

Disentangling Political Capital

A case study of factors in local governance that facilitate a successful transition towards
climate-friendly, sustainable development

Abstract

One of our times most significant challenges is the threat to climate change and global warming. This research embarks on a novel pathway. The theoretical framework Capital Approach Framework is used within political science studies to analyse the transition towards sustainable development on a local level in Sweden. The aim is to answer the research question: "What factors in local governance facilitate a successful transition towards climate-friendly, sustainable development?". The aim is to study Goal 13 of the SDGs with the example of two selected Swedish municipalities, Jönköping and Lund, by the focus on local political capital. The attained political capital of each municipality is assumed to have the explanatory power for the difference in the outcome. Political capital is proved to be fruitful in providing explanatory factors for the research at hand. Lund is shown to have attained a higher degree of political capital. The higher availability of political capital then explains the better success in decreasing greenhouse emission. Integration of sustainable development, the emphasis that political government has on sustainable development and institutional organisation that demonstrates the interrelation between the intention of the governance and the institutional organisation and adaptability stands out as the explanatory factors.

Key words: Sustainable development goals; Local governance; Capital Approach Framework; Lund; Jönköping

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List of Abbreviations

CAF	Capital Approach Framework
CO ₂	Carbon Dioxide
COV	Co-variational analysis
MLG	Multi-level Governance
NPM	New Public Management
SDG	Sustainable Development Goals
UN	United Nations

1 Introduction

It is only in the last few decades that we have come to understand that every one of us has been born into a human world that was always inherently unsustainable. But now that we do know this, we have a choice to make (Attenborough, 2020:6)

The quote illustrates one of our times' utmost challenges, the maintenance and sustainable development of the planet's resources and essence. The United Nations Secretary-General António Guterres stated in his "State of the Planet Address" on the 2nd of December 2020 that there are three imperatives that the world face in addressing the climate crisis.

First, we need to achieve global carbon neutrality within the next three decades. Second, we have to align global finance behind the Paris Agreement, the world's blueprint for climate action. Third, we must deliver a breakthrough on adaptation to protect the world. (Guterres, 2020).

Within these challenges, Sweden can be found at the forefront regarding sustainable development and tackling environmental problems, also at reaching both national and international goals and policies. Sweden is considered one of the most ecologically modernised countries globally (Lidskog and Elander, 2012:411). The knowledge indicates both the relevance and further the urge to research within the field, where Sweden at the forefront of sustainable development and as an ecologically modernised country can contribute with essential knowledge towards the transition to sustainable development.

Part of Sweden's sustainable development and achievement of Agenda 2030 are the actors on the local level. As one municipality describes it,

Sweden's municipalities have a common mission to work with Agenda 2030 and the sustainable development goals. The agenda is both a global agenda and a local agenda, implying that municipalities on the local level should work to achieve the goals of Agenda 2030 for the individual¹ (Jönköping, 2021).

The Swedish government state that municipalities and regions have a central role in the enforcement of Agenda 2030. Further, the urgency for the increased breakthrough for Agenda 2030 on the local and regional level contributes to the implementation both national as globally (Miljödepartementet Dir. 2020:17). Further embraces the relevance to research at the municipal level to understand how

¹ Own translation of "Sveriges kommuner har ett gemensamt uppdrag att arbeta med Agenda 2030 och de globala målen. Agendan är både en global agenda och en lokal agenda. Det innebär att också kommunerna på lokal nivå ska arbeta för att agendans mål uppnås för den enskilda individen." (Jönköping, 2021).

local actors adapt and govern according to the international commitment for Agenda 2030 and the Sustainable Development Goals (SDGs).

This research will embark on a novel approach, where political science will meet features from environmental scholars with origins in sustainable development concept and sustainable livelihood. The aim is to find factors that can explain what causes a successful transition on a local level, for municipalities, towards a sustainable development defined by the 2030 agenda for Sustainable Development.

1.1 Societal Rationale

This societal rationale concerns background knowledge, which aims to make sense of the research position and provide the reader with a comprehension of sustainable development. It includes a brief history of the 2030 Agenda for Sustainable Development, including the SDGs. Further, the section situates Sweden's progress on the SDG's and more direct knowledge on the specific target goal for this research.

1.1.1 2030 Agenda for Sustainable Development

United Nations adopted the 2030 Agenda for Sustainable development in 2015. It provides a blueprint for peace and prosperity for people and the planet, both now and into the future. The SDGs are built on decades of work by the UN. The seventeen SDGs are at heart (UN General Assembly, A/RES/70/1). The UN conceptualise sustainable development as “[...] employment of green technological advancements, for example, renewable energy sources, environmental restrictions preventing land and water degradation, and financially responsible economic practices ensuring prosperity for today and the future” (Briant Carant, 2017:28). Further, with the 2030 Agenda, the UN recognise that ending poverty and other deprivations goes together with strategies that concern improvement of health and education, reduce inequality and spur economic growth and at the same to tackle climate change and work preventatively to preserve the planet's oceans and forests (UN General Assembly, A/RES/70/1).

The 2030 Agenda has succeeded in setting a normative framework that defines development as the universal aspiration for inclusiveness and sustainability. The agreement consists of clear and measurable targets and indicators that help hold government and non-governmental actors accountable for sustainable development. The agenda has inherited power struggles and unresolved contestations (Chaturvedi et al.,2021:1-2). Weber's (2017:400) critical evaluation of the developed SDG framework argues that substantial conditions privilege the up-holding of commercial interests over the commitment to universally ensure entitlements to

address fundamental life-sustaining needs (2017:400). Therefore, Weber means that the SDG framework presents a highly contested approach to development as ‘the’ agenda for global development, without which it could not be (Weber, 2017:400). Furthering this contested path, Briant Carant (2017:31) assert the fundamental contradiction within the SDGs, between that of the resource’s limits and economic growth. There is a discrepancy between 7 per cent GDP growth annually which will cause the global production and consumption levels to soar above the current level, which are already exceeding the Earth’s capacity (Briant Carant, 2017:31). Inducements like those make scholars question the ability to achieve SDG and its rightfulness (Chaturvedi et al., 2021; Briant Carant, 2017; Weber, 2017).

Within the disputed field, whether the goals will be achieved until 2030, it becomes relevant to disentangle what factors contribute to adopting the sustainable development goal. Conducted research contribute with analyses of the global and national cooperation and other factors concerning the adoption and achievement of SDGs (e.g., Biermann et al., 2017; Chaturvedi et al., 2021; Rodić – Wilson, 2017). Therefore, this research will position itself on the local level and analyse how local governance fair in the transition towards sustainable development. Based on the 2020 SDG Index, Sweden is ranked as number one in the world in performance on the seventeen SDGs (Sach et al., 2020). Given Sweden’s place in the international arena, both regarding the Nordic countries, EU countries and OECD countries, it can be argued to have a similar multilevel governance structure and similar responsibilities of local governments. Therefore, Sweden and its local governance towards sustainable development become relevant to study. Because of Sweden’s position on ecological modernisation and sustainable development, Sweden makes a compelling case. It creates a possibility to extract factors that affect the transition on the local level to sustainable development.

1.1.2 Sweden’s Position on the SDG

Even though Sweden has 84.7 points, where (0) is the worst and (100) best/target outcomes that indicate the average way to the best possible outcome, the country still faces challenges in achieving several SDGs (Sachs et al., 2020:35). Two of the goals that Sweden faces significant challenges with is *Goal 12: Responsible consumption and production* and *Goal 13: Climate action*. There are further two goals that Sweden is measured to have “significant challenges remaining” and nine goals that Sweden has still highlighted challenges remaining. Four goals are achieved. The goals are adopted and integrated into the societies' different levels at national, regional, and local levels.

In Figure 1, borrowed from Sachs et al. (2020), every goal is demonstrated with a colour. The whole picture concerns sustainable development for Sweden. Green means that the goal is achieved. Further on, yellow implies that there are still

challenges remaining. Orange, goal two (zero hunger) and goal fourteen (life below water) assert that there are still significant challenges. Lastly, the red boxes assert that considerable challenges remain, in Sweden's case, goal twelve (responsible consumption and production) and thirteen (climate action).

Figure 1. Current assessment of Sweden's progress on SDGs



(Sachs, J., Schmidt-Traub, G., Kroll, C., Lafontaine, G., Fuller, G., Woelm, F. 2020)

1.1.3 SDG 13: Climate Action

Goal thirteen proclaim to take urgent action to combat climate change and its impacts. The significant impact of climate finance is that the investment in fossil fuels is higher than investment in climate activities. Further, climate change is continuously intensifying the occurrence and harshness of natural disasters (UN General Assembly, A/RES/70/1).

Indicator 13.2 within Goal 13 of the SDGs will be the focused difference in outcome for this research. The indicator measures level of greenhouse emissions on local, national-, and global level. In the *Statistical Review 2021 - Implementation of the Agenda 2030 in Sweden*, Sweden's emission has been reduced over time both concerning territorial- and production-based perspective (Swedish Statistics, 2021c:70). Based on the *Sustainable Development Report 2020*, Sweden is only progressing well on the indicator to reduce CO₂ emissions embodied in imports (within target 13.2). The general trend for the achievement and progress of goal thirteen in Sweden assert that the improvement is stagnating. While the national assessment emphasis the reduced emissions over time and that there is seldom any injured or dead concerning natural disasters (Swedish Statistics, 2021c:70). Though, energy-related CO₂ emissions, CO₂ emissions embodied in imports and effective carbon rate inherit major or significant challenges and are stagnating or increasing at less than 50 per cent of the required speed (Sachs et al., 2020). Further elaboration on the goal is found under subsection 4.4.1.

1.2 Purpose and Research Question

The point of departure will be through an in-depth study on the municipal's roads to achieve goal thirteen of the SDGs. Goal 13 is one of two goals of the SDG's that Sweden struggles with and have significant challenges to reach. The selection of Goal 13 relates to the ability in gathering data that concerns the local governance and the limitation of the scope of this study. The intention is to execute a comparative case study analysis on Sweden's municipalities', Jönköping and Lund, performance on the goal, to disentangle what causes the progress in achieving the goal. By combining the methodological approach with the Capital Approach Framework (CAF) to conduct the analysis, this research embarks on a novel approach within the political science field. With the belief that this will make it possible to examine how the local government is succeeding in the transition to more sustainable development. Therefore, this research aims to understand the role and potential of local governments to reach SDG, including facilitating factors at the local level. The research question guiding this research is presented hereafter.

What factors in local governance facilitate a successful transition towards climate-friendly, sustainable development?

This research question aims to study the Goal 13 with the example of two selected Swedish municipalities, Jönköping and Lund, through the lenses of a capital's framework and with a focus on local political capital.

1.3 Disposition

The previous section has laid out the foundational ground and introduction for this thesis area of interest. In the following section, the theoretical framework will be outlined. Further on, the literature review section is presented, followed by the methodological part. The second part concerns the result that includes analysing the data collected, followed by discussing the findings and implications this has in a broader spectrum. Then comes the final part, the concluding remarks.

2 Theoretical Framework

This section presents the theoretical framework that will be used to conduct the studies analysed. The intention for using this novel approach within political science is to help contribute with analytical tools that aim to conclusively answer the research question: What factors in local governance facilitate a successful transition towards climate-friendly, sustainable development?

2.1 Capital Approach Framework

Research has found that local governance can be constrained by institutional barriers and resource limitations (Williams et al., 2020:2). In earlier studies, this approach has been used to study the effectiveness of local governance for climate change adoption, which implicates this research innovative, novel approach within political science. The Capital Approach Framework (CAF) will be applied in a different context and field than before. Within CAF, the capitals are of interest since sustainable development encompasses environmental, social, cultural, and economic dimensions (da Silva et al., 2020:1). As the preamble to Agenda 2030 for Sustainable Development asserts, the goals are integrated and balance three dimensions of sustainable development: the economic, social, and environmental (UN General Assembly, A/RES/70/1).

The core for the CAF lies in the identification of local governance strength and weaknesses and the establishment of a governance baseline. A governance baseline constitutes the reference point for monitoring and evaluating through longitudinal analysis (Williams et al., 2020:3). The ability for the local governance to progress towards sustainable development and respond to climate change is conditional based on the availability of different forms of capitals. The roots for the theoretical and conceptual sustainable livelihood resources assert that capital can be understood as a capability, resource, property, or other valuable upon which the ability of local governance to respond, adapt, and adjust to climate change depends (Máñez et al., 2014; Williams et al., 2020). The lack of access to these capitals (that considers the different dimensions of sustainable development) then creates constraints in the capacity for the local governance to adapt to climate change. In this research, the capital will be used to investigate the local governance sustainable

development progress. Based on the assumption that CAF usage can provide necessary tools to analyse the progress at the local level on SDGs.

