetition, similarities and differences, and missing data. The analysis borrowed from narrative analysis in aiming to identify, through the accounts of the interviewees, how their opinions have been shaped by their experiences, and how one statement serves to explain another. The final writing up of results was an iterative process of finding new

connections between themes and checking them against individual transcripts and aggregated findings under the thematic codes.

Following the compilation of the results, a copy of the results section was sent to each respondent to allow them to ensure that they were accurately represented. This was also done to improve the internal reliability of the study (Clark et al, 2021, p.363). As there was only one person conducting and coding interviews, there was a possibility of misunderstanding or misrepresentation of the participants, and therefore it was important to allow participants to confirm how their statements were presented. The respondents generally agreed with the representation, but some commented on cases where they did not agree with the way they had been paraphrased, where they felt that their statement had been taken out of context or did not agree with the translation. These cases were amended accordingly.

Quotes from the interviews that are used in the text were translated to English by the author. The interviewees use many expressions that lose meaning when translated word for word from Norwegian to English. I have therefore translated these expressions to an English equivalent and/or explained them in the text. The analysis of content was done in Norwegian to avoid misinterpretation of individual statements.

The policy documents were also analyzed using thematic analysis. For the municipal plans, each document was read several times, and all sections concerning nature, sustainability and housing development were highlighted. Further, all specific policies relating to nature and sustainability were noted. Word searches for the terms nature, land accounting (arealregnskap), and conservation (vern) were also carried out to identify general differences between the documents. The company policy documents and project documents were analyzed in the same way, but with a focus on identifying environmental measures rather than policy themes.

4.4 Limitations of the study

It has been pointed out by Clark et al (2021) that there are several ways to measure the quality of qualitative research, reflecting the argument that criteria developed for quantitative research should not be directly applied to qualitative research. Here the criteria of internal and external reliability and validity are mostly used, since they are the most commonly used criteria to assess research quality in general (Clark et al, 2021). In addition, I will discuss and illustrate some of the limitations of the study.

Prior to carrying out the study, the author worked with OBOS for several months. Here it is important to point out that the study was not commissioned by the company, and the author is not receiving any monetary or other compensation for carrying out the study. Neither was the author was not working with the company during the period when the data collection (interviews) for the study took place. However, through working with the company, the author developed a personal relationship to some of the employees who were later interviewed for the study and also gained in-depth knowledge of the company. The involvement of the author in the company that constitutes the case of the study is both a strength and a potential weakness for the study.

4.4.1 Bias and conflict of interest

On the one hand, the participation of the researcher in the social context that is studied is considered a strength in terms of internal validity as this "allows the researcher to develop deep analytical insights between concepts and observations" (Clark et al, 2021, p.363). In the context of this study, the author's personal knowledge of the internal workings of the company helped to contextualize findings, for instance assessing how the roles of the respondents may give rise to different perspectives. Due to the author's role as a colleague and a friend for the interviewees, it is likely that most of the interviewees had more trust towards the author than they would towards a student they did not know from before, and this allowed the respondents to speak more freely in interviews, perhaps revealing more of their own, unbiased opinions.

On the other hand, there are several issues related to the author's personal relationship to the company and writing about a commercial actor in general, that should be mentioned. For instance, the author's personal relationship to many of the respondents could be expected to have led to an excessively sympathetic attitude toward the respondents, and vice versa, the researcher, which is a potential form of bias. This is the related to the common issue in ethnographic research known as "going native" which has been seen as both positive and negative for research quality, where the researcher becomes so immersed in the setting they are studying that they adopt that worldview on a personal level (Clark et al, 2021). Further, the author may wish to maintain a positive relationship with the company and the employees to improve chances of employment in the future. As a result, the author may be biased to frame the company and the respondents in a favorable way, which compromises internal validity and hinders the ability to take a critical perspective. The fact that the respondents were able to read through the findings section added to the potential pressure of bias, although this process is generally seen as a measure to *improve* internal validity, as the interviewees have a chance to confirm that they are paraphrased accurately. These issues can also be considered a common issue, or characteristic, of qualitative research in general. Qualitative research as a methodology has been criticized for being "too subjective": that the findings "rely too much on the researcher's own, often unsystematic, views about what is significant and important, and also on close relationships that the researcher develops" (Clark et al, 2021, p.369). In response to this critique, ensuring internal reliability and validity is particularly important, to show that the findings of the study are substantiated in data, and conclusions were reached in a systematic way. In this study, coding was done in several rounds, and emphasis was placed on identifying patterns and repetition as more objective ways of generalizing findings. On a personal level, the author reflected on her own biases throughout the process, and ceased professional communications with the company during data collection and writing to avoid any conflict of interest. The study is not written for the purpose of informing OBOS' practices, but addresses a wider audience and a broader range of actors, which reduces pressure to adjust the thesis to OBOS' expectations and interests. In these way, the author has attempted to reduce bias in the study. In future studies, doing the study as a research team rather than as an individual may help avoid bias.

4.4.2 Confidentiality and proprietary information

The main ethical concern in the study is the risk of disclosing the identity of respondents. The interviews relate to their professional role, and therefore the disclosure of their identity could be an issue for their professional relations and connections, the political processing of current projects and

so on. In order to protect the respondents' confidentiality, they were all presented a consent form prior to the interview, where they were informed that they would be anonymized in the thesis. In order to allow respondents to speak more freely and not be concerned about disclosing proprietary information or their own privacy during the interview, the consent form given to respondents also made clear that they were not expected to speak on behalf of the company. Transcripts were not included in the appendix of this thesis, as this could compromise the confidentiality of respondents. The respondents were given the opportunity to read through the findings section prior to submission of the thesis, to ensure that they were accurately represented and that their confidentiality was not compromised.

The risk of disclosing confidential and proprietary information also to some extent limited the scope of the thesis. For instance, the author avoided and was sometimes not allowed to access financial information. There were cases where respondents asked for certain key quotes to be removed from the findings section due to confidentiality or proprietary secrecy, which limited the strength of arguments made in the thesis. Further, due to the small sample of interviewees, it is difficult to point out how the respondents' roles in the company may influence the respondent's statements, as disclosing too much information about the role and experience of the respondent would compromise their anonymity. The decision not to include the interview transcripts also limits the internal validity of the thesis, and this was a difficult tradeoff to consider alongside the need to protect respondents' confidentiality. However, although certain information was not quoted in the thesis, this still influenced the conclusions, meaning that the contextual accuracy and understanding of the thesis was probably not compromised due to the omission of proprietary and confidential information.

4.4.3 Sample size and time constraints

The following section points out general issues with the external validity and generalizability of the study. Due to time constraints, the sample is very small, which means that the sample may not accurately reflect the company or industry as a whole. The sample is moreover asymmetrical as most respondents are from ONH, which was due to the iterative process of the interviews. The two respondents from OBW cannot be expected to be representative of the company, and thus differences between OBW and ONH are only indicative, not conclusive. Further, OBOS has a particular history that sets the company apart from other developers, and therefore OBOS can also not be assumed to be representative of all housing developers in Norway. External validity is also generally difficult to achieve with qualitative research as this methodology tends to be extremely context-specific (Clark et al, 2021). However, the study would be more generalizable had I included a larger sample, including a more representative number of respondents, from a larger variety of developers. However, the time limitations of the thesis preempted including a larger sample. It should further be noted that the sample of municipal plans reviewed was also very small and cannot be generalized. Instead, the municipal plan review can be seen as adding supplementary data on the policy and company strategy side to further contextualize the interview findings.

4.4.4 Challenges of translation

While analysis was done in Norwegian in order to preserve meaning, the respondents in the interviews used many terms that will carry a different meaning if translated to English, for instance the term "transformation" as noted in Chapter 6. Another term that was challenging was "bygge ned

natur", a neutral term which sounds strange when translated and has no equivalent in English. It can be considered to be something between destroying, paving over and removing nature. The term was translated based on the emotion of the statement, for instance when respondents spoke of angry citizens, the term "destroy nature" was used, while when the respondents spoke of the nature-development tradeoff, more neutral terms were used. This exemplifies how the author's subjective interpretation influences the translation, which is an issue for the objectivity of the study. A more accurate representation may have been possible if the thesis was written in Norwegian, but care was taken in the present study to retain contextual meaning in translation, and literature was reviewed in both languages to ensure that the translated terms convey similar associations and meanings as the original.

5 FINDINGS FROM INTERVIEWS

In this section I will present the results from the interviews with respondents from OBOS. The findings are presented according to the themes and questions addressed in the interview guide starting out with broad questions about sustainability and then focusing in on themes that emerged during the interviews themselves and analysis of transcripts from those interviews.

Here it is relevant to make a point about translation and terms used in this thesis. The term "transformation" is often used by respondents and generally in the Norwegian context to refer to brownfield development (*transformasjonsområder)* and/or reuse of existing buildings (*transformasjonsprosjekt)*, as opposed to greenfield development[5]. As directly translating these terms (e.g. "transformation project") would be confusing, the terms **brownfield development** and **adaptive reuse** are used. The term adaptive reuse is used in the thesis to refer to rebuilding or renovating a building to housing while keeping all or part of the existing built fabric, and the term brownfield development is used to refer to the practice of demolishing and building new buildings on a piece of land which was already paved over and/or had buildings on it. Note that adaptive reuse is always brownfield development (e.g. it happens on already-developed land), while brownfield development does not always include adaptive reuse.

5.1 Understanding sustainability: values, measures and targets

As mentioned in the Methods section, I started interviews by asking the respondents more generally about their definitions of and views on sustainability. When asked about how they understood sustainability, the respondents referred to either one or two concepts from the Brundtland Commission's report on Sustainable Development: The concept of environmental, social and economic sustainability, and the concept of consuming resources at a rate that allows the coming generations to maintain the same level of wellbeing. This consistency might be evident of a clear communication of these concepts from the higher levels of the company, as well as national guidelines which may have had an indirect legitimizing effect. Some of the respondents nearly quoted the Brundtland Commission word for word, but most were implicit such as:

> *Sustainability, so then you have the three main parts of course, economic, environmental, and social sustainability. And then they overlap and there are so many gray areas here. It's about not using more resources than you have, among other things. So that the earth can survive us. (Respondent A)*

> *Well, we have to take care of our planet. (…) We have to do the best we can for the next generations. That we don't destroy everything there is. (Respondent F)*

Meanwhile, the respondents' understanding of more specific concepts like social and economic sustainability, tradeoffs, and biodiversity was less clear, though some parts of the interviews

[5] In other words, this sense of the term has no relation to the meaning of transformation in the context of *sustainability transformations* as discussed in *Chapter 2: Theoretical Background*

revolved around questions like whether "sustainability" is expensive, difficult, and so on. Conflicting understandings of sustainability were however acknowledged by respondents A, C and G.

> *This with sustainability is very difficult, because there are so many ways to define it and people think so differently. (Respondent G)*

When asked about tradeoffs between different goals, many of the respondents struggled to think of examples. Respondents mentioned tradeoffs between environmental sustainability and cost, and balancing different and contradicting concerns. This quote from respondent A illustrates the complexity of sustainability goals. The conversation follows on from the issue that wood construction – which substantially reduces embodied emissions in the project – requires higher floor heights:

> *We are also increasing the ceiling height quite a bit from before (…) to create more spaciousness and higher quality in each individual apartment. So one may ask, 'is this good for the climate?' Because it does increase the consumption of materials. On the other hand, it might be easier to live in a slightly smaller area when you have a greater perceived spaciousness. There are pros and cons. You may get more light in, right? (referencing social sustainability) Because you have a higher ceiling height. (Respondent A)*

When asked about how they decide in relation to such tradeoffs, most respondents were not able to give a general answer, as tradeoffs were often project specific. The exception was respondent D, who said that it is the price, or the customer's willingness to pay, that determines the tradeoffs.

