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TIIVISTELMÄ:

Tutkimuksen kohteena ovat julkisten hankintojen ympäristönäkökulmat. Ympäristöön liittyvät haasteet, kuten ilmastonmuutos, luovat uusia vaatimuksia julkisten organisaatioiden toimintaan. Suuren vaikuttavuuden vuoksi julkiset hankinnat ovat tärkeä menetelmä ohjaamaan markkinoita ympäristöystävällisempään suuntaan.

Tutkimuksen teoria koostuu julkisista hankinnoista ja niiden ympäristövaatimuksista. Teoriaosuudessa käydään läpi voimassa olevaa kansallista ja kansainvälistä lainsäädäntöä sekä muuta ohjeistusta ja linjauksia liittyen ympäristönäkökulmien huomioon ottamiseen julkisissa hankinnoissa. Teoriaosuuden pääosassa on Green Public Procurement, eli suomennettuna vihreät julkiset hankinnat, sen määritelmät, mahdollisuudet ja haasteet sekä sen käyttäminen julkisissa hankinnoissa. Teoriaosuuden tarkoituksena on pohjustaa tutkimuksen olennaisimmat elementit, ennen niiden tuomista käytäntöön.

Tutkimuksen tarkoitus on tutkia julkisten hankintojen ympäristönäkökulmien toteutumista Helsingin kaupungin hankintatoiminnoissa. Tutkimus toteutetaan dokumenttianalyysinä ja tapaus-tutkimuksena. Tutkimusaineisto koostuu Helsingin kaupungin saatavilla olevista dokumenteista ja informaatiosta, kuten hankintastrategiasta ja ympäristöpolitiikasta. Analyysin tarkoituksena on kohdistaa tarkastelu dokumenteista nähtäviin hankinnoille asetettuihin ympäristövaatimuksiin ja -näkökohtiin. Tutkimusvaiheessa tarkastellaan Helsingin kaupungin yleisiä ympäristötavoitteita sekä ympäristönäkökulmasta hankintojen tavoitteita, kriteerejä ja ohjausta, hankintoihin liittyviä projekteja, mutta myös hankintatoimien seuranta ja raportointia. Jokaiselta osaluualueelta etsitään omia dokumentteja, joita analysoidaan ympäristönäkökulmasta.

Tutkimushavaintoina voidaan nostaa esiin, että ympäristönäkökulmat on huomioitu jokaisessa tarkasteltavassa dokumentissa ja aineistossa. Helsingin yhtenä suurimmista tavoitteista on keskittyä ilmastotoimissaan hankintoihin ja niiden avulla tehtävään ilmastotyöhön. Helsinki on myös listannut monia erilaisia ympäristötavoitteita hankinnoille. Helsinki on myös mukana erilaisissa kansainvälisissä ja kansallisissa projekteissa, joiden tarkoitus on edistää ympäristönäkökohtia julkisissa hankinnoissa. Tavoitteiden toteutumisen seuraaminen ja raportointi tapahtuu pääosin liitettynä Hiilineutraali Helsinki 2035-projektiin, mutta myös muilla toiminnoilla on omia tapojaan tämän toteuttamiseen. Silti, konkreettisista toimista eri organisaatiotasolla on vielä vähän tietoa.

Johtopäätöksenä voidaan todeta, että ympäristönäkökulmat ovat jo hyvin tunnettuja Helsingin kaupungin hankinnoissa. Tulevaisuudessa ympäristönäkökulmia tullaan kuitenkin ottamaan yhä enemmän huomioon ja konkreettisia ilmastotoimia edistetään jatkuvasti.

AVAINSANAT: Public procurement, environment, environmental responsibility, Green public procurement, environmental criteria

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1 Introduction

This research is about Green Public Procurement in the Capital city of Finland, Helsinki. Environmentally responsible Public Procurement actions are very current and important these days, as climate change and other environmental questions are concerning many of us. It is more likely a rule, not an exception in the current organizations, to have some kind of a risk management plan towards environmental issues in the middle of their daily operations, but also to make a strategy towards preventing those issues.

Municipalities and Cities are big actors when it comes to environmental actions. That is why the focus of this research is on the biggest city of Finland, Helsinki. The focus will be on the public procurement in the city of Helsinki because it is the Capital city of Finland and at the same time a city, that does a lot of new projects and procurement actions every year. As a capital city, Helsinki also acts as a responsible vanguard for the rest of the Finland but also shows the state of the environmental status to all the other world. As a member of the European Union (Further EU), Finland is also responsible in taking into account the international legislation and directives in the local actions of the operators.

Public Procurement is a major factor in achieving the regional environmental standards, as municipalities and cities are major suppliers and make massive procurement actions every year. Regarding to the latest environmental report of the city of Helsinki, the city does Public Procurement annually worth approximately four billion euros (Helsinki, 2020b). On the scale of the EU, the public servers are using 14 % of the whole GDP of EU (European Commission, 2019a, p. 3). This way the actions have large environmental effects, as procurers can decide, how they are consuming the public resources while choosing the purchases.

There is a term made for environmentally friendly Public Procurement, that is considering the environmental aspects along the procurement process, called Green Public

Procurement. Later in this thesis, there will be a more precise explanation of Green Public Procurement. Also, the guidelines and regulations concerning green public procurement will be stated, as they make a baseline for all the public operations to work and to help them make decisions taking into account also the environmental aspects.

By doing this research, I would first like to show what are the current guidelines for the public procurers to make environmentally friendly public procurement. Further, there will be a description of green public procurement actions, using the City of Helsinki as an object of the research. There is also a research gap for this topic, as there is no research done, that would include the procurement actions of Helsinki City, from the green public procurement point of view. Green public procurement is also quite researched internationally, but in the state of regional green public procurement in Finland, there is not much evidence found about research. The idea behind this research is to highlight the importance and responsibilities of public operators, in fulfilling environmental demands. Also with this research, cities or other public operators could see the opportunities that green public procurement has, thus it could be a part of every city's daily decision-making.

This research starts with the theoretical framework of the research topic, where the previous studies and also key terms and subjects, such as public procurement and green public procurement will be defined and discussed. This will give the following research a good base with knowledge and information concerning the main subjects. Further, the research method, used documents, and the research itself will be stated. The summary of the topic will be discussed and described, following the research. The answer to the research question will be found in this section. Then, the findings will be analyzed in the conclusion section, where the findings of the study will be found.

2 Environmental goals and objectives of public procurement

2.1 Existing literature in the field

There have been former research made concerning environmental aspects of public procurement. However, most of the research is done internationally. The researched aspects of green public procurement have been for example challenges of GPP and further, about the usage of GPP. Also, some of the leadership aspects are already also investigated, such as knowledge and its relevance in public procurement, so there is no need to examining that aspect too much.

Then again, all the former research concerning Green Public Procurement has already been done a while ago and there is not much current information on the state of public procurement actions done nowadays. This brings the motivation on examining the current situation and actions of green public procurement. An exception to this is current research done by Palmujoki & Vartiainen (2020), where the usage of environmental criteria in tender documents and procurement contracts has been studied. The object of this research is 147 Finnish, Swedish and Danish procurement documents (Palmujoki & Vartiainen, 2020, p. 2).

Many of the previous studies concerning GPP have been case studies, referring to one or few cities or states at a time. For example, Fet et al (2011) have done research about GPP practices, but the object of the research has been Norway (Fet et al, 2011). Lundberg et al (2015) have focused the research on the motivation of private suppliers in GPP (Lundberg et al, 2015). Later, Lundberg & Marklund (2018) have studied GPP as a policy instrument and researched its function in public organizations (Lundberg & Marklund, 2018).

Eskola et al (2017) have been studying the procurement process but also the legal side of public procurement, such as Oksanen (2010) (Eskola et al, 2017; Oksanen, 2010).

The City of Helsinki has not been the objective of the former research done regarding green public procurement. Further, as the Capital city of Finland, the city is a major objective to focus the research on. The procurement actions of the city have also gone through many current renovations. Environmental consideration of the research is also very needed, regarding the need for actions towards climate crises.

Considering all these stated aspects, this research is thought to be very relevant and current with its actual information of the procurement actions in the city of Helsinki.

2.2 The concept of Public Procurement

Regarding Eskola et al (2017) procurement can be defined as a situation, when goods or services are purchased or lended (Eskola et al, 2017, p. 44). The supplier of the procurement must be someone else, then the buyer organization (Oksanen, 2010, p. 22). Procurement can be divided into the procurement of goods, procurement of services, as well as procurement of building projects (Eskola et al, 2017, p. 45–46).

Public procurement is based on law and is executed by creating a purchasing contract between the public purchaser and its chosen supplier (Siikavirta, 2015, p. 22). Public procurement can be thought of as a process, where the aim is to procure products and services, by the needs of an organization (Andronie et al, 2020, p. 6). Public purchases are made using suppliers from the outside, due to the need to purchase various different goods and services (Siikavirta 2015, p. 12). The definition of a procurement contract gives a more broad definition also for procurement itself. Regarding procurement law, a procurement contract can be defined as a contract, where the intention is to fulfill procurement and which is written by the operators taking part in the procurement (Eskola et al, 2017, p. 39).

Procurement units can be divided into the public operators such as municipalities, public institutions, or public utilities of the nation. Furthermore, if public purchaser has majority of its financial support from the purchase unit, the purchaser can be defined as a procurement unit (Eskola et al, 2017, p. 47–48.) The procurement unit needs to obey procurement law in purchases (Oksanen, 2010, p. 22).

The definition of the procurement process is crucial while discussing procurement. The procurement process can broadly be divided into five different steps, defining the purchase, tendering, comparing the tenders and deciding about the procurement, making a procurement contract, and monitoring the contract (Oksanen, 2010, p. 50).

Defining the purchase is done by carefully describing the needed product or service to be purchased (Valtiovarainministeriö, 2017, p. 131, 138). Briefly stated, the tender process is started by creating a procurement notification, including all the wanted aspects, that the purchaser wants to be included in the procurement (Oksanen, 2010, p. 47). In the technical specifications of the notification, the purchaser can inform the bidders of the required and desired terms of the purchase (Valtiovarainministeriö, 2017, p. 166). The suppliers, who are then interested in offering their services or products to the purchaser, based on this notification, can leave their offers in the tendering process. Tendering can be described as a battle between different suppliers, offering their product or service as a bidder, by giving their offer to the purchaser (Oksanen, 2010, p. 23–26.)

Comparing of the tenders is done by looking for the most relevant tender, based on price and quality (Valtiovarainministeriö, 2017, p. 182). Procurement contract is done between the chosen tenderer and the public purchaser, after the public purchaser has decided the winner of the tender process (Oksanen, 2010, p. 23–26). Monitoring of the procurement contract is then done throughout the implementation of the procurement, by the purchaser. This stage includes ensuring the execution of the agreed contract (Valtiovarainministeriö, 2017, p. 219).

Public procurement has many intentions and meanings for society. It can be economically beneficial by the means of tendering and further have a positive effect on effective usage of tax funds (Siikavirta, 2015, p. 22–23.) One of these social meanings is also environmental effect on the society, which will be discussed later in depth. On the other hand, social aspects of public procurement bring also different kinds of pressure to procurement decisions, due to the broad effect it has on people and for example the usage of tax funds (Siikavirta, 2015, p. 29).