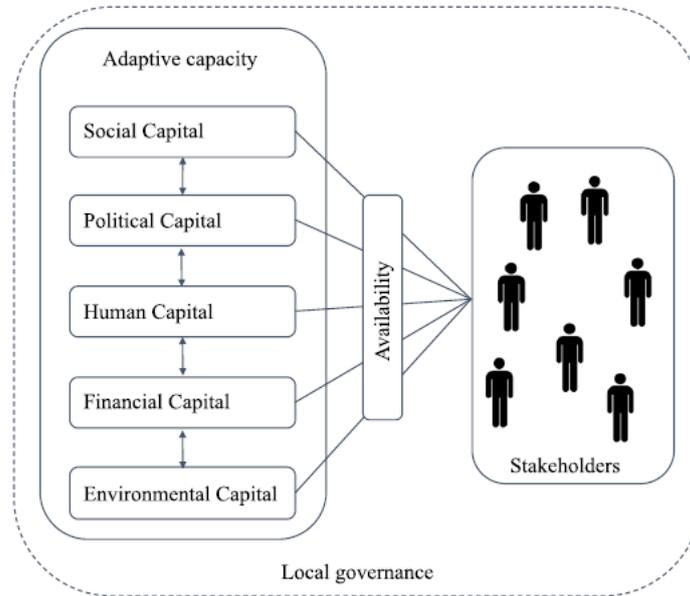


Figure 2. The five capitals, adaptive capacity, and stakeholders composing local governance for climate change adaptation. (Williams et al. 2020:2)

In a successful sustainable partnership, visualised as an ideal situation, the focus is on maintaining or enhancing its capitals (Máñez et al., 2014:21). This research partnership will be translated to local governance. CAF makes it possible to disentangle governments and study particular aspects of their governance structure, institutional arrangements and further their public-private capabilities, financial and natural resources. By using the approach, it is possible to disentangle and identify which capitals that create the weakness of the government. The sections that follow will elaborate upon the five different capitals within the CAF. Those are social, political, human, financial, and environmental capitals. These various capitals are expressed in this research as control variables except political, which is assumed as the explanatory variable and will contribute to a detailed study of the local governance. The capitals are individually elaborated upon in the following subsection and follow the same order in both this theoretical subsection, the previous literature section, and the result.

2.1.1 Social Capital

Social capital concern relations, networks and shared norms and values affect social interactions (Máñez et al., 2014; Putnam, 1993). As discussed further in literature

review, social capital is essential for maintaining and developing social infrastructure. If neglected or if the social capital is undermined, interventions by the government can go wrong. Further, social capital directly affects partnership productivity and well-being (Máñez et al., 2014:21). In this research, social capital will be elaborated upon for the given effect on the local governance productivity and well-being. Social capital has been operationalised through six different categories in previous research from Máñez et al. (2014:22), those are equitable treatment of all partners; communication and information; participation; knowledge; trust in stakeholders, other partners and rules and norms of society. Ojwang et al. (2017:1122) instead attach five factors to operationalise social capital; internal collaborations, external collaborations; mandated cooperation; stakeholder participation and knowledge and information.

This research emphasis will be on three factors: knowledge and information, inclusion and participation in decision-making, trust and transparency. These will be the factors that measure whether social capital could be considered fulfilled. Under section 4.4.1, more in-depth information will be given on how these factors will be measured through what indicators.

2.1.2 Human Capital

Human capital, according to Máñez et al. (2014:21), concern individual skills and knowledge, which includes social and personal competencies, knowledge gathered from formal or informal learning, and the ability to increase personal well-being as well as to produce economic value. Within the governance, the human capital consists of the addition of its individual skills and knowledge (2014:21). Further elaboration on what is considered a factor could be personal traits, work attitudes, creativity, well-being, and self-efficiency. Though, the notion should be made that they all interact and are interwoven with each other. In the previous research, Máñez et al. (2014:22) use one factor within the human capital when operationalising, that is, skills and competencies, while Ojwang et al. (2017:1122) elaborate on three factors; human resources, leadership and knowledge and skills.

This research emphasis will be on two factors: human resources and knowledge and skills. These will be the factors that measure whether human capital could be considered fulfilled. Under section 4.4.1, more in-depth information will be given on how these factors will be measured through what indicators.

2.1.3 Financial Capital

This part, which concerns the financial capital, involves all types of wealth provided by economic systems and financial resources bounded in those systems. Further, financial capital includes infrastructure and banking industries (Máñez et al.,

2014:21). Both Mañez et al. and Ojwang et al. measures financial capital by the focus on funds related to, e.g., disasters. Mañez et al. (2014:23) use two factors, disaster funds and risk of impoverishment. Which declare that the existence of disaster funds both help provide short-time and long-term financial support to affected industries, service providers and people- the risk of impoverishment concern losses and damages as a direct result of natural risk and hazards. Then, to cope with these problems, insurances must be implemented (2014:23). In Ojwangs et al. (2017:1124) operationalisation, there are six factors; nature and strength – local economy; funds for adaptation; funds for disaster preparedness; funds for coastal management; buffers against climate risks and the ability to mobilise external funding.

Since both research’s projects deal with natural hazards management, e.g., drought, storm surge and coastal management, the operationalisation by Ojwang et al. and Mañez et al. is directly connected to those areas. Therefore, it is relevant concerning this research to modify the factors that focus on sustainable development transition. Therefore, this research emphasis will be on one factor: wealth, final resources, and distribution within the municipality. Underneath the section of 4.4.1, more in-depth information will be given on how this factor will be measured through what indicators.

2.1.4 Natural Capital

In short natural capital translate into the goods and services provided by the environment or natural resources (Ojwang et al., 2017:1124; Mañez et al., 2014:21). Natural capital is further elaborated upon by regenerating the environment and management strategies and planning processes in Mañez et al. (2014:26) research. Ojwang et al. divide environmental capital into three parts; vulnerability of the natural system, environmental management strategies and knowledge and information (Ojwang et al., 2017:1122). The necessity of natural capital is found within the increasing demand for food, energy and minerals, where we as people constantly tries to maximise the material contributed by natural resources (Dong et al., 2020:1). Therefore, there is an urgency to tackle the impoverishment of natural capital to avert further direct or indirect effects on the environment through climate warning, loss of biodiversity, and declining air and water quality (2020:1). Compared with the operationalisation made by Ojwang et al. and Mañez, the measurement of the capital in this research require modification to be able to fit with the aim of this research which is the transition towards sustainable development on local governance in Sweden.

This research will focus on three factors: natural resources, environmental management strategies, and knowledge and information. These will be the factors that measure whether natural capital could be considered fulfilled. Underneath the

section of 4.4.1, more in-depth information will be given on how these factors will be measured through what indicators.

2.1.5 Political Capital

The political capital focus on the governmental processes and further includes laws, rules, and norms which are the juristic outcome from policy work (Máñez et al., 2014:21). The governmental processes concerns that which are performed by politicians who possess a political mandate to enact policies (2014:21). Ojwang et al. and Máñez et al., which are two influential works for this research, operationalise political capital through transparency and trust in political actions and regulatory framework: formal rules and norms (Máñez et al., 2014:25), like Ojwang et al. (2017:1124), who divides political capital in three; regulatory framework; institutional organisation, political support, and leadership and thirdly, transparency. Since political capital is assumed as the explanatory variable in this research, greater emphasis is allocated on this capital in the analysis part.

In this research, political capital is operationalised through four factors: Integration of Agenda 2030 for sustainable development into framework and regulations, political support and trust, public engagement processes, and institutional organisation. These will be the factors that measure political capital. Underneath the section of 4.4.1, more in-depth information will be given on how these factors will be measured through what indicators.

3 Literature Review

This part concern previous research that is relevant for this field of study. The literature review part does not aspire to be exhaustive. Instead, the aim is to introduce the reader to features linked to the research and further demonstrate the case for the chosen theoretical approach. Through this section, the purpose is to establish what we can know about the field, to be able to pinpoint the existing knowledge gaps and to create deeper comprehension for the chosen theory further.

3.1 Previous Research on the Capitals

As previously stated, the theoretical approach for this study is the CAF, which include five different capitals, that relates to and expands to many scientific fields and thinkers. The framework gathers different governance factors and can help study and cover sprawling factors of the local governments at the municipal level. The approach has its origins in concepts of sustainable development and sustainable livelihood approach. It has after that been applied to research on how effective local governance has been on climate change adoption. In CAF, the capitals are understood as the assets, capabilities, properties, or other valuables which collectively represent the excellent functioning of partnership (Máñez et al., 2014:21). Originally the terminology of capitals derives from economy (Bourdieu, 1986:252). Traces of this is found within all the different capitals. Traces of the capital's origins in the economy are found not least in the financial capital, but for example, natural capital based on the conceptualisation of natural capital as natural resources used as goods and services that provide economic value.

This section on previous literature will elaborate upon the different capitals and their gathered features regarding the broad research field and then finish with concluding remarks on the existing knowledge gap that steer the way for this research and its theoretical approach.

3.1.1 Social Capital

Social capital can be traced back to Aristotle and then further to Durkheim and Marx (Lehtonen, 2004:204). Though, social capital as a concept has been used more frequently in recent times. Bourdieu (1986) argue that social capital is linked to the

accumulated actual or potential resources based on the “[...] possession of a durable network of more or less institutionalised relationships of mutual acquaintance and recognition” (Bourdieu, 1986:248). The volume of the social capital is then directly linked to the size of that network of connections that can be effectively mobilised (Bourdieu, 1986:249). Putnam (1993:249-250), on the other hand, make the narrower horizontal claim that “social capital” “[...] refers to features of social organisations, such as networks, norms, and trust, that facilitate coordination and cooperation for mutual benefit.”. Therefore, social capital is considered to improve the benefits of investment in physical and human capital (Putnam, 1993:250). He argues that social capital is a “public good”, unlike conventional capital, which means that social capital is not the private property of those who benefit from it. Consequently, the capital is a by-product of other social activities where it ordinarily consists of ties, norms, and trust transferable from one social setting to another (Putnam, 1993).

Further, in economic development worldwide, social capital is regarded as a vital ingredient. Putnam (1993) put forward the political scientist Elinor Ostrom, whose contribution concern cooperatives effort to manage common-pool resources, success or failure. Where existing stocks of social capital are an integral part, implying that government interventions that neglect or undermine this social infrastructure can go seriously awry (1993). Adding to the knowledge, Ostrom and Ahn (2009) discuss social capital as consisting of three types: trustworthiness, networks, and formal and informal rules or institutions (2009:20). Social capital is considered an attribute of individuals and their relationships, enhancing their ability to solve collective-action problems (2009:20). Therefore, social capital provides an approach to how social, cultural, and institutional aspects of various sizes of communities affect the capacity of dealing with collective-action problems (Ostrom & Ahn, 2009:22). Considering the collective-action issues, this can be translated into the collective action relevant for the local government to adopt and implement the sustainable development goals.

Meadows (1998:61) more straightforwardly define social capital as a stock of attributes that inheres to the human collective and not the single individual. Information is considered the primary component to enable trust, relational capacity, and the overall efficiency of a society’s institutions (1998:62). Meadows also gives examples of social capital indicators derived from The World Bank, such as index- of democracy, civil liberties, corruption, and contract enforceability and extent of trust in government (Meadows, 1998:65). Da Silva et al. (2020:5) further elaborates upon Meadows’s conceptualisation of social capital. The capital for the society reflects how much a community is prepared to face its problems and seek a solution to promote sustainability.

On the other hand, Lehtonen (2004:205-206) argues that social capital is associated with the economic benefits of the coordination of actions from collective decision-making and information sharing. This associate with Ostrom and Ahn and the capacity of the community to deal with collective-actions problems.

Conclusively, da Silva et al. (2020:6) summarise social capital as consisting of four categories; information systems; human relations; institutionalism and population, with eight subcategories within that of knowledge generation; the decision-making process; power; cultural isolation; integrity and efficiency of organisations; time and work.

3.1.2 Human Capital

For example, the capital obtained through education, training, and even medical care is called human capital. It is called human capital because there is no separation between the person and that persons acquired knowledge, skills, health, or values (Becker, 1993:15-16), compared to, for example, financial capital where one can move financial assets while the owner stays put (Becker, 1993: 16). Within human capital, education and training are considered the most crucial investment (Becker, 1993:17), those have also traditionally been the focus (Lenihan, 2019:1). However, the focus on human capital in terms of knowledge and intellectual capital has evolved in the last twenty years. The current conceptions of human capital include rather a wide range of human attributes (2019:1), instead of only the traditional traits of attributes obtained through education and training. Lenihan et al. further argues that personality traits, work attitudes and values and characteristics such as creativity, well-being, and self-efficiency are included in human capital and thereof relevant for job performance and productivity. The same is also reflected in how Ojwang et al. (2017:1122) conceptualise human capital, where skills and knowledge both include social and personal competencies and the ability to increase personal well-being and provide economic value.

A challenge with the expanded measurement of human capital involves measuring human capitals' motivationally relevant elements, such as work attitudes or motivation (Lenihan et al., 2019:2). The challenge to measure these motivation elements of human capital affects how research on economics and public policy is conducted, where those elements frequently are overlooked (2019:2). The notion that human capital is difficult to measure is also stated by Shirinkina & Kodintsev (2018). They argue that human capital is the only economic component capable of producing value that is problematic to estimate. This notion relevant for this research since the aim is to measure human capital within the local municipal governance in Sweden, affecting how human capital is operationalised in the theoretical part. Lenihan et al. (2019:2-4) fixate on three elements of human capital to overcome the challenge and find out how human capital's motivational elements affect innovation. Those are job satisfaction, identification and commitment to the workers' organisation, and willingness to change, determining organisational success (2019:2).

Research on how CO₂ emissions are affected by fiscal decentralisation and how the quality of institutions and human capital development strengthens the

relationship between fiscal decentralisation and environmental quality is of interest for this study. The result of Khan et al. (2021:6) research demonstrates that if a country's human capital is even more developed, there is more incentive to successfully implement environmentally friendly technological strategies to shift the economic structure to cleaner energy sources. Thus, human capital becomes a vital factor affecting CO₂ emissions.