> *Whatever it is, the buyer's view weighs heaviest. Whether it is: what are they willing to pay for, what do they need, what are they willing to buy? (Respondent D)*

5.1.1 Sustainability measures

Respondent G explained that for a long time, OBW has been able to argue that they are sustainable mainly because they build with timber. A difference in the level of sustainability ambitions between the companies was evident in the interviews, in line with OBOS' annual report which showed that ONH had a much higher environmental certification rate than OBW. Respondents from ONH mentioned a range of environmental strategies, such as reducing total emissions through material choices, reducing building footprint, providing sharing infrastructures and meeting places, and favorable loan conditions to make housing more affordable. The measures mentioned by OBW were noticeably narrower in focus, with an emphasis on material and waste efficiency. Meanwhile, measures mentioned by both ONH and OBW included increased vegetation planting in projects, keeping existing trees on the land, and building within 10 minutes walking distance from public transport. This is not a representative list, as there were fewer respondents interviewed from OBW. But it suggests a tendency of OBW to emphasize sustainability measures that incur a financial benefit through efficiency improvements[6].

[6] Note that building with timber is more cost effective for OBW as they mainly build low-density detached housing, than for ONH which builds high-density housing with concrete structure as a rule

The measures are spanning environmental and social sustainability, especially those mentioned by ONH, and there is also a variation in the phase that the decision is taken (e.g. building footprint in early stage, material choice later), and the scale of the intervention (compare "10 minute city" planning strategy or solar panels). When I use the term ***sustainability measures*** later in this section it is meant as an umbrella term for all such strategies that either or both companies employ.

5.1.2 Measurement, indicators, and legitimation

Among the sustainability measures that the company employs, certain aspects were more pronounced. Many respondents noted the tradeoff between having a simple, numerical indicator of sustainability, and sacrificing values that are difficult to measure, in view of the complexity of sustainability. According to respondents the use of numerical sustainability indicators and targets increases legitimacy and value of projects when communicating with internal and external colleagues, allows compliance and performance to be monitored more easily, and improves cost estimates, thereby reducing uncertainty. At the same time, respondents noted the shortcomings of such methods of measurement. For instance, respondents G and A argued that the climate change issue has overshadowed other aspects of sustainability, partly because greenhouse gas emissions and effects can be easily converted into numbers, and other aspects of sustainability, such as biodiversity, are more difficult to measure.

> *Climate change has an advantage because it has a number. (…) We went up, or we went down, it's easy to measure. But the nature crisis… it is not so easy to measure. (Respondent G)*

> *The waste recycling rate should be this and that… then it's easier for people to comply with, and one can think for oneself ok, what is needed to achieve that target? (Respondent D)*

Respondent D contrasted this with BREEAM, which accordingly contains more ambiguity and tradeoffs, which are costly:

> *The reason that [BREEAM] is so demanding, is that there are no clear answers, and you need reports, and there are tradeoffs, and you need to… It's very costly, time-consuming, and you are so dependent on the opinion of the consultant. And it is difficult for the contractor to give a price for this when you don't know. (Respondent D)*

Many respondents complained that certification is very expensive and mostly just a matter of producing documents, documenting what they have thought and done – without making a tangible outcome in the project design. However, they also argued that certification has created more awareness around different aspects of sustainability and pushes them to be better at tracking their environmental performance. Further, respondents saw the practical benefit of certification as it is a straightforward way for funding bodies to determine eligibility, and for customers to judge the sustainability of the project.

> *Some [certification schemes] work very well. Some do not work so well, but the most important part of that process is that you really gain an awareness. (Respondent H)*

While only two respondents used the word "conservative" to describe the industry, several respondents spoke of the difficulty of legitimizing the issue of sustainability internally in the company, and a concern that even if stricter regulations do come to pass, they may come later or in a different form than expected. Respondent G argued that their colleagues are afraid that too high requirements will make the business unprofitable, and that they will lose their job as a result:

> *And in [OBW] we have a situation where people lose their job because we don't sell enough housing, and people are scared, scared of losing their jobs, and then there's lots of new rules and requirements that you will lose even more money on. When you've actually built something, you may lose money from selling those houses. You can't make a profit. So there are many emotions here. It's not that people don't want to do good. They want to do good, it's just different emphasis on what is good and what is important, depending on your situation. (Respondent G)*

5.1.3 Social and economic sustainability

In this section I will briefly outline how respondents understand the concepts of social and economic sustainability. Several respondents noted that OBOS is attempting to take a proactive role when it comes to social sustainability, which for the respondents generally refers to interpersonal aspects such as neighborhood trust and the degree to which neighbors know each other, as well as how people experience of place identity, and wellbeing in general:

> *You should have what you need of social functions, the physical, space (…) The last element is the interpersonal element (…) When I think about social sustainability, it's very much the wellbeing factor. (Respondent D)*

> *Given that half of those who live alone experience loneliness… It directly affects your health. It can make your health worse, and lead to a shorter lifespan. It's quite dramatic. (Respondent A)*

It did not seem as though the participants thought of housing affordability when asked about social sustainability. Instead, they emphasized participation and livability. Social sustainability versus environmental sustainability was mentioned as a goal conflict, although not in terms of affordability, but rather in terms of the cost of providing social meeting places. When prompted, respondents acknowledged that affordability should also be part of social sustainability, but the tendency when discussing housing price levels was to categorize this aspect as part of economic sustainability. Building a low-cost project (e.g. building a project in a low-price area) was considered part of the challenge of making the project "realizable" — meaning that it can result in (sufficient) profit after calculating the expenses and potential sales prices, e.g. what customers would be willing and able to pay.

> *It is definitely a particular challenge here. When [in the context of a pilot project] the municipality picks out a plot, it should be an underdeveloped plot that is difficult to realize, because it is part of the challenge to accomplish that as well, you should show that it is possible. In an area that is not yet established.*
>
> *[Interviewer: Is this a matter of social sustainability?]*

No, it is more under the banner of economic sustainability, that it should be realizable on that plot. (Respondent D)

For instance, some respondents mentioned a relatively small project situated in a low-price area, which was thus considered a challenge in terms of economic sustainability. The project is also a sustainability pilot, and the low expected profits makes it more difficult to employ the kinds of innovative sustainability measures that are required. Economic sustainability was generally understood as whether the project can be repeated within OBOS's profit margins, in a context of "normal" market conditions. For instance, according to respondents E and D, a project would not be considered economically sustainable if it was only possible with project-specific subsidies. This is also in line with the idea of "realizability" as the main measure of economic sustainability.

It should be possible to repeat, so it can't be that OK we get lots of research funding or lots of subsidies for this project, so that it's possible – it means, then it's not economically sustainable, because then you can't move it to Hamar or somewhere else and do the same thing. You need to find solutions that allow you to repeat [the project]. (Respondent D)

Respondents generally noted that higher expected housing prices do not mean that OBOS will increase the sustainability ambitions of the project, rather they will attempt to raise the standard of all projects simultaneously. This was somewhat refuted by respondent F from OBW, who said that they try to have higher environmental standards in projects closer to central Oslo, as the housing prices are higher, and customers have more expectations (and capacity to pay).

5.1.4 Nature and land use

Several respondents said that nature is a relatively new topic for OBOS, explaining that they have more experience working with greenhouse gases and social sustainability. Generally, the respondents expressed the whole range of valuing nature from ecological to anthropocentric, but the understanding was scattered and contingent on specific experiences with external requirements. Respondent C understood nature as "biological diversity, conservation and nature risk assessments". Other respondents also emphasized ecological values, but referred to measures that had been undertaken as requirements:

Well, there is more and more planting (of vegetation) in the projects we have.

Trees and bushes and all these kind of things. That's also something required for blue-green factor, delaying the flow and infiltration of water, so we need plants for that…

Zoning plans have requirements for pollinator friendly bushes, for instance, so then we have those too.

And then, in large areas, we try to keep some of the forests that are left and not clear-cut everything. We leave a bit of forest. (…) Keep the old trees standing. (F)

Meanwhile, when asking respondent E about their experiences with projects that have an emphasis on nature, they mentioned a project designed to attract customers who want an "integrated in nature kind of lifestyle", with "low buildings, less groundworks" and "timber façades" (E). Other

respondents mentioned sunlight in the apartments, green house, that the colors of the building are representative of nature and shaping a building according to the movement of the sun (optimizing the solar panels) as nature-related measures in projects. These are all more anthropocentric ways of valuing nature.

Some respondents pointed out that the difficulty of ascribing a numerical value to value nature is an obstacle to communicating the topic and legitimizing the issue. They also expressed that there is a lack of understanding across the company of what constitutes "good" or biodiverse nature. Respondent G from OBW explained that they piloted measuring removal and addition of nature simply by number of square meters of vegetation, but they realized through this trial that the indicator does not account for the quality of the greenery. For instance nuances such as: farmland having lower biodiversity than a forest, and that a meadow full of invasive species is not a desirable type of vegetation. In response to this, new ways of measuring green area are being developed, as mentioned in OBOS' annual report. Respondents C and G both mentioned that learning about valuation of nature is important for the purpose of discussing with the government and justifying their proposals in terms of contribution to nature. According to respondent G, OBOS is often blamed for "destroying" nature, but in their opinion, OBOS is also "adding" a lot of nature through planting undertaken in projects, and it is important to them to communicate this to the government and civil society.

> *"For us, it's about trying to document or take note of: what are we building up and what are we tearing down, and how do we do it in a way that when we get questions, and if the authorities say that "no, now I propose that we should not tear down Gjertsrud-Stensrud, because you're tearing down too much", then we can say, "but you know, this is how we're building up [nature], and here are the guidelines for what we will do, and this is how we check and work with it", and we can show that we're not just tearing everything down and adding thuja, you know." (Respondent C)*

The respondents all easily understood the concept of "existing green areas" in relation to LNFR zoning, but stated that OBOS does not have any strategies specifically aimed at reducing the development on existing green areas in general.

5.1.5 Cost of sustainability

While most respondents experienced environmental measures as a cost, there were varying views on the cost of sustainability. Some respondents argued that all aspects of sustainability are costly: strategies related to social sustainability, reducing impact on nature, transforming existing buildings instead of tearing them down, choosing more sustainable materials, and so on. Respondents agreed that there is a lack of consumer demand, which means that spending more money on sustainability will not incur more profits. Reducing the building footprint would also incur costs in terms of unrealized profit. Some respondents also mentioned "transaction costs" such as lack of knowledge and experience, and underdeveloped supply chains. Many respondents argued that certification is extremely expensive, with few tangible impacts.

A minority of respondents (A, C, G) argued that sustainability does not necessarily incur costs.

> *I'm optimistic, so I think there's always solutions. (…) We need to dare to do things differently. And maybe it is more expensive the first time because one doesn't know what one's doing, and one's fumbling one's way forward, but I don't think there's an "equal sign" (=) between sustainability and increased cost. (Respondent G)*

They mentioned cases of "win-win", like increased material efficiency which reduces both resource use and costs, and that much of the costs related to sustainability are actually misconceptions, and based on a fear of risk and change.

> *The profit margins in housing are so slim, right? And we want to build housing that people can afford to buy, and when you have to do things in a different way, it is easy to think that it will be more expensive, and it probably feels safer to do the project in the way that it has always been done. (Respondent G)*

Respondent D also argued that some costs, like those related to certification and changing practices, will decrease as people gain more experience working with sustainability. However, figuring out the actual cost of sustainability measures was perceived and described by respondents as being very complex.