2.3 Principles of public procurement

Principles of public procurement define the intention of public procurement. The basic idea behind Public Procurement is that Public actor, such as a City, uses money from taxes, to procure products and services for the people living in the society. The meaning behind public procurement is to execute the responsibility of public operators in purchasing goods and services (European Union, 2016, p. 21.) This can also be thought of as a difference between the meaning of public and private procurement (Siikavirta, 2015, p. 29).

As public operators use the money of the citizens through tax-payments to procure goods and services, another basic principle of public procurement is to create as much value for the money as possible, so that the operating is purposive (European Union, 2016, p. 21; Siikavirta, 2015, p. 30). That is why cost-efficiency is one of the key values and targets for public procurement. Even though the cost-efficiency in public purchases is important, there are still many other sides that can be seen as a value, such as environmental aspects, quality, and effectiveness. Those aspects are defined taking into account the wanted outcome of the purchase (European Union, 2016, p. 21.)

Public purchases are regulated by national procurement law and also by the procurement directives of the EU (European Union, 2016, p. 21). The Finnish procurement law guides principles of public procurement (Eskola et al, 2017, p. 33). Finnish procurement

law is meant to increase quality, innovativeness, and sustainability in public procurement but also to make public spending as effective as possible and ensure equality in the tender process (Valtiovarainministeriö, 2017, p. 26).

The principles stated in the procurement law are transparency, relativity, as well as equal and non-discriminative treatment. Transparent operation is required in the work of public operators, also in the procurement process. This can be defined as the principle of transparency (Eskola et al, 2017, p. 33–34.) Regarding to the latter, for example, the procurement notifications are needed to be published (Siikavirta, 2015, p. 31).

The principle of relativity can be defined as balance between the demands and the goals of the procurement process. Then again, the principle of equal and non-discriminative treatment means equal treatment in the procurement process, especially considering participants of the tender process. Further, it is also meant to ensure the operation of tender competition (Eskola et al, 2017, p. 34–36.) Justice can also be considered as a principle of public procurement. It means that public purchasers must obey the principles of internal markets (European Union, 2016, p. 21).

2.4 Environmental guidance for public procurement

In Finland, there is national and international regulation concerning public procurement. There is a lot of guidance set for the regional and national operators to follow in public procurement, but next the most relevant and current guidance will be stated. Nowadays the environmental aspects have also been more highlighted in these guidance.

2.4.1 International guidance

International guidance regarding public procurement can be divided into the Treaty of the functioning of the European Union, the GPA Agreement, and the directives of the EU (European Union, 2019, p. 7).

The Treaty of the functioning of the European Union is creating a fundament for public organizations to work in the European Union. Regarding the treaty, it has been decided, that the principles of openness and mutual as well as indiscriminative treatment should be obeyed in public procurement. The GPA Agreement is meant to create mutual possibilities for foreign and national competitors to access the procurement tender process (European Union, 2019, p. 7.) Hence, this guidance are also applicable to green public procurement (European Union, 2016, p. 5).

The EU directives considering public procurement are (2014/23–25/EU), which have been given in the year 2014. The directives have been taken into consideration in the updated Finnish procurement law, stated further (Työ- ja elinkeinoministeriö, 2016.) The motivation for the EU to make this regulation is that the member countries would take into account different important aspects of public procurement, such as environmental aspects, besides the basic purpose of public procurement, as in value creation in using public funds for the people of the member country (European Commission, 2017, p. 219). The intentions of the Directives have also been to give equal possibilities for different types of procurement units to operate (Työ- ja elinkeinoministeriö, 2016).

The European procurement directives are meant to make public operators more aware of environmental aspects in public procurement. The directives guide public operators through the procurement process, from planning the procurement to making the procurement contract. The directives have also created practical techniques for the public operators, such as life-cycle costing, environmental criteria, and specification in the production processes, towards sustainability. The newest of the directives have been released in the year 2014 and have been created to simplify public procurement of the

member states. Those directives were then transposed into the regulation of the member states (European Union, 2016, p. 4.)

The European Union has further given guidance through three handbooks, created as a help for public operators on green public procurement. The newest, third of these handbooks has been given in the year 2016 (European Union, 2016). In the newest of the handbooks, planning and implementation of Green public procurement are in the middle of the consideration and the handbook shows the guidance to public sector operators through European Union Law. It goes through the whole procurement process step by step with seven different chapters and parts of the process, and that way shows practically how the consideration of environmental aspects can be done in the procurement processes (European Union, 2016.)

First, the handbook encourages the public operator to possibilities for green public procurement in the particular organization. Moreover, it emphasizes planning and the implementation of the green aspects in the procurement process. It guides the operator to make sort of a strategy for the process, including target definition, priority setting by the means of ecological products and services, but also knowledge sharing and monitoring of the gotten results. The handbook focuses also on bringing the environmental aspects into consideration in the procurement process (European Union, 2016, p. 9.)

Further, the handbook gives an example of some of the mandatory environmental legislation there is concerning some specific procurement objects, such as Office IT Equipment, buildings, and road transport vehicles (European Union, 2016, p. 6.)

Furthermore, European Commission has created a GPP Training Toolkit for public servants to enhance the green consideration of the green aspects in the procurement process. In the toolkit, there are stated five different modules, including information about GPP implementation in different parts of the procurement process. These parts are summarized in five parts: the introduction of GPP, strategic aspects of GPP, legal aspects of GPP, needs assessment, GPP and the circular economy, as well as lastly, market

engagement. However, there are also guides stated for different types of purchases, such as computers, monitors, and cleaning services (European Commission, 2019c.)

2.4.2 National guidance

From the national side, the law of public procurement and the contracts of user rights (L1397/2016) regulates Finnish public procurement (Valtiovarainministeriö, 2017, p. 25). The Finnish procurement law has recently been updated in the year 2016, due to the updating of new directives of the European Union (Työ- ja elinkeinoministeriö, 2016). The previous law was made in the year 2007. Since the law has been updated, there are new environmental aspects emphasized, comparing to the former law (Eskola et al, 2017, p. 27; Palmujoki & Vartiainen, 2020, p. 2–3.)

Finnish procurement law is made to help public suppliers to take into consideration the environmental aspects while deciding about the procurement actions, for example in the tender process (Valtiovarainministeriö, 2020c, p. 97). As a part of updating the Finnish law of public purchases, the public purchasers have now more concrete rules for taking into consideration the environmental aspects in their purchases. These rules are still just guidance and are not mandatory to be used in public purchases (Eskola et al, 2017, p. 27–28; Palmujoki & Vartiainen, 2020, p. 3.)

The main updates concerning environmental aspects of the procurement law are concerning life-cycle costs in the procurement process and the usage of eco-labels (Palmujoki & Vartiainen, 2020, p. 3). Further, in the Finnish procurement law it is stated, that defining the object of the procurement, demanding for the procurement, comparing tenderers, and defining contract clauses are the parts of the procurement process, where environmental aspects can especially be considered (Valtiovarainministeriö, 2020c, p. 97).

Finnish Government has given a principal decision in the year 2013, which is considering furthering sustainable environmental- and energy solutions (further called cleantech solutions) in public Finnish procurement procedures. The principle decision has been created to decrease environmental effects on public procurement, such as usage of energy and materials, but also to further life cycle counting, and to foster new cleantech innovations. The particular principles were consideration of energy- and environmental aspects, mapping out new cleantech possibilities but also using life cycle costing and other ways of calculating the energy- and material efficiency in all the public procurement. There have also been given even more particular instructions for the different procurement divisions, such as waste management and electricity purchases (Valtioneuvosto, 2013.)

The Finnish Government has also made a handbook for public procurement, in which all the steps have been stated, where environmental aspects can be considered while executing the procurement process. Regarding the handbook, the environmental aspects can be taken into consideration in different parts of the procurement process, from the preparation of the procurement to controlling the fulfilment of the procurement contract (Valtiovarainministeriö, 2017).

Moreover, the current prime minister of the government of Finland, Sanna Marin, has also given a program of the government, where there are multiple environmental aspects taken into consideration concerning public procurement. One of those is for example, that climate- and sustainability goals are being forwarded with public procurement (Valtioneuvosto, 2019, p. 109).

Further, there has been given national strategy of public procurement in the year 2020, which is meant to guide Finnish public procurement in the right direction, giving shared values and goals to all procurers nationwide (Valtiovarainministeriö, 2020a, p. 3). In this strategy, ecological sustainability is one of the main goals and Finland is also aimed to be a forerunner of ecological public procurement. The strategy is made bearing in mind other broad environmental projects and goals of Finland, such as Carbon neutral Finland

2035- project and other goals, which are executing the procurement strategy in practice for one's part (Valtiovarainministeriö, 2020a, p. 12.)

When going deeper into the ecological goals for public procurement, there has been set particular goals for public purchasers to follow, while executing public procurement and to further national environmental goals to succeed. Those goals are to support circular-economy and the goal of the Carbon neutral Finland 2035-project, by choosing sustainable purchases but also to set a goal for carbon neutrality in the biggest public purchases. A more particular goal is to further sustainability in public grocery- and food purchases (Valtiovarainministeriö, 2020a, p. 12.)

The first steps towards the set goals are to improve regulation and guidance of public procurement and to create actions towards sustainable procurement, such as guide-books and development projects (Valtiovarainministeriö, 2020a, p. 12.) This strategy is meant to guide all the public procurement done in Finland and the importance of national cooperation is emphasized in the concrete execution of the goals set. There are also made different theme groups, with procurement specialists to spread the responsibility of the operations concerning the strategy and to make the strategy work in action (Valtiovarainministeriö, 2020a, p. 13.)

3 Green Public Procurement (GPP)

Green Public Procurement means the Procurement process, including environmental consideration (Lundberg et al, 2015, p. 491). GPP can be seen as public procurement units stating environmental standards for public procurement and more precisely, to the suppliers of the products or services (Lundberg et al, 2015, p. 488). GPP can be used in the implementation of environmental aspects into the work of public organizations (European Commission, 2016).

Then again GPP can also be seen as a purchase with low or minimal environmental impact (Smith & Terman, 2018, p. 203). As we can see from the translations, green public procurement can be considered as an environmentally friendly way of purchasing by public sector actors.

With GPP, public operators can improve the usage of environmental aspects in the Public procurement process and develop procurement towards more environmentally friendly actions (European Commission, 2020). GPP can be seen for example, by public suppliers setting concrete environmental criteria for procurement contracts (Lundberg & Marklund, 2013, p. 76).

Green Public Procurement principles have been decided by the level of the European Union, but are made to be used on a national level. It is important that even though the principles are not mandatory, they are still obeyed and taken into consideration at the national and regional level so that it is valuable to do these kinds of principles. The principles can be included for example to the regional strategies and goals, and then it is also important to follow the fulfillment and executions of those strategies and plans so that they are happening in real life, as they should (European Union, 2016, p. 12–14).