The argument brought is that in a more educated population, where the stock of human capital is high, the citizens are more aware of the negative consequences of environmental degradation. Therefore, they encourage their government to implement more strict environmental measures, which per se promote awareness of environmental quality (Khan et al., 2021:7). Khan et al. (2021:7) argue that it is the human capital that is crucial and determinate whether the benefits of fiscal decentralisation are transmitted into the environment (2021:7). Suppose the quality of one capital can bring this development towards more sustainable and environmentally friendly local governance. In that case, it becomes even more interesting to find out how five capitals within this study's theoretical approach can affect the transition towards more sustainable development in the municipalities of Sweden.

3.1.3 Financial Capital

Financial capital or economic capital, hereafter financial capital, are understood as all types of wealth and financial resources accumulated by either one person, entity, or an economic system (Bourdieu, 1986; Máñez et al., 2014; Ojwang et al., 2017). Best (2017:75) defines financial capital as the stock of financial assets which can be used to fund future production, including institutional assets such as bank deposits and capital market instruments such as bonds and equity. In Best's research, two essential variables of financial capitals are identified (a) bank credit to the private sector and (b) outstanding private debt securities (Best, 2017:75). The private rather than the public sources of capital are represented (2017:77); this is identified by the effects financial capital has on energy transitions. The result shows a correlation between high-income countries and their level of financial capital, which supports the transition towards more capital-intensive wind energy, thereof away from fossil fuels (2017:80-81). As Best (2017:81) argue, the impact of the financial capital on energy transitions has subsequent implications for both energy supply and security but most relevant for this research, environmental implications for global climate change and the local pollution levels (2017:81). As argued underneath the subsection of 2.1.2, if one capital's quality or level is proved to make a noticeable difference in the transition towards more environmentally friendly methods and governance, it is relevant to further this understanding and look upon the relationships between multiple capitals and their interactions and output.

In da Silva et al.'s (2020) research, financial capital is found within *built capital*. Their research built capital associates with infrastructure systems and economic capacity; this contrasts with Mánéz et al. (2014) financial capital since they include the production of infrastructure and the economic system and financial resources within financial capital. An advantage that da Silva et al. (2020) research brings is their discussion on the integration between different capitals and how they work together and implicitly affect each other. In da Silva et al. (2020), the aim is to provide a structure for sustainable development assessment through natural, social, and built capital. In contrast to this research, which aims to use the CAF to determine what factors affect a successful transition towards sustainable development on the local level. The integration between the different capitals within da Silva's sustainable development assessment states that investment in human capital provides for well-being, which is one of its bases. When human capital is translated into the workforce, human capitals become a production factor that interacts with both the built- and the natural capital and leads to financial results. The work capacity is further decided upon the health and education, which has implications on productivity (da Silva et al., 2020:6). This demonstrates a chain reaction between different capitals, both in how they work by themselves and how they are interdependent.

3.1.4 Natural Capital

Initially, natural, or environmental capital, hereafter natural capital, originates from ecological, economic studies (da Silva et al., 2020:4). Overall, natural capital concerns goods and services with the economic value provided through various natural processes, such as ecosystems, the environment, or natural resources (DesRoches, 2018; Ojwang et al., 2017; Mánéz et al., 2014). The goods and services produced within the natural capital are essential to human well-being and, most importantly, essential for the continued existence of our species (DesRoches, 2018:1). As Islam et al. (2019:159) argue, the protection of natural capital is at the core of solid sustainability. Though, Islam et al. emphasise that there is conceptual confusion in valuing natural capital, where there are question marks about precisely the components of natural capital and why it is essential and critical (Islam et al., 2019:159). Nevertheless, as da Silva et al. (2020:4) put it, natural capital is identified as an economic resource in stock that can be used for market purposes within ecological economics studies—further elaborated upon by Islam et al. (2019:159). They argue that natural resources are then perceived as an asset just as any other economic asset within this perspective.

Brandon et al. (2021:134-135, 147-148) put forward the argument that the concept of natural capital is urgently needed to make informed decisions and better manage social welfare and the overall world's environment. Further, Brandon et al. mean that concepts and tools related to natural capital, such as natural capital

accounting, ecosystem services and ecosystem assets, have been developed with the purpose to respond to these interlinked economic and environmental concerns (Brandon et al., 2021:134). In their article, they examine how natural capital can be integrated into national economic policymaking. The result shows that there are many alternative approaches, but these are both fragmented and incomplete; this partly concerns what components of natural capital and ecosystem included and the different values that the approaches measures (2021:148). This relates to the same issue that Islam et al. put forward, which concern what components are included in natural capital. This further affects the implementation of this theoretical research approach and its operationalisation. Because of the unclear components of natural capital, it is relevant to clarify and explain how natural capital will be used and conceptualised for this analysis.

Another research that contributes to more direct identification of natural capital and its inherent components is Dong et al. (2020). Dong et al. (2020:1-2) argue that natural capital is derived from the urgent task to establish a metaphor that represents natural resources and their benefits, where nature, human well-being and livelihoods, and sustainable development are connected. Natural capital is demonstrated as a natural element that has both direct and indirect benefit for humankind. The components are ecosystems, species, water, land, minerals, the air, the oceans, and ecological processes and functions. These components then interact to provide vital ecosystem services for the well-being of humans (2020:1-2). This urgency is derived from the increasing demand for food, energy, and minerals, in where humans constantly try to maximise the material contribution of natural resources. As Dong et al. argue, even though nature provides more material and wealth than ever before, this has had direct effects on the environment with the cost of constant climate warning, loss of biodiversity, and declining air and water quality, to name a few (2020:1). Thereof, the urgency, as both Brandon et al. and DesRoches argues about the maintenance of natural capital and its existence. It also demonstrates the relevance to conducting research and its correlation to sustainable development.

Dong et al. (2020:2) further elaborate on the connection between natural capital and sustainable development. Natural capital is considered within “strong sustainable development”. This articulation implicates that natural capital is the foundation and key to the development of human society and where the natural capital stock must be guaranteed. Otherwise, we might look upon an irreversible change in the flow of natural capital. The quantification of human activities pressure, and the threats these pose to the resilience of natural capital, poses a significant challenge for the formulation of sustainable policies (2020:2)

3.2 Political Capital

Political capital focus on the governmental processes (Máñez et al., 2014:21). In this research, the processes concern the municipal level and, thereof, the local governance. The governmental processes regard that which politicians perform following a political mandate provided by the voting majority. It includes implementing policies, laws, rules, norms, and standards (Ojwang et al., 2017:1122). In this research, political capital is assumed to be the explanatory variable for the difference in the outcome of the two municipalities. Therefore, there will be greater emphasis on this capital. This section will consider the concept by itself, but emphasis will also be on the related body of literature.

The definition that Casey (2005) use for political capital is “[...] the sum of combining other types of capital for purposive political action or the return of an investment of political capital which is returned into the system of production (reinvestment)” (Casey 2005:7). On the other hand, Regina and Wittmer (2003) define political capital as resources that an actor uses to influence policy formation processes and realise outcomes that serve the actor’s perceived interests (Regina & Wittmer, 2003:298). Even though Regina and Wittmer differ in their definition compared to Casey, they still discuss that political capital derives from the ideas of social capital (2003:291-292). Both highlight the influence and association of other forms of capitals for political capitals.

Casey (2005) argues that the formation of political capital is similar to other types of capitals. With her definition of political capital, she distinguishes capital resources as accumulated through labour or production by an actor into the product. Those forms of capital resources are considered the returns, assumedly from previous transactions or those created from a new source (2005:7). She divides the “production” into the active and passive aggregated process. Casey argues that the active aggregation process assumes that an actor actively pursues a political outcome. When that actor accumulates various capital resources, they then become political resources. Henceforth, the capitals cease maintaining their individual capital form and instead becomes ends-based purpose associated with the market (2005:7). The passive accumulation of political resources implies that the process of accumulation is not purposively collected with the intent of exchange of political outcome, even though the resources still may constitute potential resources. If the resources are not intended for politics and not used as such, they are neither identified as political resources (2005:7-8).

More directly, political capital includes, according to Regina and Wittmer (2003: 298), forms such as lobbying, electoral leverages, disruptive leverage, and international support. Another important form of political capital can be ideology since it is used to influence political decisions directly and indirectly by influencing public opinion (Regina & Wittmer, 2003:298). From Casey’s point of view, political capital is inherently a complex system with multiple dimensions. She

identifies three primary markets in the government process; electoral, policy and institutional (Casey, 2005:8). The electoral market is the most visible, consisting of elections on all government levels and a necessary step for the other two markets. Though, she adds a fourth market, or dimension, that of public opinion. Public opinion involves a more rapid exchange of political capital, considered less costly than the electoral or policy-making arenas (2005:8).

3.2.1 Concept of Governance

In this research, most emphasis will be on governance before the government. The term governance implies as Rhodes (1996:158) indicates, a change in the meaning of government. Instead of the government, governance refers to a new process of governing or rather a new way in which society is being governed (Rhodes, 1996:158). Rhodes argue that there are at least six different uses of governance; as the minimal state, as corporate governance; as the new public management; as 'good governance'; as a socio-cybernetic system; as self-organising networks (Rhodes, 1996:159). Overall, governance is about changing the state's boundaries, where governance is broader than government (Rhodes, 1996:166). In the following subsections, the term governance will be elaborated upon further and considered within political capital. This research concerns governance on the local level and the factors contributing to a successful transition towards sustainable development. It is therefore relevant to give a precise definition of governance to be able to make clear arguments. Defining governance works as conceptual aid, which contributes to "make clear who does what, when, and where to enable collective action" (Máñez et al., 2014:10).

The vital mechanism in this study is the local governance, where the enhancement of the autonomy of local governance has shown to significantly improve the response to climate change (Forsyth & Evans, 2013). In the Earth Summit 1992 in Rio, the importance of local governance in addressing environmental change, including climate change, was recognised (Celliers et al., 2020:1) and further emphasised within the Agenda 2030 and adopting the 17 sustainable development goals (UN General Assembly, A/RES/70/1). Emphasis on the local governance in Sweden is also embraced by the Swedish government, which state that municipalities in Sweden have a central role in the enforcement of Agenda 2030 (Miljödepartementet Dir. 2020:17). Thereof also the highlight for this research, in where the municipalities are at the focal point.

3.2.2 Multi-Level Governance

Research on social policies and governance has focused on research and comparison on a national scale (Kazepov, 2018:35). Later, during the second half

of the 20th century, the focus shifted from nation-centred to multi-level governance (2018:35). Multi-level governance (MLG) then concerns the diffusion of authority away from the central state (Hooghe and Marks, 2020:820). Over the past seventy years, the authority has been dispersed from the central state and moved both downward and upward, which concern the ability to make legitimate and binding decisions (Hooghe, Marks and Schakel, 2020:194). Where MLG reforms have had both diverse and varying objectives over time, which have depended on both economic, social, and budgetary contexts (OECD, 2017:3), in this research, the authority that has moved down to the subnational jurisdiction, and not the upward authority to international jurisdiction, will be the focal point. The local governance that in this context concern the adaptation of the sustainable development goals in municipal contexts of Lund and Jönköping.

3.2.3 New Public Management

Part of the MLG includes turning to what has been labelled the “New Public Management” (NPM). NPM derives from neo-liberal thinking, including monetarism, supply-side economics, and public choice theories, with growth as the main aim (de Vries, 2010:88). The NPM should be observed as a hybrid organisational arrangement between the public- and private sector that concern the welfare states benefits. Following Sowa et al. (2018:2), the distinct goals of NPM are that of modernisation of public administrative departments towards modern service companies. Even though they remain under public authorities, there are parallel duties to follow economic, management-based operational patterns, demands on effectively and efficiently, and striving for constant progress within the aim of neo-liberalism and improvements in reaching welfare state target dimensions (2018:2). Concerning this research, part of those welfare state target dimensions involves adapting to the international jurisdiction, or agreements, of Agenda 2030 and the sustainable development goals.

Further, the NPM is relevant for this study since the focus is on local governance in Sweden and how the local governance manages to enforce sustainable development. NPM is found within neo-liberal thinking, that is closely connected to the pursuit of economic growth. Gough (2017:172) highlight that the pursuit of economic growth conflicts with the goals of sustainable wellbeing and prosperity. As a product of that tension, between growth and sustainability, Whitfield (2001:253-255) has elaborated upon a New Public Service Management that integrates the wider social, economic, political and environmental responsibilities of public bodies. Whitfield further emphasise the need for joint planning and implementation, providing incentives in how the tension between growth and sustainability can be surmount. Bases that can be of relevance for the governmental processes on the local municipal level.

3.3 Knowledge Gap

Through the literature review it is shown how the different capitals, in some way or another, can affect the transition towards more environmentally friendly or even sustainable development in the society. Derived from the different subsections of the five capitals, it all comes together in how they are relevant for this specific research.

First, it has been elaborated upon the connection between capital and sustainable development transition. Secondly, research has been presented that sure affect the transition to more eco-friendly governance on the local level. However, the origins of the researchers have been sprawling and here is where the theoretical approach of this study, the CAF, can contribute with new insights. The approach has not been used within the political science field yet. Since both the SDG's and the five capitals are relatively encompassing, they provide the necessary tools to help solve the complex challenges and capture the breath of the phenomena in question. As argued by Lehtonen (2004:199), the critical challenges of sustainable development reside at the interfaces between various dimensions. Therefore, CAF suits to help cover parts of these dimensions through different capitals. It is of interest to determine how the capitals can then explore success and failure in local SDG governance and further what role political capital plays.