> *It's not like the whole sales price is based on sustainability measures, it is seldom that we manage to make clear the whole impact of the environmental measures, or the whole cost tied to environmental measures, because it is a mix of all sorts of things (Respondent D)*

However, it is important for the following sections to keep in mind that sustainability was considered costly by most respondents, as this affects the way other barriers are experienced.

5.2 Perceived drivers and barriers to sustainability

Most respondents recognized the threat of climate change, and expressed that they think that the Company needs to take their share in responding to this issue. "Samfunnsansvar" (societal responsibility / corporate social responsibility) was frequently mentioned by respondents as well as in the annual report, and some respondents argued that OBOS is more responsible than others owing to the history of the company and it being a member-owned cooperative.

> *In a short-term perspective, one can perhaps get more profit from a plot by being an irresponsible societal actor, so to speak. But in the long run, I think it also creates value to take societal responsibility. (Respondent H)*

At the same time, most if not all respondents said that the company will *only* do sustainability measures that are either profitable or required. This can be seen in relation to the high perceived risk and lack of consumer demand associated with voluntary sustainability measures, as will be discussed later in the section. Some respondents expressed this more explicitly, some more implicitly, as in this reflection by respondent F:

> *We're not always thinking so innovatively on new things… It should have a purpose, or, well, everything might have a purpose, but we need to get something in return, and*

*there needs to be someone who says that we **have to** do it, maybe? (Respondent F, emphasis added to reflect intonation)*

Further, many respondents expressed that the economic margins are very small and that the building industry is generally struggling in a context of high construction prices and low sales prices, resulting in sustainability measures being sacrificed.

Interest rates have increased, and it has a huge impact. Building costs have increased, and it also has a huge impact. And you can't increase the sale price by that much, so... it's a struggle, right? What needs to be sacrificed in order to start? And then there is a certain risk that housing quality might suffer. This is perhaps not the time to choose timber construction (massivtre), for example. (Respondent A)

Respondent G said that the effect of other pressures to be sustainable are "minimal" compared to pressures exerted by the government. Following that OBOS only does what is required, the sustainability of their projects depend very much on the municipality it is located within. According to several respondents, especially respondents G and F from OBW, there is much variance in what municipalities allow and require when it comes to sustainability.

Respondents generally expressed an expectation of increased regulation in the future, such as stricter building code, and that certification or similar benchmarking would become universally required.

5.2.1 Consumer demand and market incentives

The respondents' opinions and experiences with customer preferences were largely consistent. Generally, there was an expectation that civil society as a whole cares more and more about sustainability, and that OBOS risks backlash if they do something environmentally-unfriendly.

We sometimes get those angry emails saying "OBOS is only destroying nature!". But we build where the municipality has given us permission to build. (Respondent G)

We are judged all the time in the newspapers. Some think we are horrible, some think we do a good job. (Respondent H)

As in this example, experiences of negative publicity were mentioned in relation to land use, e.g. the OBOS' impact on existing nature. Respondents from the investment phase mentioned that building on nature is a risk for their reputation, which is taken into consideration in investment decisions. At the same time, there was also a general agreement among respondents that customers are not willing to pay for environmental measures and other aspects of sustainability, and that they do not shy away from projects that are environmentally problematic. As respondent G expressed:

"when are people going to stand up and say: 'I don't want to live in a house that led to the destruction of peatland!'?" (Respondent G)

Several respondents claimed that the customers "only care about price", or the price in relation to spatial aspects like size, location, and proximity to amenities. The following quote also points out the concern of losing out in market competition, if their project is "too" sustainable – and expensive.

> *They're going to buy a house, and they look at the price, and they find the cheapest price or the cheapest house they can afford. (…) It's really price that matters. We often see that in projects where we have added some more [qualities] compared to the neighboring project, other suppliers, then maybe they sell better than we do, because they have a cheaper price. A cheaper ticket. (Respondent F)*

Respondents reflected that perhaps customers simply cannot afford sustainability, even if they wanted to pay for it. For instance when it comes to the price of BREEAM certification, two respondents strongly expressed that if the customers knew how much BREEAM costs, they would never buy it.

> *[Customers] want to have sustainable housing, but not pay for it. But it's about that [customers] are already stretching the rubber band so far (expression meaning to go to great length / pushing the limits), and they can't afford it. And that I understand. It's so expensive [already]. (Respondent A)*

Respondent D suggested that the expectation that customers are not willing to pay for sustainability, may just be an "excuse" on the part of OBOS:

> *We hope and believe that people will pay for BREEAM certification and Futurebuilt, but we are not there yet. I think we've talked about this for so long, that it's not there yet. I wonder if one is just adopting that attitude as an excuse. Maybe the regular house buyer is actually willing to pay a bit extra for a sustainable project? (D)*

Some respondents expressed having made an effort to influence consumer choices to be more sustainable. Respondent A often mentioned efforts to "nudge" the customers to live more sustainably, for instance encouraging future neighbors to get to know each other, reducing car parking spaces and preparing infrastructures for sharing things. The respondents also talked about ways that they are trying to make environmental measures attractive to the buyers, by arguing that they can save money on electricity (because of thick insulation) and that they can get a green loan (lower payouts and lower deductible). Respondent B said that they have to actively try to convince customers of the benefits of BREEAM certification and thus justify the increased price it entails. There were many statements like the following indicating that the respondents see themselves as the ones convincing the customers to be sustainable, not the other way around:

> *It's probably harder and harder to get the customers on the other end to understand that this is smart for the future. (Respondent F)*

Due to the perceived lack of consumer demand and other costs associated with sustainability measures, there were few mentioned market incentives for sustainability. A respondent from OBW argued that people living and working closer to central Oslo are more interested in, and more able to pay for, sustainability measures such as certification, which affected their ambition setting in projects.

5.2.2 Competition, risk, and requirements

A frequently mentioned disincentive to setting ambitious sustainability goals was that higher ambitions are a competitive disadvantage in land bidding processes. This is related to the expectation of low or lacking consumer demand.

Respondents explained that in the early / investment phase, the anticipated costs of sustainability measures will be accounted for in the form of reducing the bid for the land. This goes for all sorts of anticipated costs, from reduced building footprint to BREEAM certification, although respondents B and E made it clear that their predictions are rough and do not go into details such as material choice and green technology. Examples of consideration include for instance the predicted cost of demolishing an existing building, which would increase if material sorting and re-use is required by BREEAM (E). Measures such as preserving a forest on the site or committing to a high level of BREEAM certification would entail large anticipated costs, and thus OBOS is likely to lose the bid to competing developers with less consideration of environment and lower sustainability ambitions. In other words, the market with low demand for sustainability measures ends up favoring the "lazy" developers. For this reason, the respondents are in general in favor of making sustainability measures a requirement, rather than a voluntary measure.

> *Like a project manager said to me, get those requirements into the building regulations, so that everyone must do it the same way. That's much easier, because then we will do it. (…) Then there's no question of whether OBOS should be better than other developers, because then we all compete on the same level (equal playing field). We don't compete with that developer that by building something worse, less energy efficient or with higher carbon footprint, can deliver a cheaper house [than us] – because then everyone has to deliver on that level [of sustainability]. (Respondent C, emphasis added to reflect intonation)*

According to respondent G, some constraints is good for developers, as it this often makes the process more predictable – for instance, the developer can calculate the costs and such from the start. However, the conditions cannot be so stringent that the developer "does not have range of motion", this may scare developers to other municipalities. However, they added, the experience of "no range of motion" may be a matter of poor communication rather than the stringency of regulation per se. Increased flexibility can be considered a risk reducing factor, as there is more room to negotiate around requirements. Meanwhile, respondent D mentioned that even if there are clear requirements in place, there is still the uncertain possibility of getting an exception, and the government officials may choose not to adhere to these.

Respondent E expresses in this quote that competition with other developers and financial constraints limit their ability to be a proactive actor in sustainability, even though they want to be:

> *Well, we very much want to buy land that we can develop sustainably, in terms of social and environment and so on. But it's that we're in competition with others, and the financial aspects play a big role in this competition. (Respondent E)*

This aspect of market competition is used to justify why OBOS only employs sustainability measures that are required or profitable, because the cost of sustainability makes the projects otherwise difficult to carry out.

5.2.3 Experiences with government interactions and regulation

Respondents mentioned cases of good communication and collaboration with the government and generally acknowledged the importance and legitimacy of demands set by the municipality, but spoke at length about cases where communication with the municipality became a barrier for sustainability. When faced with conflicts with the municipality, the developer has to resolve the conflict between requirements and different government bodies. Many respondents expressed a feeling of having to deal with problems created by the government. The conflicts on the government side are experienced as a cost for the developer, in terms of time invested and unpredictability of outcomes.

Respondents G and C mention examples of municipalities that know the field very well and that set requirements that make sense as a whole with a great degree of clarity. They explained that such governance results in a predictable process. Meanwhile there are also municipalities that have very few requirements, which may lead to unexpected political process outcomes, or simply allow sustainability to "slip".

> *I think [the setting of sustainability ambitions in a project] is very connected to the demands set by the municipality. So having a municipality which sets very clear demands lifts the sustainability focus in the projects. Where there are less clear demands, it will more easily slip. (Respondent G)*

Respondent G also reflected on differences between municipalities, suggesting that rural municipalities often have other priorities that come before conservation:

> *One thing is Svartskog, or [Nordre] Follo, because that's where the activity is. They have figured out where to build, where not to build. But if you look at other municipalities in Norway, they are often more concerned with securing jobs, attracting people, and things like that, rather than conservation. But that balance is difficult for them again, isn't it? (Respondent G)*

So far the findings have mainly concerned policies in the form of building regulations and zoning. Most of the respondents had little experience with public funding schemes, such as Enova, but respondents with relevant experience said that these funding schemes had little effect on their decisions in projects. There were many reasons for this, including lack of knowledge on how to apply and fill out the documents, limited eligibility and relevance (e.g. they may not have an intention to innovate in the project in question), and the fact that the Company would still have to pay 50% of the investment cost.

5.2.4 Conflicting requirements

Conflicting requirements was one way in which government interactions presented a barrier for the developer. Respondent G particularly emphasized the problem of municipalities setting too many or

too few goals, that would end up not making sense or contradicting one another. They attributed this problem to a lack of knowledge on the municipality side.

> *You see a huge difference between the "professional" municipalities and the municipalities that have a tiny administration. And I hear this sometimes, that some municipalities have so many requirements, and we think it is because they are afraid: They don't understand the field, and they just put a lot of requirements, which don't make sense. Some requirements lift you and push you in the right direction, while other demands just make you wonder, how should I proceed? You just get confused, it's just a labyrinth. (Respondent G)*

Respondent F gave a similar example of municipalities frequently requiring them to keep a few trees from a forest, without understanding that these trees would not be able to resist the wind. The trees left standing would be likely to fall over, and pose a hazard to the nearby residents.

Other respondents mentioned cases where the requirements, or goals, appeared to be in direct conflict with one another. Respondent D mentioned a common issue: They would be required to connect to the district heating grid, alongside a requirement for *plus-building*, meaning that the project would have extremely low heating requirements as well as producing their own energy. In such a case, connecting to the district grid would be a waste of infrastructure and contradicting the *plus-building* concept. Another example was the requirement of accessible roof terraces, green roofs and solar panels at the same time, which is simply unattainable (Respondent D). Respondent G described a similar issue of lack of oversight, or lack of consolidated implementation, in the case of a very rural project far from public infrastructure:

> *I understand that the municipality wants [reduced car traffic], but a single development cannot solve this by saying "here we don't have car parking so you have to use car pooling", if there is not (public transport) infrastructure available that allows this to work smoothly. (Respondent G)*

5.2.5 Conflicts within government

While the above examples may be more related to lack of knowledge and oversight, there were also examples where different parts of the government acted and communicated in a way that contradicted each other, i.e. internal conflict in the government. This appeared to be a particular issue in so-called pilot projects, where the developer has a contractual agreement with a certain government agency requiring certain measures or standards that go beyond the building regulations. The respondents told of cases where the measures stipulated in the contract were in conflict with the local zoning plan, and even that the detailed zoning plan would sometimes be in conflict with the area zoning plan. The developer is bound to deliver according to the contract, and will be penalized if they do not deliver on time. Meanwhile, the respondents said that planning officials refuse, or greatly delay the decision, to grant the exceptions from the zoning plans that would allow the developer to fulfill the contract. In other words, they are stuck defying one part of the government, because they are required to comply with another, which can become very costly both due to the long processing time, changes to the design at a late stage, and potential fees. This was experienced as a strong disincentive against public-private collaborative pilot projects.