3.1 GPP as an environmental policy instrument

Environmental aspects are recognized as one of the main societal objects, concerning public procurement incentives (Valtiovarainministeriö, 2020c, p. 13). Green Public Procurement can be used as a policy instrument of public operators, fighting against environmental issues, as well as for example regulation and emission taxes (Marron, 2003, p. 88). As the amount of purchases public organizations do is crucial, they also affect the environment. Those effects can be measured throughout the whole life-cycle of the product, by for example water consumption, waste generation, and creation of toxic emissions (European Commission, 2019a, p. 5.) As the extent of the annual purchases of public operators is enormous, GPP can have a big effect on the markets and guide them towards greener purchasing (Lundberg et al, 2015, p. 488).

With public procurement, public organizations can have a huge effect on the whole community and economics, which makes Public Procurement also so effective in many ways (Valtiovarainministeriö, 2020c, p. 13). Public procurement is one of the biggest ways for public operators to create environmental improvement in their actions (Smith & Terman, 2018, p. 204). As public procurement might be happening between the public purchasers and international suppliers, GPP can also have an effect on supplier organizations internationally (Nissinen, 2004, p. 11). Green public procurement is also aiming to further count the life-cycle costs in the procurement process, by focusing on products with minimum emissions throughout their life-cycle (Nissinen, 2004, p. 11). By GPP public organizations aim to influence positively on cost-efficiency and the increasing of environmental aspects on the procurement (Marron, 2003, p. 72).

The impacts of green public procurement can be direct or indirect. The direct impact of green public procurement happens when environmental aspects are brought into implementation in public purchases. Moreover, indirect impacts are coming into the picture, when public organizations are cheering for other purchasers in taking environmental aspects into account in their purchase decisions and processes (European Commission, 2019a, p. 10).

While implementing public procurement, there is a pressure of choosing the right kind of supplier for the wanted products or services, to increase the relevance of the procurement decisions, so that the procurement serves as many set goals as possible, including environmental goals (Euroopan yhteisöt, 2005, p. 12; Valtiovarainministeriö, 2020c, p. 13). Thus, to be able to take into consideration all the wanted aspects of procurement, the planning of the procurement must be highlighted (Euroopan komissio 2005, p. 13). But although the public procurement needs to be planned, it also needs to be easily convertible, as there are many new and sudden crises (such as COVID-19 pandemic), but also special needs that need quick decision making, also considering Public Procurement (Valtiovarainministeriö, 2020c, p. 14)

By executing green public procurement in the public sector, the operators are working towards environmentally friendly practices and at the same time, fulfilling environmental sustainability in practice (Smith & Terman, 2018, p. 204.) The previously stated national and international regulations give procurers environmental guidelines to follow so that the processes reach the wanted standards and outcomes.

Furthermore, executing green public procurement is intended to have a positive impact on the markets in environmental means. As public sector organizations are major procurers, they also have a massive impact in the markets, with procurement decisions they are making (European Commission, 2016; Andronie et al, 2020, p. 6). Their intention is also to show an example to the markets and other operators, such as private sector organizations, by fulfilling green procurement (Marron, 2003, p. 84).

Then again the sustainability of executing green public procurement practices and actions show also from the resources, as they are focused on environmentally friendly purchasing, instead of non-environmentally friendly ones. This way public operators are investing in ecological products or services while doing these purchases (Smith & Terman, 2018, p. 204.) While the resources are focused on environmentally friendly

products and services, it also inspires the other suppliers to make more environmentally friendly products or services (European Commission, 2016).

By green public procurement, public organizations are also minimizing risks in legal problems, as green public procurement aspects are taking the legislation into consideration throughout the whole procurement process (European Commission, 2019b, p. 8).

As a conclusion, by executing green public procurement, public procurers are fighting against global environmental crises, such as climate change, by investing in ecological suppliers, products, and services (Andronie et al, 2020, p. 6). GPP has also other crucial side effects, which will be discussed later.

3.2 Opportunities of green public procurement

Next there will be stated, if Green public procurement has also other positive effects, besides the environmental effects.

Green public procurement is a way for the public organizations to execute and take into account their important values, such as sustainability and innovation enforcement but also affect other external suppliers and other organizations (Andronie et al, 2020, p. 4–6). By green public procurement, public actors could for example enforce the demand of environmentally friendly organizations and this way, even create new jobs in this kind of organizations (European Commission, 2016, p. 11).

By choosing suppliers with ecological offerings, public operators can encourage the usage of ecological products or services in the markets (Marron, 2003, p. 84–85). These kinds of products and services could be done by using for example reusable materials or ecological electricity (Andronie et al, 2020, p. 4). By furthering the usage of environmental aspects in public procurement, public organizations are also making the people and

other operators more conscious about the need of taking into account environmental aspects (Fet et al, 2011, p. 184).

Then again, by enforcing the demand of environmentally friendly organizations, it could also make the other organizations willing to compete and modify their demand towards environmentally friendly products and services and invest in sustainability in their processes (Nissinen 2004, 11; Marron, 2003, p. 83). Also, by the increasing of competition in the markets, new innovations are created even among the private sector operators, to keep up with the pace of the competition (European Union, 2016, p. 4; Andronie et al, 2020, p. 4). And by encouraging the use of new environmental innovations, public operators are also creating a path for other purchasers to follow, by publicly accepting those innovations (Andronie et al, 2020, p. 4; Fet et al 2011, p. 184).

Furthermore, choosing ecological products or services to buy, could also lower the expenses of using the bought product, as it can save for example more energy than other, non-ecological products (Nissinen, 2004, p. 10). Also, by executing green public procurement, the whole life-cycle costs of the purchased goods are considered, which means that it may lower the actual price of the whole purchase, at last in long-term scaling, even if the original price of the product would be higher at the beginning of making the contract with the producer (European Union, 2016, p. 4–5; Andronie et al, 2020, p. 2).

Then again, by choosing environmentally friendly suppliers to work with, public operators are also creating their organizational value towards the consideration of environmental aspects, but also gain legitimacy by openly reporting their results (Andronie et al, 2020, p. 8).

3.3 Implementing GPP

Implementation of GPP is done by following the guidance, regulation, and guidelines, stated previously. The aim of GPP is to find the most suitable tenderer regarding the wanted environmental goals (Lundberg et al, 2015, p. 488). Still, the usage of GPP is not always mandatory and the criteria can be defined by the public operator (Smith & Terman, 2018, p. 203).

Procurement law gives various opportunities for the consideration of environmental aspects in the procurement process. Only strict rules are to make the environmental demands meet the EU Directives, besides other mandatory regulations. Further, the environmental demands of the procurement have to be well suited for the purpose of the procurement (Lundberg et al, 2015, p. 492.)

The most crucial parts where GPP can be implemented in the procurement process, are the environmental considerations in choosing the supplier and setting the environmental demands in the procurement contracts (Lundberg et al, 2015, p. 488).

GPP policy can be a helpful tool for the implementation of GPP. By setting GPP policy, organizations can define common goals and responsibilities regarding the implementation of GPP, and this way make sure that it is understood throughout the organization. GPP policy should also be included in the existing goals and actions of the organization, such as strategy and the succeeding of the actions have also to be observed (European union, 2016, p. 10.) Long-term planning and defining a strategy is relevant while implementing GPP into the purchasing practices, as it will create clear targets, responsibilities, and also a continuous improvement to the procurement procedure. In the strategy, the public operator can have a scope on the current procurement actions of the organization and link those into the new green public procurement approach (European Commission, 2019b, p. 6–9.)

At first, public operators should do need assessment, before starting to plan further the procurement actions. By need assessment, the public operator is evaluating the real need of the object of the procurement, but also options for the object of procurement (Nissinen, 2004, p. 33.) In this situation, the public purchaser can analyze for example between buying a new product or fixing the one that has already been used (Nissinen, 2004, p. 35; Helsingin kaupunki, 2015, p. 14).

After ensuring the need for the procurement, the procurer has to choose the way it wants to fulfill the procurement process. Procurement processes can be different kinds, such as open procedure, restricted procedure, competitive procedure, and innovation partnership. The open procedure lets any tenderer take part in the process, as the restricted procedure will prevent tenderers to access the process, by stating environmental demanding but also a limit for the amount of the wanted tenderers. In a competitive procedure, the procurer selects the ones from the tenderers, with whom it wants to negotiate about the contract clauses (Helsingin kaupunki, 2015, p. 19). The innovation partnership might be used in situations, where there is a need for new ways of supplying the procurement (European union, 2016, p. 23).

After deciding the process, the procurer can start to scale the effects that the purchase is probably going to have on the environment (European union, 2016, p. 30). This will help the purchaser to define the wanted requirements for the product. Also investigating the markets for possible ways of supplying the procurement with environmental aspects might help to plan the process with the most relevant procurement actions (European Union, 2016, p. 24; Appolloni et al, 2019, p. 32). Moreover, informing markets with the need of the upcoming purchases might increase the number of potential suppliers (European union, 2016, p. 24; Helsingin kaupunki, 2015, p. 14).

Furthermore, defining the object of the procurement will allow the purchaser to set different environmental demanding for the wanted product or service, such as demands on water consumption or waste production (Valtioneuvosto, 2021, p. 35). A crucial part

for the success of Green Public Procurement is planning and defining environmental criteria for Procurement (Euroopan Unioni, 2016; Valtioneuvosto, 2021, p. 35).

Technical specifications can be considered as criteria for the wanted purchase, such as usage of ecological materials, which are informing the demand of the product to the possible suppliers (Nissinen, 2004, p. 36; European Union, 2016, p. 32). Technical specifications will be the information about the wanted procurement and they will set demands for the suppliers (Appolloni et al, 2019, p.32; Siikavirta, 2015, p. 78). By technical specifications, the public operator can set environmental targets for the wanted procurement itself, but also for the production of the procurement (Lundberg et al, 2015, p. 492). The definition is meant to make the purchase equal, indiscriminative, and for everyone to understand it but also, to make it well suited for its purpose (Eskola et al, 2017, p. 348). That is why the demands need to be stated very clearly (Lundberg et al, 2015, p. 489).

Environmental criteria can be one way of placing the environmental demands for the procurement (European Union, 2016, p. 16). Those criteria can come from the GPP criteria of the European union, which are stated for different types of purchases, such as road design and cleaning products (European Union, 2016, p. 15). Other used environmental criteria can be different labels, such as EU Ecolabel or Finnish Swan-label, which are marked on the environmentally friendly objectives of the purchases (European Union, p. 16; EU-ympäristömerkki, 2017, p. 4).

Ecolabels can be described as a label that has been given to a product or service, because of its ecological nature. To get an ecolabel, the product must fill the certain environmental criteria, which can be thought of as an ecological guarantee. By purchasing products or services including eco-labels, public operators can be sure of its ecological nature, without further consideration. The public operators can take ecolabels into consideration in public purchases, by stating them as demanding for the tenderers. The demands can be minimum demands or it can give a tenderer lead in a tender process if the public

operator has set ecolabel as a valued quality for the tenderers (EU-ympäristömerkki, 2017, p. 4.).

One of the most important parts of executing Green public procurement in action, besides defining the strategy, is the tender process between different producers. In this part, the supplier can set strict qualifications and also environmental criteria for the contenders. In a call for tenders, the public suppliers will define the wanted demands and aspects, that are required for the product or service. Also, in a call for tenders, the supplier can also emphasize different environmental demands for the wanted bidder. The call for tenders must be clearly defined and easy to understand, but also the demands must be stated carefully (Nissinen, 2004, p. 34–35.)