4 Methodology

4.1 Ontology and Epistemology

Before the last part of the overall research design, it is relevant to establish the ontological and epistemological foundation of this research. The aim of providing this knowledge is to create a more profound comprehension of the research and to be able to grasp better the methodological choices that are made. Then, foremost, to comprehend the result of this research and understand the greater emphasis put on that part.

This research is found within the ontological position of foundationalism. The foundationalist viewpoint of the world concludes that there is a real world that exists independently of our knowledge of it (Marsh et al., 2017:182); this further emphasises that the world is viewed as composed of discreet objects that possess properties that exist independently of the research. These objects should then be seen and understood in the same way by different researchers. Then further, within the foundationalist viewpoint, there are two main epistemological pathways: positivistic or realistic. Both share the foundational position that causality operates independently of the observer and thereof can be established objectively (2017:182). For this research, the epistemological realist pathway provides foundational thinking. From the realists' point of view, the role of theory is emphasised and how it plays in interpreting the causal power of structure in the real world. Critical realists, compared to positivists, do not favour direct observations. Instead, they believe in structural relationships between social phenomena that cannot be directly observed but are vital for explaining behaviour (2017:184), which means that we cannot see the direct structure. However, at least we can see its consequences.

The essential features to embrace from the epistemological ground found within critical realism are that social phenomena or structures have causal powers, which means that we can make causal statements (Marsh et al., 2017:193). A causal statement is also something that this specific research is set out to do. The aim is to find factors that can explain differences in outcome between two municipalities'. Even though emphasising that not all social phenomena are directly observable, there might be structures that we cannot observe and may offer a false picture of the structures and their effects (2017: 193).

4.2 Case Study Selection

An appropriate case needs to be selected to perform the research at hand. The case selection is based on previous research and reports, which state that Sweden is considered one of the most ecologically modernised countries globally. Sweden represents a relevant case, based on the result from the Sustainable Development Report 2020, which place Sweden at the top of the SDG Index, concerning how far in the process every UN member state is in achieving the SDG's. Sweden could even be considered a compelling case for adopting and achieving the SDGs. Though there is much relevance and interest to the national research level, it is also relevant to investigate what is going on at a local level because aspects of Sweden's success might derive from the enforcement of Agenda 2030 on the local level. Since municipalities are included in the governance and the integration of Agenda 2030 and sustainable development, it becomes important to understand the local actor and local governance. Therefore this research will focus on the local actor concerning the governance of the municipality. Because of the limited scope of this research, the focus will be on two municipalities. Those are Jönköping and Lund.

The selection process is first founded on the information that the website Kolada provides. Kolada is a database consisting of several key figures suitable for comparison (Kolada, 2021). For this research, Kolada provides the difference in outcome for the two municipalities, where the difference in outcome concern key figures in how the municipalities are doing in achieving Goal 13 of the SDGs'. Foremost those figures concern total emission per resident within the municipality and total mileages per resident. In the selection criterion, both Jönköping and Lund are considered "most similar, overall", criteria based on integration-socio-economical -, schooling and elderly care (Kolada, 2021). Added to the knowledge of the comparability between the two municipalities is their ranking in *Dagens Samhälle*² (2020). Based on the newspapers latest ranking from 2020, Lund and Jönköping are ranked next to each other and within the same category³, both with the same result. The measurement is based on the three dimensions of Agenda 2030, that of economic, social- and environmental sustainability and, more specific the key figures that RKA (the Council for the Promotion of Analysis of Municipals) provides (Halh, 2020). RKA is also the same actor that provides the database Kolada (RKA, 2021).

The assigned control variables further make the selection of the municipalities for this research. These control variables are directly linked to the theoretical framework and the capitals in focus. Further elaboration on this is found under the result and the belonging subsections for each capital.

² Newspaper called "Today's Society". *Own translation.*

³ Category of "city and municipalities close to city"

4.3 A Comparative Case Study Analysis

With the methodological choice of this research, the aim is to compare two cases (municipalities) that share a common ground that contributes to knowledge that is possible to generalise and make causal questions. With the comparative approach, the aim is to analyse how and why different governance, in this case, Lund and Jönköping, at the local level, succeed (or not) in their transition towards sustainable development. In this case, how the adoption of the sustainable development goals and, more specifically, goal thirteen, “climate change action”, is progressing or not concerning the availability of the five different capitals found within the CAF. The comparative case study analysis will be conducted through co-variational analysis.

4.3.1 Co-variational Analysis

As stated, the comparative case study analysis will be conducted through co-variational analysis. With co-variational analysis, the aim is to present co-variation between an independent variable “x” and a dependent variable “y” to deduce causality (Blatter & Haverland, 2012:33). In this research, the intention is to find the causes that lead to better decrease in greenhouse emission for Lund municipality than Jönköping. Overall, this research is then interested in the factors that contribute to achieving sustainable development goals in the two chosen municipalities in Sweden. Since COV is argued to have strong affinities to a specific research goal, to determine whether a particular factor affects, whether it makes a difference (2012:33), this methodological approach becomes most relevant for this research purpose. A further advantage with the COV approach is that small-N research is argued to achieve concept validity than large-N research better because the focus on few cases allows variables to be conceptualised in a more in-depth way, both in complexity and multidimensional ways (2012:34).

The idea behind control in experiments is related to a counterfactual conception of causation, implying that the causal effect of a factor on the outcome means that in the absence of this factor, the outcome would not have occurred in that case (Blatter & Haverland, 2012:37). With this research, the factor that is assumed relevant for the outcome is the political capital. Meaning that if there were no difference in political capital between the two municipalities, Jönköping and Lund, the outcome difference in greenhouse emission would not have been. Further, in terms of variables, if the score of the variable had been different so would the outcome be, also in that case. Therefore, the causal effect size is defined as the difference in the outcome between the two situations. We do not know what the outcome would have been if the factor had been absent in that case (2012:37).

This small-N study based on the COV approach is similar to experiments in that control is related to the case selection. Compared to experiment, where cases in

experiments are assigned randomly to the experimental group and the control group, control in the COV case study approach is achieved by deliberate choices of cases that vary in the score of the independent variable. Further, which have similar scores on the variables which the researcher seeks to control. Therefore, it is argued that careful case selection is of importance (Blatter & Haverland, 2012:38). Hence, the emphasis in the previous section on case selection. Conclusively, the critical aspect of the COV approach is that one must assume that the factor of interest is necessary and sufficient to produce the outcome. Then if the causal factor is absent, the outcome cannot occur, then sufficiency if the factor is present, the outcome must occur (2012:39). Hence, the control variables for this research are therefore chosen based on their assumed effect on the dependent variable.

4.4 Operationalisation

It is relevant first to establish the dependent variable of interest, which concerns Goal 13 of the SDG, further operationalising the theoretical framework, CAF, concretely. The operationalisation of the factors for the different capitals will be developed to allow the research to identify the most critical issues in every one of the five capitals for the analysis part. With inspiration from Máñez et al. (2014) work on developing indicators to measure (un)successful Multi-Sector Partnership through CAF and further complementary inspiration from Ojwang et al. (2017), indicators will be added for every factor which supports the measurement of the performance of the capitals within the local governance. Both the factors and indicators are developed to contribute to this analytical research part on sustainable development transition. Therefore, they consist of traits both from earlier studies where CAF has been used, and traits gathered from previous literature that is more relatable for this research. Note that the theoretical part of this research is partly theory developing within political science.

4.4.1 Dependent Variable: Goal 13 of the SDGs

Goal thirteen of SDG consists of five targets with associated underlying indicators. Precise specifics of what the targets and indicators include is found in *Appendix I*. Since some of the indicators within goal thirteen still does not have a precise method for measurement, this research chooses to only look at the outcome of indicator 13.2 (Swedish Statistics, 2021c:70-71). Wherein statistics on indicator 13.2 concerns the level of greenhouse emission. Target 13.1, which concerns the number of deaths or missing people directly affected by natural disasters, also has a clear method for measurement (Swedish Statistics, 2021c:70). However, the availability for statistics on 13.1 is not as accessible as 13.2. Concerning Sweden, there are not

as many people dead or missing due to natural disasters (Swedish Statistics, 2021c:70), then there is no possible way to find comparable outcome data for that indicator.

Concerning this study, this means that the focus will be on the achievement of target 13.2 and decrease in greenhouse emission on the municipal level, where it is possible to track the governmental processes and statistical data and after that embark on a comparative case study between two municipalities in Sweden. Demonstrated in Figure 3 and Figure 4 is the difference in outcome that is of interest divided between the two municipalities of concern.

Statistics that concern Lund, demonstrating green figures overall that establish that the goal is achieved, overall greenhouse emission is accounted to 1.82 tonnes CO₂-equ/citizen. Some challenges are left in decreasing greenhouse emission for industry (0.11) and energy and district heating (0.06).

Figure 3. Assessment Lund, Goal 13: Combat climate change

 Goal 13 Combat climate change <i>Take immediate actions to combat climate change and its consequences</i>	2018
Emission to air by greenhouse gases in total, tons CO ₂ -equ/citizen	1.82
Emission to air by greenhouse gases, agriculture, tons CO ₂ -equ/citizen	0.32
Emission to air by greenhouse gases, own heating, tons CO ₂ -equ/citizen	0.07
Emission to air by greenhouse gases, work machines, tons CO ₂ -equ/citizen	0.15
Emission to air by greenhouse gases, industry, tons CO ₂ -equ/citizen	0.11
Emission to air by greenhouse gases, transport, tons CO ₂ -equ/citizen	0.94
Emission to air by greenhouse gases, electricity & district heating, tons CO ₂ -equ/citizen	0.06
Emission to air by greenhouse gases total, tons CO ₂ -equ	223 521

(Kolada, 2021)

Jönköping, on the other side, demonstrate more yellow figures and even red figures concerning energy and district heating (0.56). With overall assessment with greenhouse emission accounted to 3.71 tonnes CO₂-equ/citizen. The yellow colour means that challenges remain in achieving the goal, where red means an imminent risk not to achieve the goal.

Figure 4. Assessment Jönköping, Goal 13: Combat climate change

 Goal 13 Combat climate change <i>Take immediate actions to combat climate change and its consequences</i>	2018
Emission to air by greenhouse gases in total, tons CO ₂ -equ/citizen	3.71
Emission to air by greenhouse gases, agriculture, tons CO ₂ -equ/citizen	0.55
Emission to air by greenhouse gases, own heating, tons CO ₂ -equ/citizen	0.05
Emission to air by greenhouse gases, work machines, tons CO ₂ -equ/citizen	0.20
Emission to air by greenhouse gases, industry, tons CO ₂ -equ/citizen	0.05
Emission to air by greenhouse gases, transport, tons CO ₂ -equ/citizen	1.97
Emission to air by greenhouse gases, electricity & district heating, tons CO ₂ -equ/citizen	0.56
Emission to air by greenhouse gases total, tons CO ₂ -equ	515 947

(Kolada, 2021)

The aim is to find factors within political capital that can explain how this difference between the two municipalities can be.

4.4.2 Developing Indicators for Measurement of Control Variables and the Explanatory Variable

Table 1 establishes the different factors of each capital. Those are established to categorise the content related to every capital, later used in the analysis part under the result part of this research. Social-, human-, financial-, and natural capital will be used to establish and justify the control variables for the comparative case study. Further, political capital is operationalised to provide an explanatory factor for the outcome of interest.

Table 2 elaborates upon the assigned factors of the capitals and establish the indicators for measurement of each capital. These indicators will then be used to analyse the capitals concerning the two municipalities, Lund and Jönköping. Because of the limited scope of this research, the number of factors and indicators included in the operationalisation is limited. Therefore, emphasis is on the main features of the targeted capital. The notion has also been made for the availability of data to analyse them.

The assessment of the fulfilment of the different indicators are divided into three categories; low/limited, moderate/medium, and high/advanced (Ojwang et al., 2017:1123) and “boxes” of yes/no. Therefore, the factors and indicators will be compared and measured concerning available data for each municipal in the analysis part. For example, how high is the percentage of turnout in local elections? Should the specific percentage be considered as low, mediate, or high? Further, how is the percentage in turnout in comparison to the other municipal? In the end, the purpose is to summarise each indicator for every capital, answer whether that capital should be regarded as fulfilled. Political capital is the assumed key to explaining why there exists a difference in outcome for the two municipalities, Jönköping, and Lund, considering greenhouse emission.

Table 1. Capitals and Factors Used to Establish Local Sustainable Development Governance Baseline

	Social capital	Human capital	Financial capital	Natural capital	Political capital
Factors	S1: Information	H1: Human Resources	F1: Wealth, financial resources, and distribution within municipality	N1: Natural resources	P1: Integration of the Agenda 2030 for sustainable development into framework and regulations
	S2: Inclusion and participation in decision-making	H2: Knowledge and skills		N2: Environmental management strategies	P2: Political support and trust
	S3: Trust and transparency			N3: Knowledge and information	P3: Public engagement processes P4: Institutional organisation

Table 2. Factors and Indicators Used to Establish Local Sustainable Development Governance Baseline

	Factors	Indicators	Assessment
Control variables	S1: Information and knowledge	- The extent of transparent and established communication processes. <i>E.g., reports, meetings, the guarantee of the flow of information.</i>	Low/ Mediate/High Or Yes/No
	S2: Inclusion and participation in decision-making	- Existence of free election - Stakeholder participation - Partner from different sections	
	S3: Trust and transparency	- Trustworthiness in the governance	
	H1: Human Resources	- Availability of skilled and educated staff - Level of turnover of staff	
	F1: Wealth, financial resources, and distribution within municipality	- Level of wealth and financial resources - Level of sustainable development expenses of the total municipal budgetary - Integration of Agenda 2030 into the budget and business plan	
Control variables	N1: Natural resources	- Emphasis put on the local ecosystems and natural resources.	Low/ Mediate/High Or Yes/No
	N2: Environmental management strategies	- Binding force of legal frameworks/regulation - Established policies. - Binding deadlines/schedules for implementation processes	
	N3: Knowledge and information	- Level of awareness and knowledge about the effect of climate change, the environment and sustainable development	
Explanatory variables	P1: Integration of the Agenda 2030 for sustainable development into framework and regulations	- Periodic revision and updates of laws and regulations concerning Agenda 2030 - Level of integration of Agenda 2030 into policies and other formal rules and norms	Low/ Mediate/High Or Yes/No
	P3: Public engagement processes	- Percentage of people taking part in an election - Existence of open forums	
	P4: Institutional organisation	- Organisational adaptability regarding transition towards sustainable development - Internal structure to lead the transition towards sustainable development.	