Respondent F from OBW said that from their experience, disagreements on the government side are often between the administration and politicians, the latter group which may change their mind very suddenly.

> *They are not always on the same page. The administration thinks one thing, and the politicians think something else. And some things, it almost seems random, but some places they have higher ambitions and others lower… And it seems to change from one day to another. It is very unpredictable. (Respondent F)*

This was supported by respondent D, who argued that the zoning plan is often opposed to political goals and guidelines. Several respondents complained about frequent cases where the municipality, whether the administration or politicians, did not read the case papers – sometimes not even their own internal guidelines – and shifted blame to other government agencies.

Respondents also stated that politicians do not keep what they "promised" in the *Forhåndskonferanse*, a closed-door meeting prior to the processing of planning proposals, intended to guide the developers on how to comply with political and regulative guidelines. The lack of adherence of politicians and case officers to what had been said at the *Forhåndskonferanse* was experienced by respondents as an uncertainty, and seen as a lack of consistency in policy implementation.

5.2.6 Conflicts between municipalities and developers

There were also cases of apparent conflict between the values of the government, and the values of OBOS. For instance, this example by respondent G, talking about a piece of land they were intending to develop, which got zoned back to LNFR. It was at the time a piece of farmland surrounded by residential neighborhoods located relatively centrally in a town in South-East Norway.

> *I think this is the kind of place where, honestly, it's so close to public transport, so maybe this is the right place to build housing. We received an alternative piece of land further out, which was on arable soil as well, but which would also make the project car based, right? So this is challenging for [our company] as well, it is part of [our] strategy to build sustainably, meaning close to public transport hubs. And this is harder in more rural areas. (Respondent G)*

The decision of the government was on the grounds of preserving nature. This prioritization was in conflict with OBOS's view, which was that the town needed more housing, and that this land was suitable as it was located close to public transport and thus would discourage personal car use. Later the municipality provided a replacement area for the developer, but this piece of land was also arable soil and was far from public transport, so it appeared to defy both aspects of sustainability (contradiction in general).

5.3 Response to pressures for nature preservation

This section concerns the response of the respondents to pressures to reduce encroachment on nature, policies to reduce greenfield development, and the respondents' view on increasing the proportion of non-greenfield projects in OBOS' portfolio.

5.3.1 Pressures and risks associated with greenfield development

The respondents experienced an increased pressure from the government and civil society to reduce encroachment on natural areas. Several respondents pointed out spontaneously that more and more municipalities are implementing a "zero target" for building on arable land.

> *We are in contact with land owners who wish to sell a piece of land or have it rezoned. And we try to send suggestions to the local government on this, but we know it is not feasible, because it is on arable land, and many municipalities now have a zero target for building on arable land. (Respondent F)*

Other respondents expected that even municipalities that have not set such a target, will eventually be affected by signals and guidelines from the county and national levels.

> *Even if it's not… If not all the municipalities have this established in their municipal plans, you get direction from higher authorities. So it's less and less building on arable land. (Respondent F)*

Respondent E explained how they expect societal trends to eventually affect their projects, and therefore they have to take long-term predictions of political trends into account in their investment decisions. They gave preservation of nature as an example of such a trend that they expects will become gradually more prominent.

> *I would say it's sort of a change of direction in the society, that the politicians pick up or consider in their evaluations, that we thus have to consider in our evaluation.*
>
> *And it's one thing how it is today, and another what it will be like in the future. Perhaps especially for projects with long development processes before we can actually build, the risk is even higher, because there can be changes or reinforcements in the trends. And little indicates that there will be less emphasis on preserving natural areas, arable lands and so on. (Respondent E)*

Several respondents had experiences with the implementation of policies to restrain development on LNFR, in the form of rezoning land from development to LNFR. For instance, respondent F spoke of two different cases where the municipality implemented a zero vision for building on farmland. In one case, they were allowed to build projects that were already in a process, in the other case the process was simply stopped. Respondent F considers the latter a case of inconsistency from the municipality which became costly for the developer.

> *What we want with predictability is knowing what the municipality wants. Not that there is an area zoned for development in the municipal plan, and we get in touch [with the municipality] and say that we wish to build here, and then the municipality says no. There shall be no building here. Because we have a zero target [for conversion of farmland]. (…) Ok here we have decided that we will build, but then we don't add new areas [rezone more areas to development). (Respondent F)*

This point was also made by respondent G:

And then you have plots of land that suddenly get re-zoned as natural areas or LNFR, or something else. From having a construction project that was part of the overall plans and everything, it is suddenly taken out, for example. Then you lose all 9 million. (Respondent A)

In response to this risk in relation to greenfield, OBOS – at least ONH – is now starting to carry out Nature Risk Assessments, to evaluate how likely it is that the zoning plan for the plot will change wholly or in part in response to natural values on the land. Nature risk assessment means to map out the environmental values on the land and costs related to mitigating impact on these environmental values. For instance, if there are some rare species, avoiding them presents a cost because they have to reduce the plot ratio. The big financial risk for OBOS associated with greenfield development also meant that brownfield development entails lower risk.

Another response to the risk associated with greenfield development could be that OBOS might favor municipalities where the risk of rezoning to greenfield is experienced as lower. However, respondents give the impression that this is a case-by-case consideration, they would not necessarily avoid a municipality because they have done this in the past or because they have a strict zero vision, if they are able to buy land where the outcome is more predictable and expectations are clearly communicated from the municipality. Some respondents expressed an expectation that if municipalities are more restrictive toward greenfield development, at least they should make the process easier and more predictable for building on brownfield.

It's good if they [the municipality] are sure about what they are doing. If they are sure they will be restrictive, well… There will be less available land then, but maybe the remaining ones will be more attractive, because the chances of getting something out of it [e.g. receiving permit to build, with favorable conditions] might be higher. (Respondent E)

5.3.2 Tradeoff between housing development and nature preservation

Many respondents mentioned the tradeoff between housing development and nature preservation, making statements along the lines of "we need to preserve nature. But we also need to build housing, and so we need land".

To avoid building on natural areas, that one is quite new, and it's somewhat in conflict with finding new areas and new plots. Even though there are more and more plots that are brownfield plots. (Respondent A)

Respondents also recognized that there will eventually be a limit to available brownfield for development.

…Now there are many new requirements, and much more talk of conservation (vern / protection) and regulation, you shouldn't destroy green areas, and this is important for us working with the environment. But of course, are you going to build that much, then you will destroy some nature, I mean, you can't only build on brownfield. Even though you can do that in some cities, you will run out of that too. (Respondent G)

In general, the need to maintain housing production weighed heavier than reducing greenfield development in the respondents' statements. They often mentioned the company's stated goal and mission to build housing for its members, and to increase supply to keep the housing price (demand) low enough for people to afford. This was seen as the company's contribution to society and part of social sustainability.

> *But we have to build if we are going to build 1000, 2000, 3000 homes a year for our members, that's what we're founded on. And you can have your own opinion on whether it's a good or bad business to run. But that's what we're founded on. (Respondent H)*

> *If we don't build on greenfield) there will be a lack of houses eventually. Then maybe the prices of second hand houses will increase more than normal because the demand is so high. (Respondent F)*

Finally, the responsibility of deciding in tradeoffs between nature preservation and housing demand was generally shifted to the political actors.

5.3.3 Developers' roles and responsibilities in protecting nature

While earlier sections showed that respondents are experiencing pressures to reduce greenfield development, all (?) of the respondents argued that land use is the responsibility of the municipality. As respondent H argued, it is a "political" issue.

> *In overarching plans, it's the municipality that decides. (...) We very rarely make **political** assessments like " is it to develop that plot for housing? When the municipality has designated the area for [greenfield] development?"... I don't think we make our own **political** assessments to a large extent. (Respondent H, emphasis added by author for clarity)*

Respondent G argued that they are "not choosing land freely". For instance, in order to do more brownfield development, they are dependent on the municipality zoning more areas for redevelopment (Respondent G). The respondents stated that as long as the municipality has zoned a piece of land for housing, they will develop there. The perceived risk of rezoning to LNFR may be a disincentive, but according to the respondents, developer-company will not shy away from building on greenfield for the sake of preserving nature, if the municipality has already zoned the land for development.

Respondent F, from OBW, argued that there will always be consumer demand for detached, low-density housing, and that this is the way OBW develops. Therefore, they said, they will keep on trying to get greenfield for developing housing, and work to convince municipalities to zone greenfield for housing development.

> *If it is possible to build housing and the municipality wishes that, then we will do it. Regardless of what kind of land it is. (…) we won't say 'no' because we don't want to build on arable land. We adhere to what is decided in the municipal plan. (Respondent F)*

While the tendency in general among respondents was to shift this responsibility to the government, the interviewees from the investment phase also emphasized that the responsibility to make decisions in investment cases belong to the higher authorities within the company. In other words, they (the respondents) do not consider whether or not the Company should develop on greenfield.

5.3.4 Willingness to do more brownfield and reuse projects

The topic of this section is whether the company is strategically trying to change their practices to build more brownfield/transformation and less greenfield development, and whether they can imagine a future without greenfield development. In the previous section I showed how land use is considered the responsibility of the state. Respondents also argued that the state needs to be the forerunner when it comes to increasing (the proportion of) development on brownfield and transformation of existing buildings. All respondents were asked whether OBOS has a strategy to build less on nature and more brownfield / adaptive reuse, and all respondents simply replied no to this.

There was an apparent difference between ONH and OBW. ONH was generally positive to brownfield development, listing more advantages for brownfield development compared to greenfield. For instance, according to respondent E, building on brownfield usually entails less risk, and "checks many boxes" for instance OBOS' own guidelines on building close to public transport. Respondent A and E also pointed out that brownfield often have the benefit of providing rental income before the buildings on the land are torn down for redevelopment, meaning that the land is not just "being an expense" while waiting for zoning approval.

> *Brownfield property, for example, is often located centrally and usually has rental income, so you have rental income until you develop it. That makes the cases much better. (Respondent A)*

Respondents from ONH generally agreed that there will be more and more adaptive reuse/brownfield projects, although some argued that the available brownfield is not sufficient to reach their production targets, as discussed in 5.3.2.

Meanwhile, respondents from OBW told of a company which *typically* develops housing on farmland, and that as a rule only builds low-density, detached or terraced houses. Respondent G argued that it is necessary for OBW to undergo major changes in the way they operate, yet they predicted that this would be a very difficult task. Meanwhile respondent F, who may be more representative of the employees in the company, argued that the company will keep building on farmland, as this is their way of doing things. Densification, meaning high density development in this context, is not "what they do" (Respondent F). Respondent F also argued that detached housing would become unaffordable if they don't maintain production.

They also opined that municipalities need to accommodate the market demand for detached housing, if they want to grow their population.