Procurers can also state different suitability demanding for the bidders, such as knowledge in green public procurement. Then again, procurers can also value different know-how and experiences on executing environmental projects, or even the possession of an environmental control system in the bidder organization (Valtioneuvosto, 2021, p. 36–37). This way, by demanding different types of environmental criteria, GPP can even increase the usage of different environmental actions and -systems in the potential supplier organizations (Lundberg et al, 2015, p. 492).

While comparing different tenders, the supplier can take into consideration environmental aspects, such as energy efficiency or life cycle-costs, which are the costs from producing, using, and consumption of the procurement (Valtioneuvosto, 2021, p. 37). The purchaser can also evaluate the competencies of the tenderers, in implementing the wanted environmental aspects in the procurement process. In this stage, the purchaser can evaluate for example the environmental knowledge or previous history of the organization in taking into consideration the environmental aspects or observation routines of the environmental aspects (European union, 2016, p. 43.)

Purchasers can also exclude tenderers, for the reasons stated in the public procurement directives (European union, 2016, p. 43; Lundberg et al, 2015, p. 496). One of those

reasons is for example if the tenderer organization is not obeying the environmental regulation (European union, 2016, p. 43.)

The procurement contracts are also a way of ensuring, that both parties of the contract are aware of the agreed environmental parts of procurement. This way the procurer can also verify, that the producer has all the needed aspects to executing the procurement by the means of the contract (Nissinen 2004, p. 45; European union, 2016, p. 62). The supplier can engage the producer to comply with environmental aspects by stating different contract clauses about environmental aspects (Valtioneuvosto, 2021, p. 38; European union, 2016, p. 62). The environmental aspects can be considering the practical ways of supplying the purchase, such as the way the products are transported or packed (European union, 2016, p.65).

After signing the procurement contract, the purchaser is also needed to observe the implementation of GPP, by for example having an external observer or by asking for environmental reports from the supplier. The contract must also include incentives and punishments (such as fines), if the supplier is succeeding or failing with the implementation of the given clauses (European union, 2016, p. 66.)

3.4 Challenges of Green Public Procurement

Even though GPP has several benefits for its users, climate, markets, and other substitutions, there are still a few challenges for GPP to state. Most of the challenges are not negative sides of the GPP itself but are rather referring to the implementation of GPP in an organization.

GPP can be a successful environmental policy tool for public organizations, if it is taken seriously and grounded to the operations of the organization. For this to succeed,

organizations need to consider the GPP aspects in all of its procurement actions and possibly even change the organizational culture thoroughly to make the implementation of the GPP possible (Testa et al, 2016, p. 1899). Having GPP included in the basis of the purchase operations of the organization and putting environmental aspects in practice might be difficult, but crucial for GPP to succeed (Fet et al, 2011, p. 195–196).

GPP aspects need critical consideration also from the leader, who will be responsible for giving the guidance towards GPP goals, throughout the process, but also in creating a strategy for GPP implementation (Testa et al, 2016, p. 1899; Testa et al, 2012, p. 94). This way implementation of GPP is more likely a managerial issue (Testa et al, 2012, p. 94). Securing that the procurement operators of the organization are aware of the GPP aspects is crucial, but also that they have the knowledge of doing the right things to succeed in GPP. The knowledge in this procurement framework means for example technical and legal knowledge of the process (Testa et al, 2012, p. 94.) This way knowledge and sharing information become demands for GPP to be successfully implemented (Testa et al, 2012, p. 94.; Fet et al, 2011, p. 195).

Moreover, organizational structure can also bring challenges, when it comes to the implementation of GPP. Smaller organizations might have problems with not only smaller resources referring to money but also smaller opportunities in arranging responsibilities within the organization considering GPP. GPP needs responsible operators to secure the implementation and planning into the organization and smaller organizations might have fewer possibilities in arranging these kinds of roles inside the organization (Testa et al, 2012, p. 94; Fet et al, 2011, p. 194). In addition, actors in the procurement process have to have common targets and goals for the procurement process and to have a similar understanding of the meaning and relevance of environmental aspects (Fet et al, 2011, p. 194).

Then again, GPP is likely to increase the amount of environmentally friendly organizations on the markets, by selecting only the sustainable organizations to procure goods

and services, and this way to further the need for environmentally friendly organizations. However a situation might also occur, where the amount of environmentally friendly suppliers is not increasing, but the same organizations are staying time after time in the tender process (Lundberg & Marklund, 2013, p. 77). Moreover, when public organizations are favoring environmentally friendly products and services, the prices of these products will rise. If there are other similar, but non-ecological products or services in the markets, this might affect the procurement of private sector organizations. The situation might create a chance of choosing the non-environmentally friendly products and services cheaper. This way, it might increase non-ecological purchases in the private sector (Marron, 2003, p. 85).

One of the challenges of GPP is referring also to the procurement regulation. Even if procurement law is meant to be furthering the usage of environmental aspects in procurement, the purchaser must still be careful how the environmental demands for the tenderers are stated. The environmental demands cannot counter with the basic principles of the procurement, stated in law. This is why the purchaser cannot make demands on the specific products including specific environmental criteria such as ecolabel. However, the purchaser can value different environmental criteria in the work of tenderers (Nissinen, 2004, p. 53.)

As a conclusion, GPP needs a concrete effort and actions to be made at all the organizational levels to succeed (Testa et al, 2016, p. 1899). It also needs responsible authorities, who are fully focused on furthering GPP in the organization, to make it succeed.

4 Research and analysis

4.1 Research question

In this research, the following research question will be analyzed:

In what ways are the environmental aspects taken into consideration in public procurement in the city of Helsinki?

This research is about examining the environmental aspects of public procurement, further to know what is the current state of green public procurement in the city of Helsinki. The research will be including analysis of different projects and other actions that are done to make the public procurement greener. In this research, the focus will particularly be on Green public procurement of the City of Helsinki and in what ways are environmental aspects taken into consideration in this particular city, as such a relevant public actor as a capital city of Finland.

This research will be relevant to all the public and private operators, but particularly to the City of Helsinki, as it shows the current state of the environmental actions in public procurement of the city of Helsinki. By doing this research, I will show the current actions that are made towards green public procurement in this particular city.

By doing this research, I will come up with actual and precise examples concerning Green Public Procurement. There is also an interest to see the current plans and strategies furthering green public procurement and furthermore, to see the actual actions that have been done. Moreover, reporting of these actions is one of the main points in the research and it is a way of emphasizing the transparency of the achievements, already existing.

The documents and actual materials concerning public procurement in the city of Helsinki are in the middle of this research. Documents and other information will be analyzed bearing in mind the environmental aspects and basis of green public procurement.

This research could be used as an example of the execution of green public procurement to other procurers. Otherwise, it could show if there are still parts, where public procurement could still be more green and if there are actions still missing.

Now that the introduction and basis of the research topic have been stated, further, there is going to be an interest for research the pointed research question, targeted to the chosen object, the City of Helsinki. The stated framework of green public procurement and environmental aspects of public procurement give the research a guide while analyzing the documents is done. I will be executing the analysis through the framework of green public procurement and how green public procurement actions are seen in the City of Helsinki.

4.2 Research method

This research takes place in the City Of Helsinki. The research focuses on the qualitative research method since it helps to evaluate the research topic and questions in more depth. It also focuses on the phenomenon in a broad view. The basis for qualitative research is, that first the wanted framework is outlined and the framework creates a guide to the analysis of target of the research (Alasuutari, 2011.)

In this research, the latter means that the stated framework of the research, as in green public procurement, will be the framework while analyzing the documents. Further, it will create a fundament for this research. This way, the focus of the research will only be restricted parts of the documents (Alasuutari, 2011.)

The execution of the research will be done by content analysis, due to the need for precise information on how the phenomena show in practice in the stated research target, the city of Helsinki. The content analysis is one of the ways of qualitative information collection. The content analysis gives a possibility for the researcher to investigate the object of the research objectively and briefly, from the chosen point of view (Tuomi & Sarajärvi, 2018.) The qualitative content analysis can be chosen as a method, when the object of the research needs to be objectively analyzed (Elo et al, 2011, p. 139).

All there is to know about the public procurement actions of Helsinki is publicly stated. The base of this research is about examining the existing procedures and actions. As all the information of the actions of this targeted city is given through the internet and through different documents, such as environmental reports and procurement strategies, it is natural for this research to focus on analyzing these given documents. This content analysis will be a descriptive analysis of the green public procurement actions, goals and objectives of the city of Helsinki.

The research method used for documental analysis is theory-driven content analysis, as there is the stated framework making a base for the research (Tuomi & Sarajärvi, 2018). Further, the stated framework of the research is put into practice, while analyzing the wanted documents from the stated point of view (Elo & Kyngäs, 2008, p. 108). In the analysis, the crucial parts of the documents concerning the stated aspect are noticed and the parts that are left out of the aspect are divided into their own section (Tuomi & Sarajärvi, 2018). This research will be executed by a deductive analysis, as theoretical framework is used as a base of the research (Elo et al, 2011, p. 139; Elo & Kyngäs, 2008, p. 109).

This documental analysis is executed as a case study. A case study can be examined as research, with real life object and which is commonly using qualitative information as a base of the research (Eriksson & Koistinen, 2014, p. 4–5). A case can be described as an object, that can be defined and limited (Eriksson & Koistinen, 2014, p. 6).

A case has also its surroundings and it operates in a broader area, such as an industry, which makes the context for the research (Eriksson & Koistinen, 2014, p. 7). Deeper, this particular case study can be defined as an intensive case study, as it focuses on only one case and is meant to describe the particular case (Eriksson & Koistinen, 2014, p. 18). The meaning of this case study is to describe the environmental procurement actions of the city of Helsinki, in the framework of green public procurement. Descriptive nature of the research is also natural for qualitative research (Alasuutari, 2011).

By this research, there will be an investigation of actions concerning Green Public Procurement in the city of Helsinki. This particular city has been selected as an object to this research by its relevance in the Finnish public sector, as a massive procurer in Finland but also as a responsible operator as the capital city of Finland. The object of the investigation will also be, how has consideration of environmental aspects of public procurement increased in this particular city? Furthermore, when the information of the City has been compiled, it will allow the research to investigate what is the current state of Green Public Procurement actions, in the City of Helsinki.

4.3 Documents used in the research

The documents used in this research are published documents of the city of Helsinki, concerning public procurement.

The documents are mainly collected from the internet page of the City of Helsinki, where all the needed information is to be found. As the meaning of this research is to investigate the current state of green public procurement in the city of Helsinki, the chosen documents are current and made in recent years, so that they are still applicable to describe the current situation of the city. Some of the used information is also collected from the internet pages of the stated projects and programs. The analysis of the documents is done using straight interpretation from the documents.

The general environmental goals will be collected from documents such as environmental reports, the strategies of the city, and environmental politics, to illustrate the current and future goals referring to the environment.