4.5 Data Collection

This research data is based on both steering documents from the two municipalities and websites information from the municipalities, articles, and statistics provided by Swedish Statistics and Kolada.

Every year, Swedish Statics gathers data through citizen survey, where the citizens of the municipalities can give feedback and evaluate the function in the municipality's governance. Statistics is divided into three areas, the municipality as a place to live in: the municipalities activities and functions and the influence of

citizens in their municipality. For this research, this data is deemed to provide a sufficient foundation for further analysis of the different capitals. This citizen's survey is optional for municipalities to carry through, thereof the latest citizen survey Jönköping did is from 2019, and Lund's is from 2020. Based on the knowledge that both municipalities been part of the survey every other year and with a similar result on the rating index every year, the difference in the year is not seen as problematic. Though, of course, there exist differences in the rating index for the municipalities. Therefore, the choice to use the latest citizen's surveys from each municipality to get the most updated version of the municipal's governance viewpoints.

Further, Kolada is a database open, with free access, for municipalities and regions that provide comparable statistics on crucial figures for this research. For example, critical figures in how the municipalities at hand are doing regarding their transition towards sustainable development. Additionally, the data collected comes from the municipal's direct web pages and further their steering documents, such as action plans, budgets and programs. Lastly, complementary information is provided by two newspapers, that of *Dagens Samhälle* and *Aktuell Hållbarhet*⁴. *Dagens Samhälle* provides articles on the public economy, steering and budget, community development, and welfare, while *Aktuell Hållbarhet* provides articles that concern the sustainability field nationally and globally.

4.6 Limitations

Concerning the theoretical framework, it is relevant to argue that it operates well within the field. Though, it is further genuine to realise the limitations of the framework as well. The parts that concern operationalisation and measurement of the different factors and indicators could be developed further; development of the framework concern the ability to, with higher certainty, measure through key figures different result, this concerns the level of the indicators. Therefore, it is possible to argue that there are openings to further develop and elaborate upon the framework. Of course, this should not diminish the result of this research but rather consider this as a starting point for an exciting pathway within the field. This research provides at least the foundational ground for further work within the subject.

What is noticeable is that the different capitals flow into each other. There is an overall claim that there is an inherent hardship to make a clear definition of the capitals and their components within the additional research about the capitals. For example, Lehtonen (2004:205-206) argue that the concept of social capital is too

⁴ Newspaper called "Contemporary Sustainability". *Own translation.*

broad and vague, ambitiously trying to cover many different aspects. Though, what matters in this sense is the use the concept provides as a basis for analysing environmental-social interface (Lehtonen, 2004:206). The dizziness between the capitals could depend on perspective be considered as both positive and negative. Where the negative part concerns the difficulty in defining and measuring the capitals. In contrast, the positive part shows that the capitals are interconnected, and as the overall theoretical framework argues, the higher attained capitals, the greater possibilities to achieve a transition towards, in this case, sustainable development.

5 Results

5.1 Analysis of Variables

This chapter will focus on answering “What factors in local governance facilitate a successful transition towards climate-friendly, sustainable development?”. The first part concerns the elaboration on the control variables. Further, the second part concerns a deeper analysis of the assumed explanatory variable, political capital. The aim of establishing the different variables is to explain the difference in outcome regarding Jönköping and Lund statistics in achieving the indicators within goal thirteen of the sustainable development goals. The focus will be on the difference in the municipalities' achievement on the indicator that concern greenhouse emissions where Lund performs better in reducing greenhouse emission than Jönköping, as demonstrated underneath the dependent variable in the methodological part. What is relevant and exciting is to find out how this difference in outcome can be when both Lund and Jönköping overall are deemed similar? The knowledge of how the transition towards sustainable development can be different on the local level will be discussed through the explanatory variable of political capital.

5.2 Control Variables

This section will disentangle the four control variables based on the capitals within the CAF. Those are social, human, financial and natural capital. This section aims to establish the similarities between two municipalities, with the purpose to exclude those for the explanatory variable.

5.2.1 Social Capital

As previously stated, social capital refers to relations, networks and shared norms and values that affect social interactions. If the social capital is undermined or neglected, there is an imminent risk that governmental interventions can go wrong.

Therefore, the following will contribute to an analysis of the social capital concerning Lund and Jönköping. Within the analysis, the two municipalities will be compared. Since the social capital is used as a control variable, this section aims to contribute to the assumption that the two municipalities are similar in the sense of social capital.

The first part of the social capital focus on information and knowledge (S1). When focusing on information and knowledge about SDGs, then both municipalities contribute with information about the municipal action plan to both adopt Agenda 2030 and the sustainable development goals but also the integration of sustainable development within their different areas of responsibilities (Jönköping kommun, 2021a, 2021b; Lund kommun, 2021a). Information is easily accessible on each municipal's website (Jönköping kommun, 2021a; Lund kommun, 2021d). According to Jönköping's webpage, they inform that they both educate and inform about Agenda 2030, this about how they perceive themselves as working with Agenda 2030 (Jönköping kommun, 2021a). Based on the citizen surveys from both municipalities that Sweden Statistics is responsible for, Lund (statistics from 2020) and Jönköping (statistics from 2019) achieve almost the same rating index, 59 versus 58 points, on citizens take on the overall information⁵ flow from the municipality. The point between 55-75 is translated to "very satisfied" (Swedish Statistics, 2019, 2020). Concerning the assessment of transparent and established communication processes, both municipalities should be considered as *highly* fulfilled.

Considering the inclusion and participation in decision-making (S2), both municipalities' have a free local election every fourth year, which coincides with the national and regional election (Swedish Statistics, 2018). More specifically, concerning inclusion in the local, sustainable development, Lund, for example, organise something called "Sustainability week" (Lund kommun, 2021e). This event is open for all interested, where both representations from the municipal, the university of Lund, and organisations within the community are planned to take part (Lund kommun, 2021e; Lund's University, 2021). Both indicators within S2, the participation of stakeholders and stakeholders from the different public- and private sectors, can herein be identified. Jönköping overall creates availability through their webpage for citizens, who are invited for both dialogue, participation, and influence (Jönköping kommun, n.d.c.). Directed towards sustainability and Agenda 2030, Jönköping municipality has launched something called collaboration in environmental goal work. The collaboration includes ongoing dialogue between various companies, organisations, and residents in the municipality. For example, a reference group conducting annual work on *Program for sustainable development – environment* (Jönköping kommun, 2020b). The collaboration demonstrates a high

⁵ The information index is based on [1] assessment to information about the municipality and its organisation, [2] the clarity of the information provided by the municipality, [3] in how good of time the municipality inform about important issues, [4] the municipality's webpage (Swedish statistics, 2021b)

level of inclusion for different stakeholders within the municipality of Jönköping, both public- and private actors. Though one could consider both Jönköping and Lund's municipality as highly inclusive, both municipalities only got a "satisfied" grade based on the rating index from Sweden Statistics regarding the level of impact and influence the ordinary citizen have on the decision-making process⁶ within the municipality (Swedish Statistics, 2019, 2020). Therefore, the overarching assessment of factor S2 is deemed for both municipalities as *mediate* fulfilled. Even though they do not attain the highest score in inclusion, both municipalities are still considered at the same level, which is the most necessary conclusion for this part of the analysis.

Factor S3, which includes trust and transparency, is harder to measure because of the more subjective characteristics the indicator inherits. Based on the statics provided by Swedish Statistics, there is a slight overall discrepancy between Jönköping and Lund regarding the index for citizens' influence in their municipality. Lund is ranked with a slightly higher overall score for 2020, 48, and Jönköping got a 42 in 2019. The score is based on the rating index between 0 and 100, where the limit for "satisfied" is between 40-54, the next step is between 55-75, which implicate "very satisfied". The score means that both Lund and Jönköping are within the same level of citizen's satisfaction. Both municipalities are thereof considered trustworthy and transparent, though there is a capacity to improve both parts. Therefore, the overarching assessment of factor S2 is deemed for both municipalities as *mediate* fulfilled.

In conclusion, both municipalities are considered similar in their attained characteristics of social capital. This further implies that social capital as a control variable for this research is justified. Therefore, because of the similarities between the two municipalities, social capital does not explain the outcome.

5.2.2 Human Capital

Human capital concern the level of human resources, knowledge, and skills. As the literature review has discussed, if the degree of developed human capital is high, better incentives are found to shift the economic structure to cleaner energy sources. Since the indicator within goal thirteen of the SDGs targeted is the percentage of greenhouse emissions, this is highly relevant for this research. Therefore, this section provides an analysis of the human capital concerning both Lund and Jönköping. Since human capital is used as a control variable, this section aims to contribute to the assumption that the two municipalities are similar in the sense of human capital.

⁶ The impact/influence index is based on [1] how the municipality are open for the citizen's opinion, [2] the citizens possibilities to influence political decision, [3] the possibilities for citizens to impact the organisation within the municipality, [4] to what extent the citizens opinions overall is represented within the different parties of the municipality (Swedish Statistics, 2021b)

First, considering human resources (H1) within the two municipalities, both Jönköping and Lund have statistics between 50-60 per cent employed with post-secondary education (Kolada, 2021). Further, suppose one considers the turnover of personal within the two municipalities, both in consideration to newly employed and number of terminated employments. In that case, Lund and Jönköping are rated within the ratio of 8-11 per cent (Kolada, 2021). Both characteristics are deemed similar to each other, and thereof justifiable to compare.

The attained level of knowledge and skills (H2), both Jönköping and Lund attain a high rating index on the citizen's survey conducted by Swedish Statistics. Both municipalities are found within the rating of 8-10, which is considered the highest rating (Swedish Statistics, 2019, 2020). Though, this only concerns the availability of universities and other educations. However, this at least shows the availability of education within the municipalities. Suppose one focuses on how many within the municipality have post-secondary education. In that case, both Jönköping and Lund have high rating, well above the mediate in Sweden, and are both rated as part of the best municipalities (Kolada, 2021). However, Lund has a higher level of educated than Jönköping. However, the significance for this discrepancy can be partly explained through the knowledge that Jönköping has a higher percentage of youth between 0-19 years than Lund, where Lund has a higher percentage of people in working age (20-64). If one then focuses on the younger population, both Lund and Jönköping have a similar percentage of youths that finished secondary school within three years. These statistics are also considered as part of the best municipalities in Sweden (2021).

Even though there is a discrepancy between the two municipalities, both municipalities are still two of the better ranked municipalities in Sweden associated with education and more comparable than would another alternative municipal be. Also, suppose one considers H1 human resources in the availability of skilled and educated staff that each municipality has employed. In that case, both municipalities have a similar percentage between 50-60 per cent of employed staff with post-secondary education. Based on the knowledge that both municipalities are found within the ranked top of municipalities in Sweden, the assessment of overall human capital attainment is deemed high.

5.2.3 Financial Capital

Financial capital, as before stated, concern the accumulated wealth and financial resources, that in this research, the municipalities have. Earlier literature has demonstrated a correlation between high-level income countries, high financial capital, and the transition towards greener energy. Since financial resources are deemed crucial for the transition towards more sustainable development, it is vital to include this capital to establish a stronger case. Therefore, this section provides an analysis of the financial capital concerning both Lund and Jönköping. Since

financial capital is used as a control variable, this section aims to contribute to the assumption that the two municipalities are similar in the sense of their accumulated financial capital.

About the first factor, that of wealth, financial resources and distribution within the municipality (F1), both Jönköping's and Lund's budget, business, and investment plan for 2021-2023, emphasize sustainable social, economic, and environmental development (Jönköping kommun, 2021b; Lund kommun, 2020). It is hard to find direct numbers on how much every municipality directly puts off for the Agenda 2030 because the investment in Agenda 2030 and the sustainable development goals are integrated within all parts of the organisation, both regarding education, elderly care, infrastructure, etcetera. However, *Aktuell Hållbarhet* conducts a survey every year that concern the municipals environmental work. It is shown that Jönköping and Lund have redistributed budgetary resources within the municipality the last year because of the Covid-19 pandemic, causing a decrease in the resources within the environmental- and sustainability area. The municipalities have neither used any crisis support funds directed towards environmental- and sustainable work (Aktuell Hållbarhet, 2021). This negative effect demonstrates a downscaling of the financial resources regarding the investment in sustainable development where the financial circumstances are deemed similar for the two municipalities.