> *We are always trying to send proposals to develop areas outside, to use the argument that some people actually want to live in detached houses, not just apartments. If one*

> *has ambitions of population growth, then one cannot only think apartments, one must think of all kinds of housing. (Respondent F)*

Another argument from F which shows the differences between ONH and B, is that building on brownfield is too expensive for low-density detached housing. Lower densities mean less saleable area, which then means that the profit of the piece of land will be lower. This low profit is not sufficient to cover the cost of demolition and groundworks required to, for instance, convert an industrial site to a housing complex. This means that as long as OBW is unwilling to build higher densities, it will also be difficult for the company to transition away from greenfield development.

> *If one is going to demolish industrial buildings, one needs to build big for it to be profitable. (Respondent F)*

This statement was also supported by respondent D, who pointed out that building ambitious projects is easier if the whole project is on a larger scale, as this allows for cross-subsidizing across the project.

Meanwhile, ONH currently has several projects in the zoning phase which are partly adaptive reuse projects. Respondents say that it is likely that there will be more and more of this, yet as mentioned, there is no specific or general strategy that The Company will do more adaptive reuse for the sake of sustainability. Also, all respondents with experience doing adaptive reuse projects said that the main reason that they decided to do adaptive reuse, was that it was a requirement from the government (heritage conservation). Whether they would have decided to keep some of the built fabric if it was not required, is unclear. Respondent E and H say that it depends on whether keeping it would contribute an "added quality" (a selling point) to the project, but they (and B) also admit that adaptive reuse generally incurs costs rather than profits. (back to competition). Additionally, E argued that they do not have much experience with adaptive reuse projects yet, which means that it is risky, and building new feels more secure.

6 POLICY CONTEXT

In order to triangulate the findings from the interviews, a review of municipal plans and company policies was conducted and summarized in the following chapter.

6.1 Municipal plans

As explained in the methods section, the municipal plans of 5 municipalities in the greater Oslo region were reviewed, and the municipalities were selected based on their performance on Sabima's ranking (Sabima, 2022). Municipal plans are the main strategic land use planning tool the municipalities use, although it is not illegal nor uncommon that zoning plans are approved in defiance of the municipal plan (Hanssen, 2021). Additionally, many municipalities have outdated municipal plans that may not be updated with the most recent national guidelines, like incorporating the SDGs. The municipal plans can be found in the bibliography[7].

6.1.1 General approaches towards sustainability and development

In line with national guidelines (KMD, 2019), most of the municipal plans (all except Gjerdrum) refer to the 17 Sustainable Development Goals in the plans. All municipalities have sustainability strategies, which all include sustainable transport strategies, but otherwise vary in emphasis. Three municipalities mention setting higher demands toward housing developers, Oslo specifying climate neutral buildings, and Nordre Follo specifying "low emission" building. While energy sources and consumption is mentioned in several plans, only Oslo municipality states that they are making climate budgets (emission accounting), and Nordre Follo states the intention to develop this.

Ecological modernism is most explicit in the Oslo municipal plan, where it is clearly stated that population growth and economic growth are expected to make the city more sustainable as well (Kuznets curve?). In other words, limiting growth in the housing supply and/or housing consumption is not seen as a measure to reduce negative environmental impact, and decoupling is taken as the premise (Næss et al, 2019). Based on this rationale, the municipality hopes to grow beyond projections. For instance, the municipality intends to push for housing development to be carried out faster, and zoning approval processes to be more efficient.

> *"In areas where development does not happen automatically, the municipality will actively influence development direction and pace… / …The municipality will invest in green areas, welfare infrastructure, culture, sports, art and attractions to "ripen market-weak areas" where it is difficult to achieve renewal and private initiatives" (Oslo Kommune, 2018)*

The need for affordable housing (other measures than increasing supply) is also mentioned, which would be a necessity to sustainably degrow housing consumption (Xue, 2015), although concrete measures are absent in the municipal plan apart from "stimulating" the third sector. Nature and

[7] Gjerdrum Kommune (2018), Indre Østfold Kommune (2021), Nesodden Kommune (2020), Nordre Follo Kommune (2019), Oslo Kommune (2018)

biodiversity is also almost exclusively mentioned in the context of Nature Based Solutions and blue-green infrastructure, and the preservation of existing greenfield in the city is not mentioned in the municipal plan.

In the other municipal plans, accommodating projected population growth is generally termed as a "responsibility", or a greater task for the region that the small municipalities must also "contribute" to. For instance in this statement by Indre Østfold,

> *"Due to growth in the Oslo region, Follobanen, E18 and lacking housing construction in Oslo, Indre Østfold municipality must allow this to happen" (Indre Østfold Kommune, 2021)*

All municipalities acknowledge the tradeoff between population growth and pressure on land. However, while Nesodden, Gjerdrum & Nordre Follo focus on accommodating the projected population increase according to their "responsibility", the plan of Indre Østfold contains strongly worded imperatives to attract population growth beyond projections and to grow more than current growth rates. According to the municipal plan, Indre Østfold has relatively low incomes, low education levels, high unemployment and high high-school dropout rates – and as a result the municipal economy is struggling. Therefore, they wish to grow the population to gain more resources (through increased tax incomes). Notably, growing the population was only one measure among others mentioned, such as improving the quality of education and providing jobs. Yet, this shows how growing the housing stock is seen as a measure to alleviate social challenges. The findings mirror other research where politicians are said to want "growth on all areas" (Skog, 2018) and where housing stock growth is assumed to be positive or necessary (Næss et al, 2019).

Meanwhile, the municipality of Gjerdrum explicitly stated an intention to *limit* housing growth, due to very high growth rates in recent years, which has put pressure on municipal services and infrastructures. A comparison between Indre Østfold and Gjerdrum would seem to indicate that municipalities struggling with social issues such as unemployment and depopulation are more in need of attracting immigration, compared to municipalities that are struggling to accommodate high immigration.

6.1.2 Nature conservation and land use planning

Also in line with national guidelines (KMD, 2019; KMD, 2016), the strategy of densifying near transport hubs, with brownfield as a priority, is mentioned explicitly in all municipal plans. However, there is substantial variation in the expressed land use intentions across municipal plans. Nesodden, which was ranked n.1 on the Sabima ranking, makes a clear intention of protecting green areas and coordinating public transport, in response to high degrees of urban sprawl and car-oriented planning in the past. In the municipal plan they mention area accounting, being the only municipality among the five to mention this concept explicitly. The Nesodden municipal plan also highlights past and planned peatland restoration projects. Nordre Follo's municipal plan mentions somewhat ambiguously that they want to "map out nature values". (p. 17). The municipality has also adopted an area neutrality strategy according to the press (Sandberg, 2021) and their website (Nordre Follo, 2023).

The agricultural municipalities of Nordre Follo and Indre Østfold state having zero-targets for conversion of agricultural land in their municipal plans, and the Gjerdrum plan states that future planning shall be "strict" on farmland conversion. While the Gjerdrum plan mentions the strategy of containing development within the set border of the town center, none of the municipalities has a zero-goal or any numerical target for green areas in general. This means that two of three municipalities do not have any stated, specific strategy to follow up land conservation intentions in their municipal plans. Further, while ecological values of nature are mentioned generally in most plans, there are few specific strategies related to nature, and these aspects are seldom mentioned in relation to specific evaluations. For instance, the Gjerdrum municipal recommends a certain forested hill as being very well suited for residential development as it is not valuable in terms of recreational values or agricultural productivity. Biodiversity and wildlife habitat were apparently left out of this evaluation.

This can be seen as a contradiction or inconsistency, when the municipality is arguing for the importance of biodiversity in other parts of the document, but not mentioning this aspect in specific cases. Contradictions were especially apparent in the municipal plan of Indre Østfold. Here, the strategy of densification and protecting biodiversity is frequently and explicitly mentioned. The plan frequently points out the wildlife and biodiversity values that the municipality has responsibility for through the many nature reserves, and they have a zero-target for development on agricultural land. In line with other municipalities, densification is the main land use strategy. However, unlike other municipalities, they also argue that densification around transport hubs is *not* desirable as this is homogenous and unaffordable, and that they should accommodate people's desire to live in low-density residential areas on the countryside. They explicitly permit low density development up to a certain proportion of housing production. Low density development would be difficult to achieve without encroaching on arable land. In other words, their planning strategies are calling both for high density and low density, close to transport hubs and dispersed, and this contradiction is not dealt with in the plan. This makes the outcome of planning processes difficult to predict.

In summary, the municipal plans are growth-oriented, and while biodiversity is mentioned as a value, it is a less visible concern in concrete measures. There are cases of contradiction in planning strategies and lack of clear direction in conserving greenfield, although most of the municipalities have a zero vision for development on arable land.

6.2 OBOS' annual report

The most recent report was reviewed, which was published in 2022 for the 2021 period. It is worth mentioning that the annual report of OBOS was developed on the conglomerate level, for the entire organization including the numerous subsidiaries. The annual report included sustainability performance and targets, in addition to financial and other aspects of the organization's activities and goals.

OBOS is a member-owned housing cooperative, and has a strong emphasis on their responsibility of providing housing for their members. The report presented current and past goals for annual production, and stated that they maintained a more stable level of production than other developers during Covid-19. OBOS stated that production levels in 2021 were higher than ever before, and they

aimed to increase annual production levels up to 50% in the coming years. The report frequently mentions social sustainability, and their efforts to create social cohesion, make housing affordable, and build a variety of housing types to accommodate different needs.

6.2.1 Sustainability

The SDGs are presented in the report, and 5 main goals have been selected among them: no. 5 Gender Equality, no. 8 Economic Growth and Clean Business, no. 11 Sustainable Cities and Communities, no. 12 Responsible Consumption and Production, and no. 13 Climate Action.

OBOS generally portrays themselves as a forerunning actor. Among the sustainability strategies stated, there is an emphasis on certification and GHG emissions. For instance, statistics on total emissions are stated, and they set a target of 45% reduction by 2026. The report also presents statistics on the proportion of BREEAM-certified projects among new projects for the 2020-2021 period which was 63% for ONH, and 0% for OBW. Otherwise the report particularly emphasizes reducing waste, material and energy efficiency, technology, and transport and mobility.

6.2.2 Nature and environmental protection

The annual report mentions several strategies in relation to nature and protection of green areas. For instance, they are accordingly mapping out nature values on their properties:

> *"In 2021 the work started to map out land that [developer-company] owns in places with forest, peatlands, arable land and nature types worthy of protection where there might be redlisted species"*

Apart from this, the mentioned strategies for nature were:

- Considering maintenance of existing vegetation
- Measures to protect vulnerable species *during construction* and afterwards, and protecting vegetation during construction
- Relocating topsoil of arable land
- Considering ecological context when planting new, and encouraging biodiversity through measures like wildflower meadows, insect hotels and birdhouses
- Aiming for the highest possible degree of vegetation on the plot, including roofs

Generally, the strategies were aimed at the building phase, not for the investment phase, and are mainly mitigating measures which do not reduce the available building footprint. In other words, biodiversity was mentioned, but in terms of preserving biodiversity in the building process, not in the investment (land selection) phase.

7 DISCUSSION

In this section I will discuss the findings from the policy documents and interviews in relation to selected literature, and show how the findings have a value for a broader context beyond the case study. The discussion is organized according to the four research questions that are investigated in the thesis.

7.1 Understanding of sustainability and nature

The Brundtland Commission's definition of sustainability was highlighted in interviews, corporate policy and municipal plans. The understanding of more detailed aspects such as social and economic sustainability, and potential tradeoffs with environmental sustainability was less consistent, and the findings suggest that the commercial role of the developer had clear implications for the way these concepts are understood by respondents. For instance, easily quantifiable sustainability issues received more attention due to ease of cost calculations, and there were indications that specific valuations of nature were used strategically to justify greenfield development in line with satisfying OBOS' production goals. OBOS gave the impression of doing what is possible within their constraints to achieve different aspects of sustainability. None the less, the way sustainability and nature were understood and promoted can be seen to conform to more "weak" definitions of sustainability than those envisaged in deep sustainability transformations.