Procurement strategies are made for long-term planning of the procurement actions and that is why they are used while doing the research about the future goals of green public procurement. With procurement strategies, procurers have a guideline in advance with wanted goals and actions, to support the wanted aspects while executing procurement. The City of Helsinki has released a new procurement strategy for the upcoming year 2021, which will be broadly used in this research.

Environmental requirements and criteria for environmentally responsible public procurement will be collected from the internet page of the city of Helsinki and also, from different publications of the city, such as the handbook of sustainable public procurement.

Then again, different ongoing projects concerning public procurement and its environmental aspects are also used in this research. The current projects of the city are explaining the state of actions concerning green public procurement.

5 Green Public Procurement in the city of Helsinki

In this research, there will be stated the current climate goals, environmental goals for procurement and also environmental criteria, as well as requirements for public procurement in the city of Helsinki. There will be shown, how environmental aspects are taken into consideration in the procurement of the city of Helsinki, by stating different current actions and goals of the city. The goals are also creating some thought, of how public procurement of the city will be changing in the near future.

5.1 General environmental goals of the city

These general environmental goals have been selected from the strategies of the city, but also from the environmental politics of the city. They are showing the general goals Helsinki has stated to focus on its actions, but also to set a base for the role of the environmental procurement actions, as a part of these environmental goals.

Helsinki has done work towards sustainability since the year 2002 when the first sustainability targets of the city were set (Helsingin kaupunki, 2018b, p. 19). Regarding the current strategy of Helsinki, the population of Helsinki has been growing, which has created the need for more consideration of ecological responsibility (Helsingin kaupunki, 2018a, p. 20). Modern climate responsibility and sustainability in the economics of the city can be considered as a few of the main goals of the strategy (Helsingin kaupunki, 2018a, p. 30).

On a big scale, the current main goals concerning the environment in the city of Helsinki, are referring to decreasing greenhouse gases, carbon neutrality, energy efficiency, and increase the usage of renewable energy. Helsinki is trying to decrease greenhouse gases by 60 percent in the time frame of 1990–2030. The main and ongoing goal is still to make the city Carbon neutral until the year 2035 (Helsinki, 2021a.) These goals are stated to be made, because of the need for actions towards climate change (Helsingin kaupunki, 2018a, p. 48).

If we look at the current environmental politics of Helsinki, we can see that climate protection, air protection, noise protection, water protection, protection of the nature and ground, purchases, waste and material efficiency, environmental acknowledgement and environmental responsibility, and lastly, environmental management and partnerships are the main focuses of environmental politics of the city. Regarding the environmental politics, procurement is also one of these main objectives of the current environmental politics (Helsingin kaupunki, 2012, p. 8.) That is understandable, as around 40 percent of the expenses of Helsinki city are made from public procurement (Helsingin kaupunki, 2018b, p. 91).

Helsinki has defined carbon neutrality as a point, where the city can balance its intake and outtake of emissions (Helsingin kaupunki, 2018b, p. 22). Helsinki is following its greenhouse gas emissions as a rate of succeeding in the set environmental goals (Helsingin kaupunki, 2018b, p. 25). Helsinki is also forecasting its upcoming emissions, based on the current environmental actions and decisions concerning the future (Helsingin kaupunki, 2018b, p. 27). One of the main actions towards these general environmental goals is public procurement (Helsingin kaupunki, 2018b, p. 33).

5.2 Environmental goals for public procurement

In this section, the environmental goals the city has for public procurement, will be stated. The analysis of the environmental goals starts from the documents concerning near future planning of procurement in the City of Helsinki.

Most of the goals the city has set are based on the Carbon Neutral Helsinki 2035-project, which makes it important to state the main goals of the project first. Further, also other goals will be shown based on documents, such as procurement strategies. The aim of

this section is to find environmental aspects from the goals of public purchasing of the city of Helsinki.

The procurement of the city has been recognized as a major effector in the climate work of the city for a long time already. That is why Helsinki is aiming to further the environmental goals of the city by procurement (Helsingin kaupunki, 2018b, p. 91.) Internal cooperation between different operators in the city has been clarified to be the key solution fighting the set goals, besides market dialogue (Helsingin kaupunki, 2018b, p. 19).

5.2.1 Procurement strategy 2020

The Procurement strategy of the City of Helsinki has been renewed in the year 2020. The analysis of this strategy is done by focusing on the environmental aspects of public procurement goals and this way, stating green public procurement goals from the strategy.

The importance of environmental aspects in the current procurement strategy can be envisioned from the main themes of the strategy, which are: "functional markets and furthering innovations", "effectiveness and responsibility", and "leading of procurement and procurement skills." Under effectiveness and responsibility theme, there are three subthemes, including environmental responsibility and climate-wise procurement. This subtheme is meant to support the implementation of environmental goals of the strategy of the city of Helsinki but also, to further other national and international climate goals, such as the sustainability goal of the United Nations (Helsingin kaupunki, 2020b, p. 6–10.)

As we go deeper into the effectiveness and responsibility theme of the procurement strategy, we can see that there are clearly stated goals, execution, and deadlines for the actions towards effectiveness and responsibility in public procurement. Different procurement units have then the responsibility of implementing these different goals (Helsingin kaupunki, 2020b, p. 18–19.)

The first ongoing goal for the procurement strategy is to enforce other environmental projects of the city, such as the Carbon Neutral Helsinki 2035-project, by enforcing purchases, which are supporting the goals of the project. In practice, this is planned to be done by creating contracts including responsibility criteria (Helsingin kaupunki, 2020b, p. 18.)

Another goal for the city of Helsinki is to make purchases, supporting carbon neutrality by creating new solutions, providing a low-emission, sustainable, and circular economy in public procurement. Furthermore, one of the goals is to evolve the criteria for responsible purchases and to increase the number of efficient purchases. Also, the last goal concerning green public procurement is to count the life-cycle costs of public purchases (Helsingin kaupunki, 2020b, p. 18.)

The third goal concerning green public procurement can be seen as making different criteria and operations models towards responsible and efficient purchases. This goal will be fulfilled by filling the criteria bank for responsible purchases, but also by monitoring the usage of the criteria. The fourth goal furthering green public procurement can be seen as evaluating the life-cycle costs of purchases by different life-cycle evaluation methods (Helsingin kaupunki, 2020b, p. 19.)

In the general part of the procurement strategy, the goals have been opened more broadly. By public procurement, the city is for example aiming to enforce sustainable material efficiency and sustainability, but also to decrease greenhouse gases, choose sustainable solutions in procurement, enforce national markets, and further, set environmental criteria for procurement. Moreover, by counting life-cycle costs of the procurement, the real environmental effects of the procurement will be solved (Helsingin kaupunki, 2020b, p. 11–12.)

In more depth, aspects of GPP implementation can be seen in many parts of the procurement goals of the strategy. Using ecological materials, life-cycle costs and other environmentally friendly solutions in procurement is one of the GPP aspects to be found. Also in the preparation part of the procurement, Helsinki is aiming to research the responsibility impressiveness of the purchases but also to use market research to the investigation of possible environmental purchase solutions and suppliers. Further, there is also a goal to state responsibility criteria for all of the purchases of the city (Helsingin kaupunki, 2020b, p. 11–12.)

Responsible and sustainable knowledge and management in public purchases are also one of the main goals of the city of Helsinki, to further the implementation of the procurement goals (Helsingin kaupunki, 2020b, p. 13–14). This way Helsinki can avoid crashing into one of the challenges of GPP, stated earlier. These can be for example lack of knowledge of the managers or low resources for implementing the GPP.

5.2.2 Environmental politics in the city of Helsinki

The environmental politics of the city of Helsinki is giving the city a base about its environmental considerations. It also shows the broad environmental alignments of the city, including procurement. That is why the usage of this document is important to this research.

The current environmental politics of Helsinki is done in the year 2012 (Helsingin kaupunki, 2012). It consists of different projects, such as the Carbon neutral Helsinki 2035-project, the development project of Helen CO, and different plans of action and environmental systems of operations (Helsinki, 2020b). Environmental politics is meant to set environmental goals and support environmental aspects of the strategy of the city (Helsingin kaupunki, 2012, p. 4). Environmental aspects of procurement are also one of the main aims of the goals of environmental politics. There has been stated medium-

length but also long-length environmental goals for the purchases of the city (Helsingin kaupunki, 2012, p. 7.)

The long-term goal for the procurement actions of the city is to increase ecological efficiency in all the functions of the city. Medium-length goals have been to include environmental criteria to half of the purchases of the city until the year 2015 and to all of the purchases of the city until the year 2020. There is also stated, that environmental criteria do not need to be mandatory, but they can also work as guidance throughout the procurement process. Furthermore, training all the stakeholders in implementing sustainable purchases is one of the medium-length goals too (Helsingin kaupunki, 2012, p. 7.)

As the procurement strategy of Helsinki has already been updated, Helsinki is also currently updating its environmental politics and has given two drafts of the upcoming politics, where we can see the future focus of interests of environmental politics. However, being only a draft, the environmental politics might still change and is still under updating.

In the second and newest draft we can see, that one of the main actions that the city has stated in decreasing climate change is responsibility in procurement. Otherwise, the main goals of environmental politics have stayed mainly the same, comparing to the former environmental politics (Helsinki, 2020a.)

There are set two different time frames for the goals of responsible procurement, which are medium-length and long-length time frames (Helsinki, 2020a). The seven medium-length goals are stated as follows:

The first goal is to create responsibility criteria for the purchases, after resolving their environmental effects until the year 2025. Responsibility criteria in this framework means criteria or demanding concerning environmental and societal effects of the purchases (Helsinki, 2020a.)

The second goal is to include life-cycle goals and calculation of carbon footprint in the building- and infra projects. The intention is to calculate the carbon footprint for building projects until years 2025 and 2030, where the time frame is depending on the broadness of the project (Helsinki, 2020a.)

In the third goal, there is stated, that strategies and procurement guidance of the procurement units of the city are meant to include responsibility goals for purchases until the year 2025. The fourth, the evaluation of the climate- and responsibility effects of the purchases is also intended to be increased. The fifth goal is to increase monitoring of the execution of environmental criteria in purchases. Sixth, until the year 2025, monitoring and reporting of responsible procurement is included in the work of all procurement units. And lastly, there is an intention to increase the knowledge of responsible purchases (Helsinki, 2020a.)

The long-term goal of environmental politics is to decrease the carbon footprint of the purchases but also to increase climate- and environmental criteria in public procurement of the city (Helsinki, 2020a.)

5.3 Environmental requirements and guidance for public procurement

In this section, there will be an explanation of the current environmental requirements and criteria that Helsinki is using, while executing public purchases.

As a Public actor, the City of Helsinki needs to observe the Finnish procurement law. Helsinki is also using the help of the consultation unit for public procurement but also the Ministry of Employment and the Economy, to support the purchase process. The union that is responsible for all the actions concerning procurement in the city of Helsinki, is procurement and tender union (Helsingin kaupunki, 2021c.)

Besides law, Helsinki is also using guides of the city, such as procurement handbook, procurement strategy, and economic guides as a base of its procurement actions (Helsingin kaupunki, 2021c). Furthermore, by sharing information about environmentally friendly procurement, the city of Helsinki is implementing its economic- and knowledgeable guidance to procurement units of the city (Helsingin kaupunki, 2015, p. 8).