In consideration of the overall budget, Jönköping state that the municipals overall budget has accounted for positive results regarding the last couple of years (Jönköping kommun, 2021b). In comparison, Lund also demonstrates a positive surplus from 2020 (Lund kommun, 2021a), compared to 2019, circumstances created a setback for Lund, though this was accounted for and compensated the following year. Both municipalities have similar stated financial goals. They both strive to achieve a positive result with at least 2 per cent of the sum of the overall income (Jönköping kommun, n.d.a.; Lund kommun, 2021a). The overarching assessment regarding financial resources is for both municipalities deemed at least moderate, considering the specific knowledge about the redistributed resources away from environmental and sustainable work. Essential to have in mind is that the financial resources are distributed within the municipality organisation that concern the different functions where significant parts of the budget are not directly earmarked concerning sustainability and the environment. Instead, the boundaries are blurred, but where both Jönköping and Lund consider both social, economic, and environmental dimension (related to Agenda 2030). This is shown to be integrated into the budget and business plan for both municipalities.

5.2.4 Natural Capital

As stated before, natural capital regards goods and services with the economic value provided by various natural processes, such as ecosystems, the environment, or natural resources. The protection of natural capital is essential and the core of solid sustainability; this has been argued within the literature review. Those goods and services provided through natural capital are essential for human well-being and, most importantly, essential for the continued existence of our species. Clearly, this emphasizes the urgency for a high level of attained natural capital within the municipalities. Therefore, this section provides an analysis of the natural capital concerning both Lund and Jönköping. Since natural capital is used as a control variable, this section aims to contribute to the assumption that the two municipalities are similar in the sense of their accumulated natural capital.

Concerning natural resources (N1) as part of natural capital, Jönköping and Lund have established programs and action plans that emphasise local ecosystems and natural resources. Jönköping's *Program for a sustainable development – environment* includes local environmental goals and key figures (Jönköping, 2020c). Further, in connection to the program, Jönköping has developed something called *Hållbarometern*. *Hållbarometern* is a web tool that measures and demonstrates the program's content, five years history on the development and number of indicators that describes the environmental development in the municipality (Jönköping kommun, 2020b). The web tool demonstrates an ambitious emphasis on the environment, including the natural resources and ecosystems, etcetera. Concerning natural capital, it is arguable to say that the municipality does emphasize the vulnerability of the local ecosystems and natural resources.

In contrast, Lund has a program called *Lundaeko II*, which is the municipalities' program for sustainable and ecological development (Lund, 2018). This program has been updated since the first edition came and further has now been followed up with *Lunds municipalities' account for environment 2020*. Part of the primary areas within the programs are emphasis on biodiversity and ecosystems (Lund kommun, 2021c). Arguably, both Jönköping and Lund both have programs that emphasise local ecosystems and natural resources and further embrace follow-ups on these programs continuously- implying that both municipalities are deemed to put high emphasis on natural resources (N1).

Connected to the municipalities environmental management strategies (N2), as demonstrated in connection to natural resources, both municipalities have established policies and regulations for the environment. Further, both municipalities have expressed deadlines and schedules within their implementation processes. For example, *Lundaeko II*, which Lunds municipality's city council adopted in 2017, had its endpoint in 2020, and thereof came *Lund municipalities accountment for environment 2020* as a follow up on the implementation. Compared to Jönköping's municipality that has a continuously update through their

Hållbarometer. Therefore, it is possible to argue that both Jönköping and Lund are assessed to have high attained factor N2 within natural capital.

The local governance in Lund and Jönköping directly emphasises awareness and knowledge about the effect of climate change on the environment, relating to knowledge and information (N3) within natural capital. It is closely connected to earlier indicators of local ecosystems and natural resources, and environmental management strategies. Wherein it is possible to find highlighting on the urgency of climate change and environment. For example, in Jönköping's program on sustainability, they write that this is the gathered state of knowledge within the area of "our habitat". Citation found within the program "Both international and national descriptions about the state of the environment show that there is a far way ahead before long-term sustainability will be the steady condition on our earth"⁷ (Jönköping kommun, 2020c). A similar statement can also be found within Lund programs. Even so, part of the goal within Lund's municipality program is to increase the knowledge and tools for sustainable development and targeted goal for learning about sustainable development within preschool and elementary school (Lund kommun, 2021c). It is possible to assess that the level of awareness and knowledge about climate change and environment med sustainable development is high in both municipalities, with inherent intention to further that knowledge.

5.3 Explanatory Variable: Political Capital

The overall theoretical approach, CAF, implies that the local governance progress towards sustainable development is conditional based on the availability of the different capitals. Since the control variables have established similar availability of the social, human, financial and natural capital for the two municipalities, the last capital to analyse is political capital. Referring to this research aim to find factors that connect to the municipals transition towards sustainable development. This part will then try to explore the different parts of the two municipals' achievement of political capital and whether there is any difference in their governmental processes that can explain Lund's better performance in reducing greenhouse emissions than Jönköping.

⁷ Own translation of "Både internationella och nationella beskrivningar av miljötillståndet visar att det är långt kvar innan det finns ett långsiktigt hållbart tillstånd på vår jord"

5.3.1 P1: Integration of Agenda 2030 into Frameworks and Regulations

The first factor within political capital to investigate is how the municipality has integrated Agenda 2030 for sustainable development into frameworks and regulations (P1). Overall, as already been touch upon, both municipalities have adopted Agenda 2030 within their municipal work and goals. This is also a direct guideline from the national government (Miljödepartementet Dir. 2020:17). Although the interest for the political capital rests on what level Agenda 2030 is integrated to both regulations and frameworks on the municipal level, not only that it is adopted. To investigate and measure how well Agenda 2030 is integrated into the governmental processes of the municipality, both statistics, strategies and policy documents from the municipalities and other sources such as newspapers will be used.

There is something called carbon budget, which is considered one of few scientific tools that can help measure how much emission needs to be decreased in the world in total to achieve the Paris Agreements goal (Aktuell Hållbarhet, 2021). Through the carbon budget, the municipality can determine where the most effective intervention needs to happen in the organisation and municipal creating the possibility for the municipality to achieve the Paris Agreement and find themselves underneath the limit (1.5 or 2 degrees Celsius) for the increase in temperature (Aktuell Hållbarhet, 2021). *Aktuell Hållbarhet* has surveyed the municipals environmental work and has done so for the last thirteen years. The survey that the municipalities answer is whether they have identified their emission space concerning the global carbon budget to achieve a maximum increase in temperature of 2 degrees Celsius. Both Jönköping and Lund have answered, but they differ in their answers. Lund has adopted the carbon budget and identified their emission space, while Jönköping has not. According to Jönköping's answer, they have leastwise initiated the work (Aktuell Hållbarhet, 2021).

Further supplementary questions are whether the municipality thereof compiled all the necessary interventions that need to be done and if the municipality has enforced intervention to decrease emission. Lund has answered yes to both questions, while Jönköping cannot answer since they have not adopted the carbon budget yet (Aktuell Hållbarhet, 2021). These both demonstrate the intention of the municipal and the power of action the two municipalities have, at least in correlation to transition towards sustainable development. If one considers the indicator within P1 that concern the degree of integration of Agenda 2030 into policies and other formal rules and norms, this example establishes the first basis. Since emission level directly concerns the indicator within goal thirteen, about the percentage of greenhouse emission, this example emphasises that Lund is more advantageous in decreasing emission while Jönköping falls back.

The focus needs to direct towards what kind of frameworks, regulations, and directives can be found within the two municipalities to get more into details. So

far, we have established that Lund has established and identified interventions to the carbon budget, and Jönköping has not. Except for the carbon budget, more steering documents affect the decrease in greenhouse emission. If one examines the overall municipals objectives and planning, Jönköping and Lund consider sustainable development and Agenda 2030 differently. Within Lunds overall budgetary and organisational planning, it is stated that Lund aims to be leading within the environmental and climate area. “The technical- and growth perspective shall contribute with Lund municipality continues to retain a national leading position within the environment- and climate area. This should incuse all work Lund municipality ensures within the area.”⁸ (Lund kommun, 2021a). This further emphasis Lund municipalities intention in the field of sustainable development. Whereas Jönköping does not explicitly state something similar ambitiously in their business- and investment planning about the environment and climate, though they still emphasise overall municipal goal that concern “Vision 2030”, not to be confused with Agenda 2030. With “Vision 2030”, Jönköping municipal emphasise long-term development, with four targeted goals. Compared to Lund, these goals do not emphasise either environment, climate, or sustainability. Instead, they consist of Jönköping 2030 “as the hub of southern Sweden [...] to be a municipal with forward-thinking [...] permeated by the community, security, and openness [...] a place where the city meets countryside⁹ (Jönköping kommun, 2021b). Even though the targeted goals could be considered positive, they do not relate to the environment, climate, or sustainability. Hence, it is possible to argue that the intention to become a more sustainable and climate-friendly municipality is found stronger within the politics of Lund’s municipality than in Jönköping. This has explanatory power for the outcome, why Lund better is achieving a decrease in greenhouse emissions.

Suppose one turns the focus towards parts of the steering documents that more specifically embrace decreasing greenhouse emissions. In that case, it is possible to find explicit ambitious goals set by Lund’s municipality. Their steering document for sustainable and ecological development explicitly expresses that their goal is to bisect the amount of greenhouse emission by 2020 compared to the level of emission from 1990 (Lund kommun, 2018). In a later evaluation of the targeted goals set by Lund’s municipality, found within *Lund's municipality's accountment for environment 2020*, they demonstrate that the targeted goal to bisect greenhouse emission was achieved already in 2018 (Lund kommun, 2021d). Furthering the goal to decrease greenhouse emissions is to decrease greenhouse emissions by 80 per cent until 2030 (Lund kommun, 2021d). Compared to Jönköping municipality that set the target to reduce greenhouse emission with 85 per cent between 2005 to 2040, and as a part goal to decrease emission by at least 50 percentage until 2030

⁸ Own translation of ”Teknik- och tillväxtperspektivet ska bidra till att Lunds kommun behåller en nationellt ledande position inom miljö- och klimatområdet. Detta ska prägla allt arbete Lunds kommun gör inom området”.

⁹ Own translation of ”Jönköping 2030 är södra Sveriges nav [...] ska vara en kommun med framåtanda [...] genomsyras av gemenskap, trygghet och öppenhet [...] är en plats där stad och landsbygd möts”

(Jönköping kommun, 2020a). Then regarding the actual progress of reduced emission for Jönköping, they evaluate that there exist uncertainties whether they will achieve reduced emission following their goals (Jönköping, 2020a).

Conclusively, to summarise the part that concern the level of integration of Agenda 2030 for sustainable development into framework and regulations (P1), it is relevant to argue that both municipalities inherent high level of periodic revision and updates of law and regulations concerning Agenda 2030 and overall, for the environment and sustainability. Regarding the integration of Agenda 2030 into policies and other formal rules and norms within the municipalities, both municipals have done this. However, there is a discrepancy in the ambition and intention of those goals and targets. Even so concerning actual activities and implementation to achieve those, where Lund place themselves at the forefront.

5.3.2 P2: Political Support and Trust

Next the factor that measures the level of political capital, political support, and trust (P2) are at focus. Both regarding the level of support for local politicians and the level of emphasis on sustainable development and the political arena concerning support and long-term development. Firstly, when one focuses on the political parties' arena and their attained mandates in the three latest elections, 2010, 2014 and 2018, there is a significant difference between the two municipalities (*see 9.1, Appendix I*). Jönköping has had significant support for the Christian Democrats and Social Democrats during the years, while Lund has fewer mandates distributed for Christian Democrats and Social Democrats. Lund has more support for the Liberals and the Green Party than Jönköping. Another significant difference is found for “other parties”, where Lund distributed eight mandates in 2018 while Jönköping has zero mandates distributed for “other parties” (Swedish Statistics, 2021a). The steering parties in the municipality in Lund are called “Lundakvintetten”, which include the Moderates, the Liberals, the Christian Democrats, the Center Party, and a local party called Renew Lund (belonging to the group “other parties” concerning the distribution of mandates in the municipal).

In comparison, the Social Democrats, the Center Party, the Liberals, and the Green Party occupy the political government in Jönköping municipality. This means that there is a clear difference in the political support and governance in the two municipalities, a difference that has relevance for explaining the difference in outcome regarding a decrease in greenhouse emission. The mentioned explanation can be connected to what has been touched upon earlier, regarding the intention and ambition of each municipality when it comes to setting the agenda and targeted goals to reduce their emission in the municipal.

Next, concerning the political government's intention and ambition in the municipalities, which focus directly on the emphasis the political parties have on sustainable development, climate, and environment, will be at the core of the

analysis. The most important political instrument the municipalities have is the budget. Within the budget, the prioritized areas are established, and goals and targets are set up, reflecting the intent of the political government in the municipality (Jönköping kommun, 2021b). Therefore, it is argued the possibility to derive through the budget and business plan the emphasis the two municipalities have on sustainable development, climate, and environment. Lund has four prioritized areas, the citizens of Lund in focus, smarter Lund, organisation Lund and economy. Found within the area of smarter Lund is the political governments' emphasis on environment and sustainability, wherein it is stated that Lund should be the most advanced in environment and climate (Lund kommun, 2021a). This is a clear statement made by the political parties in Lund's governing position, which clearly emphasises the environmental and sustainable development in the municipal. Jönköping, on the other hand, have four other priority areas, cohesive community planning, bridge gaps within the society, children in focus, and skills supply (Jönköping kommun, n.d.a.). If one translates these overall goals in how they relate to Agenda 2030, one could argue that they emphasise the social dimension. Of course, this is also of interest for overall sustainable development, but since this research focuses on the outcome that concern greenhouse emission, Jönköping does not emphasise it as much as Lund. Though, Jönköping does include in their budget that the society should be built sustainably, socially, economically, and environmentally (Jönköping kommun, 2020 n.d.a.). But this concern more an overall statement than an actual priority or target.