7.1.1 Measuring sustainability and nature: Challenges of practicality and greenwashing

The way sustainability was understood by respondents seemed to be shaped by respondents' specific experiences with requirements from the government and certification. Numerical indicators were preferred as they were considered to be relatively clear and consistent, increasing predictability (lower risk) for the developer, as the outcome could be measured, proved and ranked. Importantly, numerical sustainability targets were favored for the ease of cost calculations, reflecting the importance of cost in sustainability tradeoffs. Respondents also said that having a number or a certification behind an issue is important to increase awareness about and justify sustainability issues.

Recognizing other values besides utilitarian and monetary values has been termed *value pluralism.* The emphasis on sustainability issues that can be quantified creates an asymmetry where some sustainability issues and ecological values receive less attention due to their nature as being difficult to quantify, or in other words, value pluralism is sacrificed (Muradian & Gómez-Baggethun, 2021). This issue was also explicitly noted by several respondents, who for instance noted the tendency towards a *carbon tunnel vision,* that social cohesion cannot be quantified and monetized, and that nature is difficult to measure as well. Recognizing value pluralism is difficult in a context where the developer relies on being able to calculate costs to reduce risk. From the point of view of the government and planners, complying with industry calls for numerical values as a decision making basis can be seen as perpetuating the primacy of cost and utilitarian values. At the same time, it

might be necessary for feasibly and efficiently implementing sustainability policies, for instance in order to calculate compensation as part of area neutrality policies (McCormack, 2022).

When it comes to nature, a wide range of valuations were expressed by respondents as well as in municipal plans. Anthropocentric valuation was particularly prominent in municipal plans in emphasis on recreational nature and "green" neighborhoods, and was also mentioned by respondents and in the annual report. For some respondents, it was clear that anthropocentric valuation influenced the kind of measures taken, with an emphasis on measures to make nature "visible" to customers or give associations to nature, rather than measures to improve ecological values. However, there was much variety between respondents, and some other respondents focused more on ecological values such as biodiversity and wildlife habitat. While there was an absence in both interviews and the annual report of measures to reduce greenfield development, the annual report mentioned many mitigating measures to reduce impact on nature, and OBOS is working on developing area accounting and nature risk assessment.

According to some respondents, the purpose of integrating nature assessment into OBOS' practices was to be able to justify the company's actions to the government and civil society. While facing criticism for paving over nature, respondents wanted to show that they are also "adding" nature. For instance, they pointed out how measuring and substituting square meters of green space does not represent the quality of different kinds of "nature", and a small meadow may have more biodiversity than a large field. This view is in line with recent recognition of the complexity of nature-human relationships and going beyond idealized, simplistic understandings of nature, as mentioned in section 2.1.3. However, implicit in the respondents' statements is a risk that specific valuation languages may be used to justify land conversion. For instance, several studies from Poland have shown how the concept of NBS is used in greenwashing, in these cases justifying severe ecological degradation with the argument that "green" infrastructures will instead be developed (Gałecka-Drozda et al, 2021; Szopińska-Mularz & Lehmann, 2023). This would be comparable to developers in the Norwegian context arguing that the conversion of agricultural land can be justified with green roofs, which may seem like a fair justification if measured in species diversity, for instance. This substitution does not take the irreversibility of the intervention as well as other ecological values (e.g. soil biodiversity) into account, and could thus be seen as greenwashing.

The risk of such greenwashing is heightened by the way nature was valued in the municipal plans that were reviewed in this study: There was substantial variation, and most plans did not mention land conversion as a problem from an ecological point of view (food security and recreational values dominated targets to limit land conversion). In the absence of clear strategies for nature preservation and limitation of greenfield development, and limited capacity in rural municipalities (Hanssen, 2021; Falleth et al, 2010) it would seem possible that developers could justify continued greenfield development by employing a valuation language that suits this purpose. This indicates that ongoing efforts to develop a unified system for area accounting[8] are very important to prevent greenwashing, and to help municipalities to set clear limits and intentions for land use based in ecological criteria.

[8] See Hagen et al (2022) and their work in NINA

7.1.2 Housing prices: a matter of social or economic sustainability?

Affordability is also often noted as an important part of social sustainability in the built environment (Cavicchia, 2021; Næss, 2021), and is sometimes found to be in conflict with environmental sustainability. For instance, the situation where expensive "green" measures makes housing unaffordable and results in excluding lower-income groups from the market is known as eco-gentrification. As market actors, developers could be expected to have a role in determining these prices and balancing the trade-off between sustainability and housing price. However, the respondents in the study argued that housing prices are outside of their control, thus affordability in the form of lowering housing prices is also not, as argued, within their scope of responsibility.

Respondents working with investment argued that the several-year horizon of projects and high housing price volatility makes it impossible for them to increase sustainability ambitions on projects in response to housing price, and thus they rather try to maintain a unified environmental standard on *all* projects which is increased incrementally. Some respondents (from OBW) argued that more attention is paid to environmental concerns in the "richer" areas closer to Oslo, while some respondents from ONH argued that building in a low-price area makes it particularly difficult to do sustainability innovation as their profit margins are smaller than usual, while construction costs are constant. Sustainability was thus seen as more challenging in low-price areas, but due to the strategy of increasing the environmental standards of all projects simultaneously, eco-gentrification seems unlikely within OBOS' own portfolio.

The respondents in this study considered the setting of the housing price to be a complex process and largely determined by the market. Many respondents mentioned being squeezed between high construction costs, high land prices, and low sale prices, giving them little room to determine the cost and sales price of the project. Developing in a low-price area was seen as a challenge of economic sustainability, and being able to sell a project with a higher price than other projects in the area was deemed a success. Thus, low housing prices were problematized not in the sense of affordability as a social sustainability issue (social rationality), but as a challenge of making profits for the company (individual rationality). If the developer chooses to build a low-price project, this would be due to low market prices, rather than a desire to build affordable housing. In this way, the responsibility of affordable housing becomes shifted to the government and political actors.

It is worth mentioning that OBOS is providing house purchasing options with a lower deductible and other financial measures to make housing more affordable, or to make it easier to enter the housing market, for people with less financial resources. As a housing cooperative, OBOS may be an organization that is suited to provide third sector housing at a large scale if conditions of the market are changed to facilitate this. Also, some respondents expressed a concern that housing would become unaffordable if the rate of housing production was too slow or not meeting demand, and therefore increasing supply was considered a way to contribute to affordability, in line with ecomodernist perspectives (Xue, 2016). In this way OBOS is making efforts to make affordable housing available within market constraints.

7.2 Barriers and drivers: A call for regulation to address market disincentives

The main barriers experienced by the respondents to taking the lead in sustainability transformations were market barriers, such as high, uncertain costs and lack of customer demand, and lack of coordination and consistency in policy implementation and planning processes. In summary the barriers show that being proactive in sustainability is a competitive disadvantage in the market, and the respondents called for increased regulation so that all developers would have to meet the same standards, creating an "equal playing field". While respondents did not seem opposed to higher requirements, lack of coordination and consistency in implementation were experienced as a significant issues which impede the implementation of sustainability policy.

7.2.1 Market barriers and regulative drivers

It was clear from the respondents that regulatory requirements and profitability were the main drivers for sustainability measures in projects, and it follows that the lack of requirements and lack of customer demand were the main barriers. Sustainability measures were generally considered to be an expense due to lack of customer demand, and that more sustainable options were generally assumed to be more expensive than less sustainable options. That being said, the respondents also pointed out that determining the cost of sustainability in general, and which option is more sustainable and less costly, is highly context-dependent and complex. Some respondents argued that the idea of sustainability as expensive is a misconception, and that win-win solutions can be found through increased experience and awareness. This point was also made by Häkkinen & Belloni (2011) who's study in the Finnish context found that the major barriers to sustainable building are not the lack of technology and measurement systems, but rather the risks and unforeseen costs related to implementing new practices and technologies. An example to make this point is BREEAM certifications, as many respondents experienced that complying with certification became cheaper over time as they gained more experience, and that learning and awareness-raising were considered valuable outcomes of BREEAM even as it did not appear to have practical implications for project design. On the other hand, some costs cannot be expected to reduce over time in this way, such as the reduced profit with reduced building footprints to accommodate for nature, or investing in solar panels when there is no customer demand. While it appears true that some sustainability measures are profitable for the developer, only focusing on these would mean the sacrifice of many other aspects of sustainability.

7.2.2 Market competition and lack of customer demand

The respondents all agreed that customers are not willing to pay for sustainability measures (see section 5.2.1). Lack of market demand is identified as a key barrier to sustainability not only in literature on developers, but also other private businesses. The assumption of lack of consumer demand is considered to be a misconception by some studies. For instance, Hagbert & Malmqvist (2018) found in their study that developers were perpetuating a "reproduction of consumer stereotypes". The findings of this study add nuance to this hypothesis, as several respondents said that they are attempting to convince customers of the importance of sustainability, thus taking a more proactive role in changing consumers' views. One respondent suggested that customer

demand for sustainability might be higher than what OBOS is assuming, and many respondents predicted that consumer demand for sustainability will be higher in the future as awareness grows. However, in spite of such efforts and hopes, the basis of investments made by OBOS would seem to be an assumption of low market demand. As summarized by one respondent: they would like to do good and hope to influence consumers to be sustainable, but in the end they are constrained by the market.

The aspect of affordability should also be considered here. If housing is already unaffordable, like it is in Oslo, it seems reasonable that consumers (particularly with low paying capacity) would try to maximize the amount of living space they can get with their available budget. This was also suggested by some of the respondents, in view of the high housing prices in Oslo relative to incomes. Thus policies to stimulate market demand for sustainable building should be designed to be redistributive, and seen in the context of current housing prices and policies for housing affordability. A simple assumption of lack of awareness as a reason for lack of consumer demand may inspire measures that are unhelpful for a significant proportion of the population.

Thus the findings indicate that a *perceived* lack of market demand for sustainability considerations has an impact on early investment decisions. Respondents from the investment department and strategic level explained that taking a proactive stance in terms of sustainability, for instance carrying out nature risk assessment, incurs costs either in the form of expenses or unrealized profit. This cost affects the entire budget of the project, and finally results in the developer having to reduce their land bid. This is particularly in the case of reducing the building footprint in response to nature values on the plot. The relatively lower bid causes the company to lose out on land bidding in competition with other developers that did not take nature into consideration. The example is illustrative of how, in a context of low market demand for sustainability, there is a market disincentive against sustainability measures. This was among the main arguments of the respondents for the *desirability of stricter regulation*, on municipal or national level. In the words of several respondents, this would create an "equal playing field" with other developers.

This especially applies to the costs that can not be expected to reduce with increased experience, as mentioned in the previous section. As the developer argued that they will only do what is required or profitable, it would seem necessary to make the currently unprofitable measures required, as these costly measures are likely to lose out in a market context.

The respondents' general positive attitude toward increased regulation goes against a common assumption in literature of developers as opposed to regulatory stringency and increasing standards. Existing literature has shown how policymakers find issues with conservative and evasive developers, which hinders the implementation of climate change policy and consideration of environmental values (Storbjörk et al, 2018). According to Nykamp (2020), "the homebuilding industry has voiced opposition [to stricter regulation], claiming that stricter code requirements make housing unaffordable, and that there is little demand for sustainable homes" (p.17), a finding in line with research from other countries asserting that homebuilders have "vested interests in slack regulation and will lobby against energy efficiency measures" (Nykamp, 2020). The call for an equal playing field was also mentioned in these studies, but this point was particularly pronounced in my interviews. Moreover, contrary to the mentioned statement by Nykamp (2020) about "stricter

code requirements making housing unaffordable", some respondents in this study argued that such predictable costs would be deducted from the land bid, thus lowering market land prices, rather than increasing housing prices.