The City of Helsinki has also given a guide for sustainable purchases in the year 2015, to help public operators in taking into consideration sustainable aspects in public purchases, which is also one of the main goals for the city (Helsingin kaupunki, 2015, p. 3). However, the sustainability aspect takes into consideration also the ethical and social aspects of public procurement, which are not considered in this research (Helsingin kaupunki, 2015, p. 7). In the guide, there are listed different ways of acknowledging environmental aspects in public procurement, which are for example emissions, energy- and material efficiency, chemicals, but also waste management (Helsingin kaupunki, 2015, p. 9.)

Other ways the city is guiding the consideration of environmental aspects, can be done by counting life-cycle costs but also by considering environmental systems and environment labels of the supplier organizations. The city has also stated different examples of different ecolabels and systems, that can be used in the products or services and this way is detected as environmentally friendly products or services (Helsingin kaupunki, 2015, p. 10–12.) In the guide, there is also a step-by-step guide, which is showing how environmental aspects can be taken into consideration in different steps of the procurement process (Helsingin kaupunki, 2015, p. 15–16). Lastly, there are stated few examples of different purchases of products and services and how the environmental aspects can be considered in these processes (Helsingin kaupunki, 2015, p. 21).

In the year 2020, Helsinki has also made contracts among other Finnish cities, forwarding consideration of environmental aspects in public procurement in different procurement units. These contracts are Green deal-contracts, regarding early childhood

education and construction worksites. The contracts are made to increase the usage of ecological substances, but also to lower emissions (Helsinki, 2020b.)

5.4 Projects and networks supporting GPP

There are many ongoing projects in Helsinki, which are meant to enhance environmental aspects in public procurement. At the same time, they are meant to increase the usage of green public procurement. Many of these projects link to each other and support each other, by having similar goals. Also few of the projects are actions stated in procurement strategy. Next, there will be an explanation of the projects furthering green public procurement, that are ongoing at the moment in the city. The aim is to find green public procurement aspects from the projects.

5.4.1 Carbon Neutral Helsinki 2035

Carbon neutral Helsinki 2035-project is meant to decrease the greenhouse gas emissions of the city and finally, to make the city carbon neutral, so that the actions of the city will not increase the measured greenhouse gas rates. The project is also meant to make the climate actions visible for anyone to see and this way, to increase the transparency of the actions (Helsingin kaupunki, 2019.)

In Carbon neutral Helsinki 2035-project, there are 147 different actions to be made, which are then followed and monitored, as the project goes further (Helsingin kaupunki, 2019).

The Carbon neutral Helsinki 2035 project is meant to work as a concrete action towards carbon neutrality in the city. The goal of the project is to decrease greenhouse gas emissions of the city by 80%, by 147 different actions. The actions are stated in the internet page of the program. The actions are divided into eight different sections, which are:

traffic, building as well as usage of the buildings, expenses, purchases & circular economy, smart & clean actions, carbon sink & compensation of the emissions, accommodation to climate change, communication and participation, and lastly, coordinating, monitoring, and evaluation of the environmental actions (Helsingin kaupunki, 2019.)

Focusing on the expenses, purchases, and circular economy- section of the project, we can see that there are included actions increasing environmental aspects in public procurement. These actions are numbered by 107, 108, 110, 111, 112, and 113 (Helsingin kaupunki, 2019.) These actions will be stated in more depth in the following sections.

Action 107 is described as enhancing the environmental criteria in purchases. Action 108 is named as recognizing and evaluating the climate emissions. These two actions have the same goals. The actions are executed by recognizing the purchases with the biggest environmental impact, enhancing environmental procurement criteria but also by making an environmental evaluations of the purchases. Environmental impact is evaluated by counting the carbon footprint of the purchases. In addition, counting emissions, life-cycle costs, and evaluation of environmental effects are aimed to be done executing the procurement process, especially in a tender process, market research and setting procurement criteria (Helsingin kaupunki, 2019.)

Action 110 is named as updating the goals of procurement strategy (Helsingin kaupunki, 2019). This action is already done and the new procurement strategy of the year 2020 is already published in the internet pages of the city of Helsinki.

Action 111 is named as cooperation of public entities in responsible procurement. This action means developing responsible procurement with different collaborative partners. These partners for Helsinki are for example different national and international partners, as in other cities in Helsinki metropolitan area (Helsingin kaupunki, 2019.)

Action 112 is about enhancing guidance and reporting the purchases. This is executed by improving knowledge concerning environmentally responsible public procurement, but also by planning and reporting of the procurement actions in the procurement units. The actions are done by creating a criteria bank for responsible procurement, which is already published and is made for enhancing the monitoring of the criteria. Further, included in this action, there has been created a calendar for competitive tenders (Helsingin kaupunki, 2019.)

On the website of towards Carbon neutral Helsinki, there are also goals made for different operations of the city, and one of the considered operations is procurement. Because of the cruciality of the number of purchases Helsinki is making annually, there is a goal to make different environmental criteria to make purchases more environmentally responsible (Helsinki, n.d.)

Helsinki is also supporting Smart & Clean Businesses, considered as businesses forwarding environmentally friendly solutions. The actions towards these goals are for example supporting the usage of climate-friendly products, and services, developing climate-friendly solutions with different organizations and populations of the city, developing criteria for purchases towards climate-friendly ones, life-cycle cost of the purchases, monitoring, and reporting of the purchases, but also to be more upfront with trying new climate-friendly solutions (Helsinki, n.d.)

5.4.2 Canemure project

The city of Helsinki is a part of the Canemure project. Canemure is coordinated by the center of the environment in Finland and is executed in practice by 15 different operators. Canemure-project is created to forward carbon neutrality on a regional level, by executing practical environmental actions in different sub-projects. The project is meant to support other regional alignments, such as regional environmental politics and energy

and climate strategy. It has been started in the year 2019 and it is planned to last six years (Hiilineutraalisuomi, 2021).

The idea behind the project is an aim to have carbon neutrality in transportation, production, and consumption of the cities but also to increase the production of renewable energy and making the energy efficiency of the buildings better. Lastly, one of the targets is also to lower emission in the field of agriculture and forestry (Hiilineutraalisuomi, 2021).

Helsinki is executing its part of the project, by the city's own sub-project, where GPP can be crucially seen. The meaning of the sub-project of Helsinki is to support the environmental aspects, and especially carbon neutrality in public procurement. It is also meant to support the Carbon neutral Helsinki 2035-goal and to further other environmental goals, such as energy- and climate strategy and further, even the environmental politics of the city (Helsinki, 2021b.)

The importance of public procurement is emphasized as an action fighting against climate change in the project. Carbon neutrality, sustainability, and environmental responsibility in public procurement have a crucial role in this sub-project. This way also controlling climate change is one of the main targets of the project (Helsinki, 2021b.)

Helsinki is executing this sub-project by different pilot purchases, which are meant to be examples for other purchases, on how these environmental aspects can be taken into consideration in the procurement of the city of Helsinki (Helsinki, 2021b).

The first step of the project has been to count the carbon footprint of the purchases and choose the pilot purchases from the ones that are making most of the emissions, by using the evaluation. The objects of the pilot purchases are already chosen and are meat and meat preparations, dairy and dairy products, Asetelmakatu DB project, and renovation planning of Hämeentie. The next step is to evaluate the possible usage of environmental criteria in pilot purchases, by communicating with different stakeholders. The pilot purchases are then documented and evaluated. Further, the results are then used

as a guide for public operators in executing environmentally responsible public procurement (Helsinki, 2021b.)

As assessing environmental criteria to procurement process is a concrete way of implementing GPP, we can say that by working a part as a Canemure project, Helsinki is implementing GPP. This is done by setting carbon footprint as an environmental criteria for public purchases, but also by aiming for environmental responsibility in public procurement.

5.4.3 National and international projects

The city of Helsinki is operating as a part of the ecological network of procurement, which is guided by the Finnish Union of Municipalities. The aim of the network is to enhance the consideration of environmental aspects in public procurement by increasing procurement knowledge and cooperation of public operators. This is practically executed by meetings between the operators (Kuntaliitto, 2017a).

The climate network of the leaders of the cities is also a project, where Helsinki has acted as one of the main operators, including five other cities. The network is aiming towards progressing environmental work of the municipalities, by increasing knowledge of the public operators. Environmental procurement actions have also been taken into consideration in the work of the network (Kuntaliitto, 2017b).

Besides obeying the European directives concerning public procurement, The city of Helsinki is also having other commitments considering procurement, coming outside of the nation. These commitments and projects are also mentioned as an action towards the carbon neutrality, in the 111th action of Carbon Neutral Helsinki 2035-project (Helsingin kaupunki, 2019).

Helsinki is acting as a part of the Agenda 2030-program, which is a program started by the member countries of the United Nations in the year 2015. The project is meant to

increase sustainability in the member countries by different sub-projects in the regional level, but also to support cooperation between the member states. Environmental aspects are in a big role in this project, as the main goal for the project is to reach equality between economy, people and environment in the future. The goals of this project are then taken into consideration in the strategy of Helsinki, by for example furthering carbon neutrality. As a part of the program, Helsinki has stated two sustainability reports (Sustainable Development Goals-report) in years 2019 and 2021, where the progressing of the goals is stated and analyzed (Helsingin kaupunki, 2021a.)

Helsinki is currently acting as a part of the European sustainable procurement network (Helsingin kaupunki, 2018b, p. 91). The network is meant to enforce sustainable procurement by connecting with the participative countries of the network, exchanging knowledge, and acting towards the set goals within the network, but also the network countries by themselves. In the internet page of the network there has been stated the targets and actions Helsinki is currently executing, towards the goals of the program. The actions are such as policy and strategy, criteria, environmental network, and supplier engagement. Helsinki city guide for sustainable procurement have been emphasized in the page, as an act among the program (Procura+ Network.)

Helsinki is also working as a part of the Global lead city network on sustainable procurement. In the internet page of the network, there are stated targets and achievements concerning sustainable procurement in Helsinki. The targets concerning environmentally friendly public procurement can be seen as including sustainable criteria into the procurement process of the city, increasing the number of electrical buses and the use of renewable fuels in the buses, but also cutting heating emissions of the city from 74 %. Moreover, from the achievements we can see, that Helsinki has reached to increase the usage of environmental criteria in construction procurement in the year 2018, so that half of them included environmental criteria. Helsinki has also been emphasized because of its newest procurement strategy and its increasing environmental aspects, compared to previous strategies (Global lead city network on sustainable procurement.)

5.4.4 The road map of circular- and sharing economy

Helsinki has also started another project called the road map of circular- and sharing economy to further the Carbon neutral Helsinki 2035-project, but also to advance sustainability in public purchases (Helsingin kaupunki, 2020a, p. 4). Purchases are a big part of this project, as purchase actions are one of the four main categories of the project (Helsingin kaupunki, 2020a, p. 12). The project is aiming to increase the usage of the criteria of circular economy in public procurement (Helsingin kaupunki, 2020a, p. 13).

Helsinki has stated circular economy goals to procurements for different year scales, which are 2020–2021, 2021–2025, 2025 onwards, and lastly 2035, when the project should be finished. In the finishing point of the project, the circular economy is aimed to be included in a major part of public procurement (Helsingin kaupunki, 2020a, p. 13.)