Further knowledge that is of relevance for the emphasis political parties have on the SDGs includes that Lund was in 2018 the first municipal to establish a local climate council. The council consist of experts with multi-disciplinary competencies from Lund's University and SLU Alnarp. The main responsibility is to deliver a yearly report that highlight improvements that contributes to the achievement of climate goal for the municipality (Lund kommun, 2019). Except earlier mentioned collaboration within Jönköping, such as the collaboration towards goal work and the establishment of *Program for sustainable development – environment*, there is no further information about similar organisational ambition as Lund. Arguable this adds to the difference in governmental processes of the municipalities.

Based on the recently analysed knowledge, it is reasonable to argue that Lund holds a greater emphasis on the municipal's environmental and sustainable development. Even though it is arguable to say that Jönköping emphasises the environment, it is not as considered as it is for Lund municipality. Therefore, this further point towards factors that affect the different transitions in the municipalities. The other indicator within the factor of political support and trust (P2) is the citizens' trust for the municipal governments. This has already been discussed briefly regarding social capital, where the overarching impression was that both municipalities are found within the same score and level. Though, if one targets the citizen survey that concerns the level of trust, there is a greater

difference. In Jönköping and the survey conducted in 2019, the score that is attributed to Jönköping is 44. This is a decrease in this score for Jönköping, from 2015, where the score was at 50. Compared to Lund, where the latest measured score from 2020 is 53, the score has increased every year since 2016. This implies that Lund's trust for the politicians and the governance in the municipality is advancing towards the score of "very satisfied" (score should be between 55-75 to be considered very satisfied). Compared to Jönköping, which barely holds itself over the limit of "satisfied" (level for satisfying concerns score between 40-54). Built on this knowledge, concerning the level of trust for the governance in the two municipalities, even though they still are within the same level "satisfied", their difference is still significant. This implies that Lund has a further increase in the attained political capital, whereas Jönköping has less attained political capital.

Further, concerning the possibilities for the municipals to create conditions for long-term planning, both municipals have had an almost similar political landscape in the three most recent elections. If any significant change is worth mentioning, this then concerns the number of mandates that the Moderates in both municipalities have lost. The Swedish Democrats have increased their mandates (*see 9.2, Appendix II*). This implies that both municipalities have in their governmental processes had the possibilities to create long-term planning and goals, without disturbance from at least switch in the political landscape and mandates. Both municipalities had advantageous conditions to both plan long-term and further to follow up different implementation processes. This has been demonstrated in Lund regarding the accountment for the environment in 2020 and Jönköping's *Hållbarometer* that continuously evaluate the municipals progress. Thereof, both municipalities political party in government are assessed to attain a high level of ability for long-term planning.

Then, to summarise this section, it is relevant to say that there exists a difference in political support and trust between Jönköping and Lund. There is a further arguable clear indication that the political intention and will to enforce and implement Agenda 2030 and sustainable development is more remarkable in Lund than Jönköping. More concerning the theoretical framework, the political capital is deemed to have a higher attained level in Lund than in Jönköping. However, the attained political capital in Jönköping should not be considered as bad. Based on the different factors and indicators, Lund might be assessed with a higher level of capital, but Jönköping should be considered not that far behind.

5.3.3 P3: Public Engagement Processes

The next factor relevant for the attainment of political capital concerns the public engagement processes (P3). This concern both the percentage of people taking part in the election and the existence of open forums within the municipality. Firstly, considering the election turnout within the municipalities, both Jönköping and Lund

have high turnout. In the latest election, 86.37 per cent of the people entitled to vote in Lund did (Valmyndigheten, 2018b). Whereas in Jönköping, the turnout was 85,17 per cent of the people entitled to vote (Valmyndigheten, 2018a). For both municipalities, this was an increase in turnout compared to the election of 2014. This is not enough to demonstrate a positive trend in turnout but demonstrates that there is relatively high turnout in elections in both municipalities. Considering any difference in the outcome, the turnout in an election does not provide any explanatory power. However, it does add to the overall level of attained political capital for both municipals.

Other indicators to disentangle regard the existence of open forums in the two municipalities and the level of open forums that imply the political capital and the difference in the outcome. As with the knowledge regarding level of trust in the municipalities discussed previously, this also concerns the level of influence the citizens have experienced. Where the experienced influence citizens assessed was discussed previously in relation to social capital. Though this in relation to social capital, the overall scoring was discussed and not the specific target for the citizen's influence/impact. Jönköping got 40 points in 2019, which is precisely the score needed to reach the "satisfied"-level, whereas Lund got 47. As concluded underneath the section for social capital, the overall scoring for the influence/impact level was deemed in comparison as without significant difference, since they both are underneath 50 points and at the level of "satisfied".

However, if one focus on the different indicators within the influence/impact section of the citizen survey, a higher difference between the two municipalities is shown. For this factor, concerning public engagement processes, the foremost relevant indicators concern how the municipality is listening to its citizens and the citizens possibilities to affect politicians' decisions. Jönköping got the score of 4.5, and 4.4 on these, while Lund got 5.2 respective 5.1. On this scale, the score between 1-4 is considered low, 5-7 is considered mediate, and 8-10 is considered high. This implies that Jönköping got a low score and Lund a mediate in relation to the different levels, even though the point difference is less than one. The question then emerges, what this could have for implications for the difference in the outcome, more than its effect on the overall political capital. It leans against that this does not have explanatory power as a factor for the difference in the outcome, in more sense than affecting the overall explanatory variable of political capital.

Except for the specific knowledge provided by the citizen survey from Swedish Statistics and what has been concluded in the section for control variable social capital (5.2.1), the existence of open forums based on the information provided by the municipalities webpages is deemed as attained. If one target the two municipalities' webpages directly in how they inform and create availability for their citizens, both municipalities try to create open forums. As been mentioned before, both Jönköping and Lund take united action concerning the transition towards more sustainable, environmentally friendly governance in their municipalities. Then the overall assessment regarding public engagement processes

asserts that there is some difference between the municipalities regarding the level of impact the citizens are experiencing. However, about turnout in election and attainment in open forums, both municipalities should be considered as having attained similar political capital. Except for the assessed attained political capital, this factor should not be considered as providing significant explanatory power for the outcome of interest.

5.3.4 P4: Institutional Organisation

The last factor necessary to analyse concerning political capital is that of the institutional organisation (P4). First, regarding the indicator that concerns the municipality's organisational adaptability in their transition towards sustainable development, which can be translated into how the transition towards sustainable development should be viewed for each municipality. The first step regarding whether Agenda 2030 and sustainable development has been integrated within the governmental processes applies for both municipalities. As been demonstrated for both municipalities in consideration of their steering documents are that both Jönköping and Lund have integrated and started the transition towards sustainable development overall in their organisations. Further regard how the transition then is assessed going, where continuous evaluations of the transition exist, and thereof can provide necessary data for this part.

Before going in-depth in consideration of the outcome of interest, it is first relevant to touch upon the overall assessment of the two municipalities progress. The latest report and ranking from 2021 that concern the municipalities environmental, and sustainable work provided by *Aktuell Hållbarhet* state that Jönköping is ranked as number 23 of 290 municipalities. If one only focuses on the municipal group, that of bigger cities and municipalities close to bigger cities which both Jönköping and Lund are found within, Jönköping is ranked as number 13. In comparison, Lund is ranked as number 5 overall, and within the municipal group, same as Jönköping, Lund is ranked as number 4 (*Aktuell Hållbarhet*, 2021). This latest ranking demonstrates a difference in the two municipalities ability to transit towards sustainable development, where Lund at the forefront. However, this concerns the overall transition towards sustainable development for the organisation (municipality) and not specific targets.

Then if the transition that regards the specific outcome of interest, in how the municipalities reset towards a decrease in greenhouse emission, one can directly turn towards both municipalities' own follow-ups and evaluations. Knowledge about the municipalities different targeted goals for greenhouse emission has already been mentioned, though more emphasis on the process is relevant. Based on information from *Kolada*, Lund municipality's latest official review from 2018 account greenhouse emission in total, tons CO₂-equ/per citizen to 1.82, while Jönköping has accounted greenhouse emission in total, tons CO₂-equ/per citizen to

3.71 (Kolada, 2021). Jönköping's total greenhouse emission in 2018 is accounted for 515 947 tons CO₂-equivalents, compared to Lund's total greenhouse emission, which is 223 521 in tons CO₂-equivalents (Kolada, 2021), further demonstrating a significant difference between the two municipalities outcome variable.

If one then traces the process within the municipality organisation and looks at the different key features that affect greenhouse emission, the transition towards sustainability then includes emphasis on agriculture, own heating, work machines, industry, transports, energy, and district heating. For example, readjustment of infrastructure then becomes relevant to examine, where the municipals intention and targeted goal are of first relevance and then further the process and evaluation of it. Regarding infrastructure, Jönköping state for example that densification of the city, increased campaigns for taking the bike and improved overall infrastructure has led to an increased number of people bicycling within the city, and thereof has had a positive effect on decreasing greenhouse emission (Jönköping kommun, 2019). On the other side, Lund has an overall strategy for sustainable travel and transport called *LundaMaTs* (Lund kommun, 2019). Following the climate goals that concern that emission should be close to zero in the year 2050, Lund states that transports thereof are an important part of this work and where the municipality purposive work towards decreasing car dependency offer more environmentally friendly alternatives (Lund kommun, 2021c). The latest report from 2019 account that overall, more people are taking public transport, walking, or bicycling when they are travelling, in where the targeted goal is that 70 per cent of all travels should happen that way in 2020, and further the goal for 2030 is 75 per cent of all travels (Lund kommun, 2019). The example that regards infrastructure demonstrates that both municipalities are readjusting towards a more sustainable development, at least considering infrastructure and specifically transports.

The municipal organisation within Lund has in 2020 achieved the goal of being almost fossil fuel free. In comparison to Jönköping's municipal organisation that struggles to achieve a decrease in CO₂ emissions, the overarching goal for 2030 is to be fossil-free regarding heating, energy, and transports. Concerning Jönköping's sub-goals on the decrease in CO₂ emissions regarding the municipal organisation, the aim is to decrease the total amount of CO₂ emissions until 2020 by 70 per cent and compared to the overarching goal this sub-goal is deemed possible to achieve (Jönköping kommun, 2020a). However, reservation needs to be made regarding Lund's achievement since information about what features are considered is not found. Implying that this knowledge and progress might not be deemed completely comparable since Jönköping's statistics demonstrate the different features that are measured, heating, energy, and transports. At the same time, this is not specified further by Lund. Though, further notion should be made that this progress only concerns the municipal organisation and no other sectors such as agriculture, industry and working machines.

When it comes to the sectors that concern greenhouse emission from agriculture and industry, both municipalities are having challenges to readjust and reach stated

goals. On an overarching level, Jönköping deems this goal to be hard to achieve (Jönköping kommun, 2020a). In contrast, Lund partly shows that the proportion of ecological agriculture in the municipality has increased, but most agricultural emissions are beyond their reach (Lund kommun, 2021c). This because the agricultural sector is beyond the municipal organisation reach, but instead, the municipality emphasis that cooperation needs to be developed and increased (Lund kommun, 2021c). If one look at the statistics contributed by Kolada (2021), Lund is marked as green with greenhouse emission of 0.32 tons CO₂e/citizen, but Jönköping is marked as yellow, with 0.55 tons CO₂e/citizen. Which thereof is considered as a partly significant difference between the two municipalities.

Related to the organisation's adaptability towards sustainable development is how the internal structure is organised to lead the transition towards sustainable development. Regarding this indicator, both municipalities point out that sustainable development is integrated within the whole organisation. Which already been mentioned in previous sections, where it is demonstrated that the funding and goals are integrated within both education, infrastructure, elderly care and etcetera. Related to the internal structure the example given for the municipality's infrastructure, this is something that the Technical committee in both municipalities is responsible for in how to develop this further and towards the progress for sustainable development.

The part that concerns the institutional organisation is of most relevance to disentangle to investigate the governmental processes within the municipality in-depth. It is possible to argue that both municipalities actively work towards sustainable development and integration of it within different parts of the organisation. Though Lund apparently, concerning the outcome, has succeeded better than Jönköping. Then is it possible to find part of the explanation for this within the institutional organisation? Much suggests that even though both municipalities further meet measured factors within political capital, Lund still has the upper hand in organisational adaptability and internal structure.

5.4 Summary of Results

Throughout this chapter, the capitals from the CAF have been guiding the analysis of the data. The theoretical framework initially states that the higher attainment of the different capitals, the better conditions for governance to succeed in their transition towards sustainable development. For this research, four capitals have been used to create control variables for the two municipalities. The fifth, political capital, then has been used to try to provide an explanatory variable for the different outcome of decreased greenhouse emission. An overarching visualisation is presented in a classical co-variational analysis table below. The different control-

dependent-, and explanatory variables will be gathered and assessed in relation to the two municipalities in Table 3.

To provide a short summary before discussing the result further in the next chapter, it is possible to argue that the capitals set to provide analysis for control variables have sufficiently done so. Even though some of the capitals are not assessed as highly fulfilled, they are still similar to each other. Moreover, where the explanatory variable, assumed political capital, should be deemed to a moderate degree have provided the research with explanatory power. There are differences in the attained political capital, even though both municipalities are considered to have attained political capital.