7.2.3 Flexibility and predictability

While positive towards increased regulation, the respondents simultaneously expressed a desire for flexibility. The need for flexibility was illustrated by cases where requirements were in conflict or were irrelevant for the particular project. For instance, in cases where the developer found themselves in a squeeze between contractual agreements with certain government agencies and zoning plan requirements in direct conflict with these contractual agreements, the respondents called for increased flexibility in the zoning plan. Meanwhile, the situation described by respondent D recounted experiences of municipalities giving exceptions to certain developers on seemingly arbitrary basis, which made them feel like regulatory stringency does not increase predictability, as the rules are not adhered to anyway. This shows how context-specific flexibility may also risk undermining legitimacy. This difficult balance between predictable, universal regulation and case-specific flexibility has also been identified in literature (Nykamp, 2020). Performance-based regulation may be a way to grant increased flexibility without resorting to giving exceptions which would undermine the legitimacy of planning, although performance-based regulation is considered relatively difficult and costly to implement (Häkkinen & Belloni, 2011).

7.2.4 Lack of coordination and consistency in policy implementation

Conflicting requirements from the municipality are often found in the Swedish context and are often noted as a barrier for developers (Candel & Törnå, 2022, Storbjörk et al, 2018). As mentioned in *Chapter 3*, there is much inconsistency and internal conflict in the implementation of sustainability policy in Norway (Hanssen, 2021; Skog, 2018; Nykamp, 2020), and the interviews show how developers experience this. The respondents told of experiences of conflict with the government, conflict among government agencies, and conflicting goals and requirements from the government, and in all cases the developer had to spend time and resources to resolve these conflicts, according to respondents. Thus the findings of this study show how inconsistent policy implementation can hinder private sector support for climate policy, and collaboration to face environmental challenges. This also illustrates that many of the challenges of sustainability transformations can be generalized to the challenges of any innovation in organizations that are resistant to change.

Respondents mentioned some specific regulative obstacles that were considered direct disincentives to sustainability, which have also been covered in media and literature. For instance, respondents pointed out that the document fee associated with the transfer of use rights (hjemmel) to a piece of land is much higher in a transformation project than in cases when the building is demolished and redeveloped, which is a substantial disincentive against reusing existing building structures (paraphrased from the Norwegian Association of Housing Cooperatives: NBBL, 2021). Another such issue is found in the contradiction between requirements for passive house standards, and requirements to connect to the district heating grid. These are examples of lack of coordination of policies for sustainability transformation.

While the respondents agreed that some projects should be more ambitious and drive innovation, many respondents recounted experiences with high uncertainty and costs related to pilot projects.

This may indicate an issue with the policy mix as described by Nykamp (2020), which emphasizes the strategy of encouraging forerunners that "pull" the rest of the industry. In particular, the implementation of this policy mix appears not to have been consistent. Moreover, respondents in this study called for more universal regulation and less reliance on voluntary (economic/market based) measures such as pilot projects.

7.3 Responding to limits to land: The need for coordinated limits to greenfield development

It is clear from the findings that both the developer and the municipalities adhere to an ecomodernist perspective, and that their understanding of sustainability is premised on continual growth and increasing the housing stock. The continued greenfield development is justified by both sides by the need to accommodate demands for housing, and this creates a feedback loop that is difficult to break out of. While respondents recognized land as a limited resource, increasing pressures to reduce encroachment on greenfield and increasing the risk of their property being rezoned to LNFR, this did not translate into company policies to change their practices, implying that the government would have to take the lead in setting limits to greenfield development. In light of the uncertainty around how developers will respond to area neutrality policies, the findings underscore that it will be important that such policies are coordinated across municipalities to avoid a "divide and conquer" scenario.

7.3.1 Ecomodernism and reliance on growth

Both respondents and municipal plans adopted a perspective which would be considered ecomodernist according to the understanding of Næss et al (2019) and Xue et al (2016). Economic growth as well as population and housing stock growth were framed as normative goals, and solutions and measures were oriented toward decoupling and mitigation, rather than reducing consumption and setting limits to growth.

Some respondents perceived land as a finite resource, but OBOS did not have strategies in place to respond to the eventual limit on available land. While the depletion of brownfield resources is used in literature to argue for limits to growth (Næss et al, 2019), it was used by respondents from OBOS to argue for greenfield development. The respondents acknowledged the negative environmental impacts of greenfield development, and that greenfield development could harm the reputation of OBOS. Yet they also argued for the primacy of continuing housing production, emphasizing that OBOS and the municipalities have set housing growth target which must be met. This aligns with the main purpose of OBOS being housing production, as stated in statutes in the annual report. Further, it was argued that this tradeoff between nature and housing is the responsibility of the government.

Across the findings, urban growth was viewed as a normatively positive development, in line with other studies of the Norwegian context (Cavicchia, 2021; Næss et al 2019; Xue et al 2016). Growth in housing and population was viewed as a means to achieve social and environmental goals, for instance increasing the tax base (Indre Østfold Kommune, 2021) facilitating environmental sustainability in general (Oslo Kommune, 2018), and lowering housing prices (multiple interviews). Further, accommodating population growth was described in municipal plans as a societal

responsibility, and in OBOS' annual report as a contribution to people's wellbeing. Other studies have found that municipalities depend on growing the housing stock to sustain the local economy (Skog, 2018), and it has been argued that this dependency is very favorable for developers (Falleth et al, 2010). As municipalities rely on developers to increase housing supply, the developers are able to frame themselves as fulfilling a societal responsibility. This creates a feedback loop where both developers and the government are perpetuating the reliance on growth. According to the *growth coalition* theory, actors benefiting from urban growth – such as developers, rentiers, and politicians – form alliances that shape the development policies of the city (Falleth et al, 2010).

Næss et al (2019) and Xue et al (2016) pointed out how increasing housing supply is an unsustainable response to housing pressures, and that this depoliticized assumption of growth as a solution conceals the limitations of decoupling, as well as other possible ways of dealing with unaffordability. The municipalities in the study all referred to densification as a main strategy, unsurprisingly as this has been the overarching planning strategy in Norway for a long time (Hanssen, 2021). This strategy has moreover been clearly communicated through national guidelines (KMD, 2002; KMD, 2016). Respondents from OBOS all mentioned the 10-minute-city goal, showing that the compact city ideal is also integrated into OBOS' own strategies. However, while densification will reduce encroachment on greenfield temporarily, brownfield and centrally located land will eventually be exhausted (Xue, 2015; Næss et al, 2019). Oslo is a clear example of this, as brownfield development has been a "low hanging fruit" after the outsourcing of the manufacturing industry, and as these sites are becoming scarce, pressure on greenfield is increasing (Næss et al, 2019).

7.3.2 Divide and conquer: The importance of coordinating standards

Some studies have found that municipalities are afraid of scaring away housing developers by implementing high sustainability ambitions and restrictive land policies (Storbjörk et al, 2018; Skog 2018; Hagbert & Malmqvist, 2018). In particular, Hagbert & Malmqvist (2018) showed how developers seemed to be playing "divide and conquer" with municipalities in Sweden: In a context where municipalities were eager to attract developers, the developers would invest in municipalities with more relaxed requirements, with the result that the municipalities were trying make their standards progressively lower in comparison to other municipalities. While this scenario may be less likely in a quickly growing market where municipalities do not have to scramble to attract development, it is either way clear that if the municipalities were to all set the same regulations, the "divide and conquer" situation would not be possible. Meanwhile, the degree of stringency in land use planning, as well as demands placed upon developers, varied greatly between municipalities in the Oslo region both according to interviewees and in the municipal plans reviewed in the study.

Most respondents in this study stated that they would not necessarily shy away from municipalities with *strict* regulations. According to some respondents, strict and ambitious environmental targets could actually be more attractive to developers. For instance, if the municipality would be clear on the requirements from an early stage, this would reduce the risk of unexpected costs later, and if the municipality had the same requirements for all developers, this would create the "equal playing field" as mentioned earlier. Thus (in)consistency of implementation was considered a bigger barrier than high standards or regulatory stringency. In the review of the municipal plans, some of the

municipalities expressed a clear and consistent policy, while other municipal plans had contradicting statements. One might then expect that the latter may be perceived as unpredictable to developers and may be avoided.

Policies to restrict available greenfield for development would for respondents be expressed in terms of rezoning land from "development" to "nature". This was considered a major source of unpredictability for the developer, that could incur significant losses in cases where land has been purchased under the assumption of being able to develop a certain number of units (and for a price that reflects this assumption). The respondents said they would build wherever land was made available and a project would be financially viable, to meet their production targets. Therefore, high risk of rezoning might deter developers, and lack of available greenfield for development might especially deter developers that specialize in low-density development, such as OBW. The risk of developers going to municipalities with less restrictive land use policies was also predicted in the proposal by McCormack et al (2022) on area neutrality for Trondheim. The problem that area neutrality policy poses for developers is in essence also an issue of predictability and consistency. Some respondents hoped that if the municipality was very strict on *not* building in one place, they may be more permissive elsewhere. In other words, strict land use policy could be made more acceptable to private actors by providing replacement plots and ensuring consistent, predictable implementation. Further, the divide-and-conquer scenario as mentioned by Hagbert & Malmqvist (2018) and McCormack et al (2022) could be considered likely based on interviews, and it is thus of great importance that policies are coordinated among municipalities to prevent this.

7.4 Role in deep transformation: Importance of public sector initiative and conducive frame conditions

Interviews and the annual report of OBOS gave an impression of a *proactive* company, which is developing new strategies for assessing nature quality (area accounting), measuring their climate footprint, influencing consumers to choose sustainable options, making housing more affordable, and partaking in pilot projects. At the same time, respondents experienced barriers in low customer demand, low profit margins, obstacles in regulation and communication with the government, and difficulties in legitimizing sustainability concerns within the organization. When asked about drivers to take sustainability measures, respondents said they would only do what is required, or profitable, indicating a *reactive* response to sustainability challenges. This apparent contradiction was also pointed out by Storbjörk et al (2018), who concluded thus that developers are hindering sustainability transitions in practice. However, in contrast to other studies, the respondents in this study did not seem strongly opposed to increased regulation. Rather, the respondents give the impression of wishing to have a more sustainable impact, but being prevented by market and regulative obstacles beyond their control. This aligns with studies from transition (Gibbs & O'Neill, 2014) and transformation studies (Termeer et al, 2017) which has emphasized the importance of a favorable context which would enable an actor to take a proactive role.

Termeer et al (2017) suggest three distinguishing features of transformative change: Depth, scope and time. Relative to incremental change which is seen as "shallow, partial and slow" (Termeer et al, 2017, p.561), transformative change is expected to be revolutionary and in-depth, affecting all levels

of the system, and happening in a short span of time. As noted in 8.1, ecomodernism and normative assumptions of infinite growth were identified as underlying premises in both the municipalities and OBOS. These are structural conditions that are preventing sustainability, and thus deep transformative change would require to change these underlying assumptions and actively move towards a just and post-growth future. OBOS' reliance on continued housing production could be seen as hindering this transformation. Moreover, transformation to post-growth has implications far beyond developers' scope of responsibility, for employment and education for instance. Therefore it is clear that government actors need to take the lead in deep transformations.