In the first 2020–2021 year scale there has been an aim to increase the knowledge and understanding of the purchases including circular economy goals. Also increasing the circular economy criteria in public purchases of the city is a goal for the years 2020–2025. In year scale 2021–2025 there is also an aim to decrease the usage of plastic in public procurement and to follow the process in 2025 onwards. Further, from 2025 onwards there is a goal to have circular economy criteria in every purchase. Finally, in the year 2035, the goal is to make the circular economy principles everyday life in public procurement of the city (Helsingin kaupunki, 2020a, p. 13.)

The actions in the road map of circular economy are divided into seven different parts, every section having its own deadline when the action should be reached. Every action has also a responsible quarter, which is responsible for implementing these goals (Helsingin kaupunki, 2020a, p. 14.)

From the current projects, Helsinki is either implementing itself or is being a part of, we can tell that green public procurement is a central goal of many of the examined projects. Helsinki is executing its part in green public procurement in both, international and national projects. Also, some of the international goals are then brought to life at the regional level, such as in the Agenda 2030 project. Besides green public procurement, the goal of some of these projects is also more broadly sustainability, including also the economic and human perspective of the purchases.

5.5 Monitoring and reporting of the actions

Monitoring of the environmental procurement actions is currently executed mainly on the website of the climate guard of Helsinki. The website is including all the actions concerning Climate Neutral Helsinki 2035-project and also the meters on how the actions are monitored and followed. In the page of climate guard of Helsinki, there are set three different meters for the monitoring of the actions. The meters can be divided into functional, tactical, and strategical meters (Helsingin kaupunki, 2019).

Functional meters can be seen as real actions behind the stated goal. Tactical meters are then the wanted results of the action. Strategical meters can be explained the same as the amount of the decreased greenhouse gas emissions (Helsingin kaupunki, 2019.)

As an example, we can look at the meters of the 107th action of the Carbon neutral Helsinki 2035-project. In this action, the set meters are functional and are stated as follows: usage of environmental criteria in a tender process, the number of new criteria and education concerning environmental aspects in public procurement, but also the amount of purchases including environmental criteria (Helsingin kaupunki, 2019).

In the strategy of Helsinki, the ecological sustainability in procurement is measured in concrete ways. One of these ways is to count the purchases, which are supporting the carbon neutrality goal 2035 of Finland but also the purchases, which are supporting the

circular economy project of Finland. This is aimed to be done by marking those purchases in a HILMA internet page made for public purchases supporting the goals. Other ways of measuring the execution of the strategy are to do surveys concerning the decreasing of greenhouse emissions and the furthering of organic food in purchases concerning food services (Valtiovarainministeriö, 2020b, p. 13).

Helsinki announces all the purchase notifications in either channel for public procurement (HILMA) or in a portal for smaller public purchases, depending on the size of the purchase. All the data of the purchases is also given in the internet page of the city of Helsinki. The city of Helsinki is carrying out all the tender processes in an electrical system and has all the tender documents and call for tenders visible on the internet (Helsingin kaupunki, 2021c.)

As stated in action 112 of the Carbon Neutral Helsinki 2035-project, Helsinki has created a criteria bank for responsible procurement to enhance the reporting and guidance of the purchases. The criteria are still just internal guidance for the procurement units of the city and the bank has been opened in the internal system HELMI of the city. This way it is used for only the public operators of the city (Helsingin kaupunki, 2019).

The inspection bureau of Helsinki has given an assessment memorandum in 26.1.2021, considering the fulfilment of the goals of environmental politics in public purchases, which has been made to compare the implementation of environmental politics in public purchases. This assessment memorandum can be used as a report of the current state of green public procurement (Helsingin kaupunki, 2021b).

Further, Helsinki publishes annual environmental reports, where the environmental actions of the year have been declared. Recently, Helsinki has published the environmental report for the year 2020. From the point of view of environmental procurement actions, there is a section for the state of responsible public procurement in the report. In the report, it is stated, that approximately 56 % of the procurement made in the year 2020 included environmental criteria. Moreover, actions such as the new procurement

strategy of the city of Helsinki, criteria bank for responsible procurement, and also Camemure-project have been recognized a few of the environmentally responsible actions the city has done last year (Helsinki, 2020b.)

Regarding the report, environmental responsibility is an important object, while enhancing the procurement actions of the city in the future. Furthermore, common environmentally responsible ways of working are evolved throughout the organization and for example, responsible procurement management is pointed out to be one of the main objects of the future procurement work (Helsinki, 2020b.)

From the following and monitoring of the city, we can see, that Helsinki has a broad common system, called climate guard, for all the goals referring to Carbon neutral Helsinki, including the procurement actions. Besides that, Helsinki has also smaller ways to execute monitoring, which are usually guided by the responsible procurement unit.

6 Summary

The focus of my research was to investigate and describe the ways, that environmental aspects are taken into consideration in public procurement in the city of Helsinki. After searching information about public procurement in Helsinki, we can see that environmental considerations are one of the main focuses of the ongoing and future goals and actions concerning procurement.

Environmental aspects have been taken into account in various ways in the goals and objectives of the city of Helsinki. First of all, we can see that all the analyzed documents referring to procurement were including some kind of goal of making procurement greener. Helsinki has also stated actions and responsible authorities to execute GPP, which makes implementation of GPP even more precise. Helsinki has stated goals in different time frames to ensure the future progress of green public procurement.

The most relevant current projects of the city, including environmental aspects of public procurement are Carbon Neutral Helsinki 2035, Canemure, The road map of circular- and sharing economy, and also other national and international projects. Strategies and projects of the city were including partly the same goals, such as furthering Carbon neutral Helsinki project and minimizing the emissions of the city. By this, we can tell, that the actions are also supporting each other which tells about the implementation of the goals to all of the procurement works of the city.

The city has also created different internal environmental criteria and requirements, through for example the guide for sustainable procurement, procurement handbook, and Green-Deal contracts. Moreover, the monitoring of the procurement actions is executed by the climate guard of Helsinki with different meters. The climate guard has been implemented in 147 actions of the city. More broadly, following the usage of environmental criteria and the amount of purchases including environmental criteria are also the ways Helsinki is executing the monitoring of GPP. By environmental reports, Helsinki is giving annual report about the state of environmental goals and actions.

GPP can be visualized from the procurement actions of the city of Helsinki. Environmental criteria for public procurement, actions towards environmentally friendly public procurement, market research, life-cycle costs, guidance through examples, and other ways of counting the amount of the emissions of procurement of the city are one of the main points of procurement actions. Helsinki has also included a lot of strategic goals for green public procurement, which emphasizes the strategic aspect of Green public procurement.

7 Conclusion

This research intended to investigate:

In what ways are environmental aspects taken into consideration in public procurement in the city of Helsinki?

After investigating the documents about procurement goals, projects, and other actions of the city of Helsinki, it is safe to say that environmental aspects are guiding their part in the procurement actions of the city. Environmental aspects can be seen in every used-document regarding procurement of the city and the number of environmental criteria is already aimed to be increased by different executions. Also, after determining some of the challenges that GPP has, we can see that Helsinki is already fighting against those challenges, by implementing GPP in the strategies of the city, spreading knowledge, but also executing market research in the procurement processes.

One thing there is also to note, is the transparency of the procurement work of the city of Helsinki. All of the goals, strategies but also the monitoring is easily visible in the internet page of the city, but also from the documents used in this research. More precisely, there is also the possibility to look for all of the purchases the city has done, in the internet database HILMA, where Helsinki uploads the information about its biggest purchases.

There are many environmental goals and objectives set for public procurement in the city of Helsinki, but there is still less evidence from the actual work, that is done towards GPP. Goals and objectives are mainly done to increase the usage of environmental considerations in public procurement. Still, as environmental consideration in public procurement is still not mandatory, it is difficult to ensure the usage of these considerations. Also, the responsibility of the monitoring is still on the responsibility of procurement units and their actions are then gathered into the climate guard system. That is why, there is a need for more precise monitoring in the city, to broaden the responsibility of the procurement actions.

Succeeding of the usage of green public procurement is not clearly visible, and the stated goals and objectives are currently mainly bigger projects to be done in the city. As the goals and actions are showing only the intentions, we can see that green public procurement is implemented in the overview of the actions of the city. However, the goals are mainly broad intentions and guides for the procurement of the city. Concrete environmental actions and strict plans for different procurement units are still missing. Then again, Green public procurement needs also consideration from different participants of the process too and not only from the city of Helsinki. That is why all of the succeeding of GPP on the city of Helsinki is hard to analyze.

Green public procurement is very visually seen in the procurement strategies and other guidelines of Helsinki, so there is a big chance that the same focus will be in the future of public procurement. As international and Finnish procurement regulation has also turned greener with different environmental aspects, there can be seen a movement towards greener public procurement. However, there is still need for making more strict criteria in the future to make GPP succeed, as many of the current environmental regulation is still very obligatory for different actors. Due to the lack of strict regulation, it makes the environmental work of public procurement still quite unsure between different public actors.

As a conclusion, Helsinki does implement GPP in various ways in its procurement actions. However, there is still a lot of concrete actions to be made, as there is still not quite strict or precise criteria and guidance, for the environmental aspects to be taken into consideration. However, the lack of strict international and national environmental regulation concerning public procurement surely affects regional level guidance as well. Still, as seen from the procurement strategy of the city of Helsinki, there are aimed to be more criteria in the near future. Also as we can see from the sketch of the future environmental politics of the city, which is under updating, more precise environmental criteria is planned to be stated in the future.

In the future public procurement research, some of the possible objects for the research could be the usage of different environmental criteria in public procurement, but also the effectiveness of GPP as an environmental policy. These research objects are still quite difficult to execute, as there are still not that many different strict criteria concerning public procurement. It could be fascinating to also compare the usage of these criteria in different municipalities or cities, or even in other organizations. Also, as sustainable public procurement has been the focus of some of the researches, the future will show, if the future research will focus on that instead of only the environmental side of public procurement.

Environmental aspects of procurement will surely be at the center of the future public actions of the city. There is just a need for putting more effort and resources on the environmental actions of public procurement, which are not all based only on the procurement units.