Table 3. Summary COV-table of the assessment of capitals

	Capital	Jönköping	Lund	
Control variables	Social	S1: Information	High	High
		S2: Inclusion and participation in decision-making	Mediate	Mediate
		S3: Trust and transparency	Mediate	Mediate
	Human	H1: Human Resources	High	High
		H2: Knowledge and skills	High	High
	Financial	F1: Wealth, financial resources, and distribution within the municipality	Mediate	Mediate
	Natural	N1: Natural resources	High	High
		N2: Environmental management strategies	High	High
		N3: Knowledge and information	High	High
	Explanatory variables	Political	P1: Integration of the Agenda 2030 for sustainable development into framework and regulations	Attained – lower degree than Lund
P2: Political support and trust			Attained – lower degree than Lund	Attained – higher degree than Jönköping
P3: Public engagement processes			Attained – similar degree	Attained – similar degree
P4: Institutional organisation			Attained – to some extent lower degree than Lund	Attained – higher degree than Jönköping
Dependent variable	Goal 13 of the SDG's – Greenhouse emission	Higher emission (3.71 tons CO ₂ -equ/per citizen)	Less emission (1.82 tons CO ₂ -equ/per citizen)	

6 Discussion

6.1 Findings

The aim of this study was to answer, “What factors in local governance facilitate a successful transition towards climate-friendly, sustainable development?” where political capital has been assumed to be the explanatory variable to help contribute with answers to this puzzle. The result has demonstrated a noticeable difference in attained political capital for the two municipalities. However, not all the operationalised factors within political capital have shown to have explanatory power and contributed with any different implication for the concerned outcome, such as (P3) public engagement processes. The overall political capital as the explanatory factor is deemed to provide a reasonable explanation for the question at hand. To highlight specific explanatory factors found, those are found within (P1): level of integration of sustainable development and the factor (P2), with foremost weight on the emphasis that political government has on sustainable development.

A pervading indicator is the intention or emphasis that the political government put on sustainable development in municipal governance. Lund’s political government more evidently work and emphasise integration and adaption of the SDGs. While Jönköping also has adapted the SDGs, they are not putting the same emphasis as Lund. In comparison, Lund explicitly states their ambition to be a leading sustainable municipality in their highest steering document (the overall budget and business plan), which Jönköping does not. It is possible to derive a causality between the actual emphasis Lund put on achieving sustainable development and their ranking overall in Sweden as number five of all 290 municipalities. At the same time, Jönköping is ranked as 23 overall based on the latest surveys from 2021. Meaning that Jönköping’s ranking is still above most of the municipalities in Sweden in their sustainable and environmental work, but not at the same high level as Lund.

A relevant factor to discuss concerning this is (P4) institutional organisation. Where adaptability for the two municipalities organisations in readjusting to more sustainable development are relevant to disentangle. The adaptability is closely connected to how much of an emphasis the political governance place on sustainable development within the municipality. The emphasis or intention of the

municipality could be translated to the political will of the governance. Where the political will of the government affect the incentives for the governance to enforce implementation for sustainable development. However, it has also to do with how the two municipalities work towards sustainable development within their organisation. Since part of the greenhouse emission is found both from the municipal organisation and other sectors than that of the municipalities reach. Even here, Lund has been more advantageous in their flexibility and readjustment within their municipal organisation, where Jönköping ends up behind if one only examines the specific greenhouse emission. Nevertheless, both municipalities have challenges with decreasing greenhouse emissions within agriculture, energy, and district heating. Part of the reason why Lund succeeds better in decreasing emission in agriculture can be found within Lund's embracement of the problem. They state that the agricultural sector within the municipals boundaries is out of their reach. However, Lund argue that improvement would be to develop and increase cooperation between the sector and the municipality. Demonstrating, once again the interrelation between intention of the governance and the institutional organisation and adaptability.

Stated within the theoretical framework, local governance can be constrained by institutional barriers and resource limitations (Williams et al., 2020:2). CAFs key point states that the ability for the local governance to progress towards sustainable development and respond to climate change is conditional based on the availability of different forms of capitals (Máñez et al., 2014; Williams et al., 2020). The result demonstrates a difference for the two municipalities in their attained political capital and the degree of that attained capital.

Lund is shown to have attained higher degree of political capital. The higher availability of political capital then provides explanation to the better success in decreasing greenhouse emission related to Goal 13 of SDGs in Lund. In comparison, Jönköping's lower degree of attained political capital therefore suggests less adaptability to decrease greenhouse emission. The causation outlined might be an oversimplification of a more complex issue, however, it creates some degree of comprehension for the puzzle. Part of the purpose of the usage of a theoretical framework is to provide analytical tools that can deliver reasonable answers to complex, multi-dimensional issues. Those answers can then in future studies be challenged and elaborated upon further, creating deeper knowledge in the field. Therefore, these findings implicate two things: firstly, they provide knowledge and comprehension and secondly, they create incentives for further studies which is elaborated upon further below.

6.2 Discussion on the Implications of the Findings

While it has been established that political capital contributes with some explanation for the outcome, it is relevant to discuss what this answer means. What broader implication this can have on the transition towards sustainable development. First, regarding political support and what parties govern in the municipalities, in the end, this should not matter when it comes to adapting and integrating Agenda 2030 and the SDGs. Both national and municipal government cannot fully control the public support and whether they still will be in place after the next election. This means that the emphasis and enforcement of the Agenda 2030 and SDGs should be adequately integrated into the governance and organisation, to that degree that a shift in political government should not affect the transition and achievement. Here the Swedish government has an important role to play. Even though Sweden has been decentralized and consists of multi-layer governance, it is still possible for the overarching governance to put pressure top-down. To some degree, this is already happening, but more could be done in that area. As the government already is doing, a first step is to appoint a special investigator, who should work as a national coordinator and support the government in their enforcement of Agenda 2030 and the SDGs (Miljödepartementet Dir. 2020:17).

It is interesting to discuss further whether a higher level of attained capitals within the municipalities creates the better foundational groundwork for more sustainable adaption and transition. As demonstrated, Sweden is at the forefront regarding achieving the SDGs but has remaining challenges (Sachs et al., 2020). In terms of attained capitals, this would imply that Sweden overall has highly attained capitals. As discussed, higher level of education creates higher level of attained human capital in where it has been shown that the more educated people are, the higher the awareness of sustainability and environmental issues. This in turn entails higher pressure on the governance, both nationally and locally. Further, it has been argued that attained social capital for the society reflects how much a society is prepared to face its problems and seek a solution to promote sustainability. This correlates with the assumed effect education should have on the awareness of sustainability and pressure on the government. Having effect on the political capital, in for example, the level of turnout in election and pressure on the governance to emphasise sustainability and institutional adaptability. Therefore, the different capitals could be seen as interlinked, where it is possible to track and explain the transition in governance concerning sustainable development. Further, it also provides incentives for additional research to disentangle even more how this can be used more practically to improve both national and local accumulated capitals and help improve the transition towards sustainable development.

It is further of relevance to discuss whether this can have any effect on an international scale. It might not be possible to state that these findings will answer

how the transition towards sustainable development on an international scale is affected. However, it has created incitement to use the capital's approach to comprehend the social phenomena of adopting Agenda 2030 and the SDGs on other governance levels than only Swedish municipalities. There is sufficient support to argue that using the capitals as an analysis tool has explanatory power that can help comprehend and utilize that knowledge to transition to sustainable societies. Considering the factors within political capital that explain the difference in the outcome, the intent and emphasis the governance put on the question, evidently the better the outcome. If this knowledge is then put in relation to national or even international governance, it is relevant then to disentangle the real emphasis put on sustainable development and the level of willingness to implement and enforce change and readjustment. This willingness, not only the need, is something that Sir David Attenborough embraces:

Everything is set for us to win this future [...] There is a path to sustainability [...] We must let our politicians and business leaders know that we understand this, that this vision for the future is not just something that we *need*, it is something, above all, that we *want* (Attenborough, 2020:211)

Here the will of the people become essential. As has been discussed, the higher level of information and knowledge that people attain, the higher pressure is put on governments for change, demonstrating the impact local can have.

Finally, it is relevant to mention what implication the Covid-19 pandemic might have had on sustainable development. The relevance to conduct studies and produce reports on how the pandemic has been affecting the environment and the governments' transition towards sustainable development is high. This debate is ongoing, showing both the positive and negative impact that the pandemic has had on the environment and sustainable development work (Aktuell Hållbarhet, 202). Due to the scope of this research, it is not possible to elaborate upon this further but should be investigated in future studies.

7 Concluding Remarks

To conclusively answer the overarching research question “What factors in local governance facilitate a successful transition towards climate-friendly, sustainable development?” the focus should be on political capital. In this research, political capital has provided the research with factors that explain the two municipalities' different outcomes regarding the decrease in greenhouse emission. The theoretical framework of CAF has helped the analysis of the four control variables and therefore contributed with bases for the similarities between Jönköping and Lund to create the possibility to exclude them as explanatory factors. After that, as the fifth capital of interest, political capital has provided this research with explanatory factors that explain where the two municipalities have succeeded differently in their transition towards sustainable development. As demonstrated in the previous section, the explanatory factors are the degree of (P1) integration of the Agenda 2030 for sustainable development into framework and regulations, (P2) political support and trust and (P4) institutional organisation found within the municipalities. (P3) Public engagement processes did not explain the different outcome but contributed to further attainment of political capital. For the research, the municipal government's degree of intention and political will has proved to be the most valuable explanatory factor. Much of the success for Lund is grounded in the municipals government ambition to integrate and enforce Agenda 2030 for sustainable development into their steering documents and municipal organisation. Jönköping has also done so, but the degree of ambition that regards the intention and political will of the municipal's government is not as high.

Like other studies within the field, this research has limitations. Two main limitations are found within this research: the measurement of CAF and the possibility of generalising the result from a case study. It is possible to provide the theoretical framework of CAF with more developed measurements to be even more replicable and increase validity. Also, the ability to generalise from a case study should be treated with caution. Then, to provide sufficient depth in the research, it is relevant to exclude such as cases and material. Justification for the selection in this research has been accounted for within 4.2 case selection. However, the research limitations do not disqualify the result. Instead, it creates incentives for future studies, particularly within the transition towards sustainable development on local level governance. Conclusively, the novel pathway that this research embarked on has proved fruitful, and CAF as an analytical tool within political science has proven itself to be valuable creating incentives for usage in future studies.

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9 Appendices

9.1 Appendix I: SDG Goal 13's Targets and Indicators

Targets	Indicators
<p>13.1 Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries</p>	<p>13.1.1 Number of deaths, missing persons and persons affected by disaster per 100,000 people</p> <p>13.1.2 Number of countries with national and local disaster risk reduction strategies</p> <p>13.1.3 Proportion of local governments that adopt and implement local disaster risk reduction strategies in line with national disaster risk reduction strategies</p>
<p>13.2 Integrate climate change measures into national policies, strategies, and planning</p>	<p>13.2.1 Number of countries that have communicated the establishment or operationalization of an integrated policy/strategy/plan which increases their ability to adapt to the adverse impacts of climate change, and foster climate resilience and low greenhouse gas emissions development in a manner that does not threaten food production (including a national adaption plan, nationally determined contribution, national communication, biennial update report or other)</p>
<p>13.3 Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaption, impact reduction and early warning</p>	<p>13.3.1 Number of countries that have integrated mitigation, adaption, impact reduction and early warning into primary, secondary and tertiary curricula</p> <p>13.3.2 Number of countries that have communicated the strengthening of institutional, systematic and individual capacity-building to implement adaption, mitigation and technology transfer, and development actions</p>
<p>13.a Implement the commitment undertaken by developed-country parties to the United Nations Framework Convention on Climate Change to a goal of mobilizing jointly \$100 billion annually by 2020 from all sources to address the needs of developing countries</p>	<p>13.a.1 Mobilized amount of United States dollars per year starting in 2020 accountable towards the \$100 billion commitment</p>

in the context of meaningful mitigation actions and transparency on implementation and fully operationalize the Green Climate Fund through its capitalization as soon as possible

13.b Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing States, including focusing on women, youth and local and marginalized communities. Acknowledging that the United Nations Framework Convention on Climate Change is the primary international, intergovernmental forum for negotiating the global response to climate change.

13.b.1 Number of least developed countries and small island developing States that are receiving specialized support, and amount of support, including finance, technology, and capacity-building, for mechanisms for raising capacities for effective climate change-related planning and management, including focusing on women, youth and local and marginalized communities.

(United Nations, Sustainable Development Goals, 2015)

9.2 Appendix II: Mandates Distributed for City Council for the Last Three Elections in Jönköping and Lund

Table 4: Mandates distributed for city council for the last three elections in Jönköping and Lund

	2010	2014	2018
0680 Jönköping			
Moderates	21	17	14
Center Party	5	6	7
Liberals	5	4	4
Christ Democrats	13	10	14
Green Party	4	6	4
Social Democrats	27	26	23
Left Party	3	4	5
Swedish Democrats	3	8	10
Others	0	0	0
1281 Lund			
Moderates	18	13	11
Center Party	3	3	4
Liberals	10	7	9
Christ Democrats	2	2	2
Green Party	9	9	6
Social Democrats	15	15	13
Left Party	4	5	6
Swedish Democrats	3	5	6
Others	1	6	8

(Statistics Sweden, 2021a)