At the same time, Termeer et al (2017) also point to increasing evidence that achieving the three aspects of deep transformation – depth, scope and time – at the same time is probably impossible, and point to empirical studies showing that most of the time, transformational change does not happen in a planned way or revolutionary way. Going beyond the dichotomy of incremental and transformative change, they suggest the theory of *continuous transformative change,* also known as *emergent change.* According to this theory, small, in-depth changes over time can eventually result in transformative change, and there is an emphasis on creating favorable conditions for transformation. In the short term, transitioning from greenfield development to brownfield development or adaptive reuse could be seen as a step toward limiting consumption of land, and redirecting efforts into maintenance rather than absolute growth in the building stock.

In the current market-oriented policy context, choices are made based on profit, and considering the current lack of market demand for sustainability, this will lead to many sustainability considerations being sacrificed. While win-win solutions are possible for some sustainability measures, this does not appear to be the case for all, especially when it comes to sustainability measures that physically limit the scale of development. Proponents of deep transformation may argue that measures that mitigate the environmental impacts of growth without limiting growth (e.g. decoupling) serve to perpetuate underlying structures. However, making certain sustainability considerations (for instance, nature risk assessment or setting a carbon footprint limit) a general requirement for all developers can be seen as a step towards transformative change, as this changes the hierarchy of sustainability considerations and allows less profitable measures to be more widely adopted. Thus, by setting limits and coordinating sustainability standards, municipalities can create a context which benefits proactive developers that are willing to change their practices.

7.4.1 Power and responsibility in balancing sustainability goal conflicts

The thesis touches upon the power dimension in planning, and who should take responsibility in transformations to sustainability. The thesis confirms suggestions in literature that early closed-door negotiations (*Forhåndskonferanse*) have an impact on planning decisions and create an institutional lock-in (Falleth et al, 2010), as developers expect politicians and planners to adhere to the early negotiations. The thesis also shows how developers are able to frame their activities as a contribution to society due to the municipalities dependence on growing the housing stock, which gives developers implicit power. As mentioned previously, the thesis supports the *growth coalition theory* by showing how the co-dependence of developers and municipalities creates a feedback loop of growth dependency. While these points imply that developers have a powerful role in planning as suggested in literature (Hanssen, 2021), the respondents in the study gave the impression of having very limited range of motion, being constrained by government requirements on one hand and

market competition on the other. The respondents argued that issues such as land use and housing prices are not within their power to affect, and are therefore the responsibility of the municipality. At the same time, one could argue that developers have implicit power in these issues due to their implicit influence on local decision-making. So is it a matter that developers do not have power, or are they just not taking responsibility?

A situation whereby private actors have implicit power in planning, but they are not able or willing to push planning in a sustainable direction, is risky for both democracy and sustainability. For instance, the need to comply with the developers' preference for predictability and ease of cost and risk calculations may lead municipalities to adhere to closed-door negotiations and adopt utilitarian or reductive ways of valuing nature. Democratic deliberation is an uncertain and costly process, which does not work well with commercial actors' need for predictability. Thus the increased influence of private actors on planning can be seen as a threat to democracy (Falleth et al, 2010), and this can be considered part of a larger critique of neoliberal planning and New Public Management (Swyngedouw, 2007) as various public institutions are increasingly expected to be competitive and adhere to market rationalities and emphasize output rather than input legitimacy.

7.4.2 Rural-urban differences and rural challenges

The findings of this study are consistent with other studies in suggesting that the power dynamic between developers and municipalities differs in urban and rural contexts, as municipalities have more sway in highly attractive urban areas and commuter municipalities, while municipalities located in more rural areas scramble to attract developers (Candel & Törnå, 2022; Skog, 2018). When it comes to sustainability efforts and land use especially, there was a marked difference between the two developers (subsidiaries) which aligned with differences between rural and urban municipalities in Norway in general. The developer operating in the more urban areas, ONH, was clearly more positive toward utilizing more brownfield, adaptive reuse, and reducing greenfield development. Meanwhile, the developer operating in rural areas, OBW, more strongly expressed an intention to push for continued greenfield development, and argued that there is a demand for low-density detached housing. ONH generally showed higher and more varied sustainability ambitions that OBW, supporting the finding of Storbjörk et al (2018) that the response of developers to sustainability issues is varying and place-dependent, and that the implementation of sustainability policy is more challenging in rural areas.

The politicians in the study by Skog (2018) of rural Norwegian municipalities expressed the difficulty of dealing with the tradeoff between housing development and agricultural land. One of the politicians expressed "if we don't build housing, society will collapse" and that "municipal anxiety about growing is high" (Skog, 2018, p. 11). This reflects a larger and decades-long discussion in Norway on how to sustain rural communities, as well as reduce conflicts and inequalities between urban and rural areas. The study suggests that reducing greenfield development, and reducing growth dependency in general, will be more difficult in rural areas as population and housing stock growth are seen as a way to deal with social challenges in contexts where existing settlements are more dispersed, there may be a lack of available brownfield, and unbuilt land is abundant. While post-growth literature and literature on deep transformations has tended to focus on urban planning and cities, the findings of the thesis indicate that there is a pressing need for more research on operational post-growth visions for peri-urban and rural areas.

8 CONCLUSION

This thesis aimed to investigate the role and potential of housing developers in sustainability transformations, through a case study of OBOS. The findings of the study support the characterization of planning in Norway as premised on ecomodernism and reliant on growth, by showing how this is reinforced in the inter-dependence and alignment of interests of municipalities and private developers. This makes it difficult to prevent the continued encroachment on natural areas, as concerns of loss of biodiversity and habitat loses out in the trade-off with the perceived need for continued growth in the housing stock. As developers experience the preservation of green areas, through rezoning to LNFR, as costly and unpredictable, the implementation of policies to restrict development on green areas, such as *area neutrality*, is likely to be challenging and face much resistance. *Deep transformation* in the built environment would necessitate a new articulation of the goals of societal development, away from reliance on growth and towards democratic deliberation, limits and value pluralism. This thesis suggests that developers, as commercial actors, are unlikely and perhaps unable to break out of the feedback loop and take the lead in transformations to sustainability.

At the same time, this thesis should not be seen as an attempt to vilify developers; on the contrary, the thesis also shows that OBOS and its employees wishes to contribute and is being proactive on different aspects of sustainability. However, as several respondents expressed, they are constrained by the market as a commercial actor, and interviews suggest they are more *reactive* in practice. This thesis aligns with other literature on sustainability transition and transformation arguing that a conducive context is crucial for private actors to be able to take the lead in sustainability (Gibbs & O'Neill, Termeer et al). While literature on sustainability in planning in Norway has often characterized developers as opposed to regulation and increased standards, respondents from OBOS in this study were positive toward increased regulation and higher demands from the government, as long as the regulation is universal (for all developers and projects) and implemented in a consistent way.

This indicates that top-down sustainability policies for the built environment may face less opposition from developers than expected, and that increased regulation may be necessary in a context of lacking consumer demand for sustainability. Meanwhile, the general policy strategy of focusing on pilots to "pull" the industry and innovation-oriented funding may be inappropriate to address the challenges felt by developers to be sustainable. The findings also point to how inconsistency and lack of coordination between government agencies can significantly hinder the implementation of policy directed at private actors, by jeopardizing trust and legitimacy and risking a "divide and conquer" scenario.

Further, the thesis indicates that transformations to sustainability may be more difficult in rural areas, as the dependency on growth to resolve social issues appears higher. At the same time, peri-urban areas, for instance rural communities in the Oslo Region, have been shown in other studies to be the areas with the most land conversion pressure. As post-growth literature has tended to focus on urban areas, there is a particular need for more research on visions for a post-growth future in rural and peri-urban communities.

Therefore, the conclusion of this thesis is a call for public sector initiative in deep transformations to sustainability, and more ambitious and coordinated planning instruments for sustainability in the built environment. While improved consistency in implementation can make regulation more acceptable to developers, it can be expected that developers will not oppose increased regulation. The thesis also highlights potential challenges of implementing *area neutrality* in Norwegian municipalities, and further research on empirical experiences with implementation of such policies in different contexts is needed to confirm and address these challenges.

9 SOURCE LIST

9.1 Interviews

Respondent A (2023), approx.. 1 hour semi-structured interview, Oslo, 01.03.2023

Respondent B (2023), approx. 1 hour semi-structured interview, Oslo, 03.03.2023

Respondent C (2023), approx. 1 hour semi-structured interview, Oslo, 03.03.2023

Respondent D (2023), approx. 1 hour semi-structured interview, Oslo, 10.03.2023

Respondent E (2023), approx. 1 hour semi-structured interview, Oslo, 16.03.2023

Respondent F (2023), approx. 1 hour semi-structured interview, Oslo, 16.03.2023

Respondent G (2023), approx. 1 hour semi-structured interview, Oslo, 22.03.2023

Respondent h (2023), approx. 1 hour semi-structured interview, Oslo, 22.03.2023

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10 APPENDIX

The appendix contains the generic interview guide, translated to English. Note that the original interview guide was written in Norwegian as this was the language of the interviews, and that the interview guide was modified somewhat for each interview.

10.1 Generic interview guide

Introduction

Thank you for taking the time.

- Questions about the interview or the consent form? (Sign form if not already)

Introductory brief:

I have worked for OBOS as an intern, and for my master's thesis, I am focusing on how developers work with sustainability and make trade-offs between different aspects of sustainability, with a particular focus on nature and land use. I will begin by asking general questions about sustainability, the type of questions I ask everyone to have some basis for comparison. Then, I plan to delve more into the topic of nature. It is okay if the discussion overlaps, and I may jump back and forth, but you have a general idea.

Overall, I do not expect you to speak on behalf of everyone in OBOS, so feel free to provide your own opinions and personal experiences, but primarily based on your role in OBOS.

General Questions

- Can you briefly explain your role in OBOS?
- How do you understand sustainability?
- Can you tell me about your experience with sustainability in projects?
    - Is it something you think about a lot?
    - Is it new?
    - Are there certain projects that are more ambitious?
    - What is the main focus?
- Is there a large variation in sustainability ambitions across projects?
- What characterizes a site where it is appropriate to have high sustainability ambitions?
- What are the drivers?
    - Housing prices - is it easier to build sustainably with higher housing prices?
    - Target audience
    - Municipal support, infrastructure (e.g. district heating)
    - Municipality - political guidance
- Are there any aspects of sustainability that you find particularly difficult to achieve?
- Have you worked with BREEAM or the Swan eco-label? How did it impact the project? What did it enable?

- Have you experienced conflicts between sustainability goals, meaning it is difficult to achieve one goal because you are trying to achieve another?

Nature and Land Use

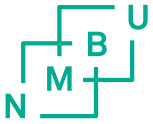
- How have you worked with nature in your position?
    - How do you understand nature and the value of nature?
- Have you been involved in a project that has been significantly altered or discontinued due to nature considerations?
    - Tell me about that process.
    - What did it mean for OBW?
- Do you have any experiences with the new land use strategy in Nordre Follo?
    - How has it impacted projects?
    - Was this something you expected?
    - How was the communication?
    - How does it affect new projects?
    - Do you perceive it as a threat to OBOS Block Vatne's business?
    - Could such strict land use policies also lead to increased predictability for developers?
    - Will you avoid municipalities with such land use strategies in the future?
- Do you expect stricter/more restrictive planning in other municipalities? Does it affect the sites you choose to develop?
- What do you think are the incentives or reasons for developing on natural or agricultural land, and what are the disincentives or reasons not to?
- Can you give any examples where the municipality has made it easier for you to build sustainably?
- Are you actively pursuing building more on brownfield, i.e. previously developed sites, to meet the shortage of greenfield sites?
    - What are the pros and cons of building on natural sites?

Lastly:

- Do you have anything else you would like to mention regarding sustainability, requirements, nature, and communication with the municipality?

Debrief

Thank you for your time. I will anonymize the interview, may use some direct quotes, they will not be traceable. You will have the opportunity to read through.



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