Bibliography

- Alasuutari, P. (2011). *Laadullinen tutkimus 2.0*. Vastapaino: Tampere.
- Andronie, M; I., Dijmarescu; Ionescu, L.; J., Hurloiu; Lazaroiu, G.; C., Ut a (9th March 2020) Environmentally Responsible Behavior and Sustainability Policy Adoption in Green Public Procurement. *Sustainability*, 12(5), 2110. <https://doi.org/10.3390/su12052110>
- Appolloni, A., Coppola, M. A., & Piga, G. (2019). Implementation of Green Considerations in Public Procurement. *Green Public Procurement Strategies for Environmental Sustainability*, 23–44. Retrieved 2021.13.09 from: <https://doi.org/10.4018/978-1-5225-7083-7.ch002>
- Elo, S., & Kyngäs, H. (2008). The qualitative content analysis process. *Journal of Advanced Nursing*, 62(1), 107–115. Retrieved 2021.13.09 from: <https://doi.org/10.1111/j.1365-2648.2007.04569.x>
- Elo S.; O., Kanste; Kyngäs, H.; M., Kääriäinen & Pölkki, T. (2011). *Sisällönanalyysi suomalaisessa hoitotieteellisessä tutkimuksessa*. *Hoitotiede* 2011, 23(2), 138–148.
- Eriksson, P.; K, Koistinen. (2014). Monenlainen tapaustutkimus. Kuluttajatutkimuskeskuksen tutkimuksia ja selvityksiä 11. Retrieved 2021.13.09 from: https://helda.helsinki.fi/bitstream/handle/10138/153032/Tutkimuksia%20ja%20selvityksiä_11_2014_%20Monenlainen%20tapaustutkimus_Eriksson_Koistinen.pdf?sequence=1&isAllowed=y
- Eskola, S.; E., Kiviniemi; Krakau, T.; E., Ruohoniemi. (2017). Julkiset hankinnat. Alma Talent Oy. Retrieved 2021.13.09 from: [https://verkkokirjahylly-almatalent-fi.proxy.uwasa.fi/teos/JADBGXGUG#/kohta:JULKISET\(\(20\)HANKINNAT\(\(20\)/piste:b0](https://verkkokirjahylly-almatalent-fi.proxy.uwasa.fi/teos/JADBGXGUG#/kohta:JULKISET((20)HANKINNAT((20)/piste:b0).
- EU-ympäristömerkki. (2017). Retrieved 2021.13.09 from: https://eu-ymparisto-merkki.fi/wp-content/uploads/2017/03/julkiset_hankinnat_motiva_ohje_maaliskuu_2017.pdf

- Euroopan yhteisöt. (2005). Ympäristöä säästäviä hankintoja. Retrieved 2021.13.09 from: https://ec.europa.eu/environment/archives/gpp/buying_green_handbook_fi.pdf).
- European Commission. (2016). Science for environment policy: *Green public procurement: a method to implement environmental policy*. Retrieved 2021.13.09 from: https://ec.europa.eu/environment/integration/research/newsalert/pdf/green_public_procurement_method_to_implementation_environmental_policy_451na6_en.pdf
- European Commission. (2017). European Procurement & Public Private Partnership Law Review. Vol 12, No. 3 (2017), p. 2019–223.
- European Commission. (2019a). GPP Training Toolkit. *Green public procurement: Introduction*. Retrieved 2021.13.09 from: https://ec.europa.eu/environment/gpp/toolkit_en.htm.
- European Commission. (2019b). GPP Training Toolkit. *Strategic aspects of GPP*. Retrieved 2021.13.09 from: https://ec.europa.eu/environment/gpp/toolkit_en.htm.
- European Commission. (2019c). GPP Training Toolkit. Retrieved 2021.13.09 from: https://ec.europa.eu/environment/gpp/toolkit_en.htm
- European Commission. (2020). About GPP: *What is GPP*. Retrieved 2021.13.09 from: 2020 from: https://ec.europa.eu/environment/gpp/what_en.htm
- European Union (2016). *Buying green! A Handbook on green public procurement. 3rd Edition*. European Union. Retrieved 2021.13.09 from: doi: 10.2779/246106.
- European Union (2019). Retrieved 2021.13.09 from: https://ec.europa.eu/info/sites/default/files/2019.3911_fi_03.pdf
- Fet, A. M., Michelsen, O., & Boer, L. (2011). Green public procurement in practice — The case of Norway. *Society and Economy*, 33(1), 183–198. Retrieved 2021.13.09 from: <https://doi.org/10.1556/socec.33.2011.1.13>
- Global Lead City Network On Sustainable Procurement (n.d.). Retrieved 2021.13.09 from: <https://glcn-on-sp.org/cities/helsinki/>

- Helsingin kaupunki. (2012). *Helsingin kaupungin ympäristöpolitiikka*. Retrieved 2021.13.09 from: <https://www.hel.fi/static/ymp/esitteet/ymparistopolitiikka.pdf>.
- Helsingin kaupunki. (2015). *Kestävien hankintojen opas*. Retrieved 2021.13.09 from: https://www.hel.fi/wps/wcm/connect/48db87b4-f27c-46bc-982a-2afe995f8875/Helsingin_kaupungin_kestavien_hankintojen_opas-2015.pdf?MOD=AJPERES&useDefaultText=0&useDefaultDesc=0
- Helsingin kaupunki (2018a). *Maailman toimivin kaupunki: Helsingin kaupunkistrategia 2017–2021*. Retrieved 2021.13.09 from: <https://www.hel.fi/static/helsinki/kaupunkistrategia/kaupunkistrategia-2017-2021.pdf>
- Helsingin kaupunki. (2018b). *Hiilineutraali Helsinki 2035-toimenpideohjelma*. Helsingin kaupungin keskushallinnon julkaisuja 2018: 4. Retrieved 2021.13.09 from: <https://www.hel.fi/static/liitteet/kaupunkiymparisto/julkaisut/julkaisut/HNH-2035-toimenpideohjelma.pdf>
- Helsingin kaupunki. (2019). *Ilmastovahti*. Retrieved 2021.13.09 from: <https://ilmastovahti.hel.fi>
- Helsingin kaupunki. (2020a). *Helsingin kierto- ja jakamistalouden tiekartta*. Kaupunkiympäristön julkaisuja 2020:10. Retrieved 2021.13.09 from: <https://www.hel.fi/static/kanslia/Julkaisut/helsingin-kierto-ja-jakamistalouden-tiekartta.pdf>
- Helsingin kaupunki. (2020b). *Helsingin kaupungin hankintastrategia*. Retrieved 2021.13.09 from: <https://www.hel.fi/static/kanslia/Julkaisut/2020/Helsingin%20kaupungin%20hankintastrategia%202020.pdf>
- Helsingin kaupunki. (2021a). *Helsinki ja kestävän kehityksen tavoitteet*. Retrieved 2021.13.09 from: <https://www.hel.fi/helsinki/fi/kaupunki-ja-hallinto/strategia-ja-talous/kestavan-kehityksen-tavoitteet/>
- Helsingin kaupunki. (2021b). Tarkastusvirasto. *Ympäristöpoliittisten tavoitteiden toteutuminen hankinnoissa*. Retrieved 2021.13.09 from: <https://www.arviointikertomus.fi/sites/default/files/pdf/article->

memo/2021/Arviointimuistio%20Ympäristöpoliittisten%20tavoitteiden%20toteutuminen%20hankinnoissa.pdf.

Helsingin kaupunki. (2021c). *Hankinnat ja kilpailuttaminen*. Retrieved 2021.13.09 from: <https://www.hel.fi/kanslia/fi/osastot-ja-yksikot/talous/kilpailuttaminen>

Helsinki. (2020a). *Ympäristöpolitiikan päivitys*. Luonnos 2/2020. Retrieved 2021.13.09 from: https://www.hel.fi/static/ymk/yrap/fi/ymparistopolitiikan_paivitys_luonnos_260220.pdf.

Helsinki (2020b). *Ympäristöraportti*. Retrieved 2021.13.09 from: <https://julkaisut.hel.fi/fi/julkaisut/ymparistoraportti-2020/hankinnat>.

Helsinki. (2021a). *Helsingin ilmastotavoitteet ja seuranta*. Retrieved 2021.13.09 from: <https://helsinginilmastoteot.fi/city-act/helsingin-ilmastotavoitteet-ja-seuranta/>

Helsinki. (2021b). *Canemure – Kohti hiilineutraaleja kuntia ja maakuntia*. Retrieved 2021.13.09 from: <https://helsinginilmastoteot.fi/venture/canemure/>

Helsinki (n.d.) *Helsinki hiilineutraaliksi*. Retrieved 2021.13.09 from: <https://www.my-helsinki.fi/fi/valitse-vastuullisemmin/helsinki-hiilineutraaliksi>

Hiilineutraalisuomi (2021). *Kohti hiilineutraaleja kuntia ja maakuntia - Canemure* Retrieved 2021.13.09 from: <https://www.hiilineutraalisuomi.fi/fi-FI/Canemure>

Kuntaliitto (2017a). *Motivan ekohankintaverkosto*. Retrieved 2021.13.09 from: <https://www.kuntaliitto.fi/motivan-ekohankintaverkosto>

Kuntaliitto (2017b). *Kaupunginjohtajien ilmastoverkosto*. Retrieved 2021.13.09 from: <https://www.kuntaliitto.fi/kaupunginjohtajien-ilmastoverkosto>

Lundberg, S., Marklund, P.-O. (2013). *Green public procurement as an environmental policy instrument: cost effectiveness*. *Environmental Economics*, 4(4), 75–83.

Lundberg, S., Marklund, P.-O., Strömbäck, E., & Sundström, D. (2015). *Using public procurement to implement environmental policy: an empirical analysis*. *Environmental Economics and Policy Studies*, 17(4), 487–520. Retrieved 2021.13.09 from: <https://doi.org/10.1007/s10018-015-0102-9>

- Lundberg, S., & Marklund, P.-O. (2018). *Green public procurement and multiple environmental objectives*. *Economia e Politica Industriale*, 45(1), 37–53. Retrieved 2021.13.09 from: <https://doi.org/10.1007/s40812-017-0085-6>
- Marron, D. (2003). *Greener Public Purchasing as an Environmental Policy Instrument*. *OECD Journal on Budgeting*, 3(4), 71–105. Retrieved 2021.13.09 from: <https://doi.org/10.1787/budget-v3-art23-en>
- Nissinen, A. (2004) *Julkisten hankintojen ympäristöopas*. Retrieved 2021.13.09 from: https://helda.helsinki.fi/bitstream/handle/10138/41745/Ymparistoopas_113.pdf?sequence=1&isAllowed=y.
- Oksanen, A. (2010). *Kuntien yleiset hankintaohjeet*. Suomen Kuntaliitto. Helsinki.
- Palmujoki, A.; N. Vartiainen. (2020). *Ympäristönäkökohtien huomioiminen julkisissa hankinnoissa*. [Restricted availability] Edita Publishing Oy.
- Procura+ Network (n.d.) Retrieved 2021.13.09 from: <https://procuraplus.org/public-authorities/helsinki/>.
- Siikavirta, K. (2015). *Julkisten hankintojen perusteet*. Edita.
- Smith, C., & Terman. (2018). Putting your money where your mouth is: Green procurement as a form of sustainability. *Journal of Public Procurement*, 18(3), 202–216. Retrieved 2021.13.09 from: <https://doi.org/10.1108/jopp-09-2018-013>
- Testa, F., Iraldo, F., Frey, M., & Daddi, T. (2012). *What factors influence the uptake of GPP (green public procurement) practices? New evidence from an Italian survey*. *Ecological Economics*, 82, 88–96. Retrieved 2021.13.09 from: <https://doi.org/10.1016/j.ecolecon.2012.07.011>
- Testa, F., Annunziata, E., Iraldo, F., & Frey, M. (2016). Drawbacks and opportunities of green public procurement: An effective tool for sustainable production. *Journal of Cleaner Production*, 112, 1893–1900. Retrieved 2021.13.09 from: <https://doi.org/10.1016/j.jclepro.2014.09.092>
- Tuomi, J. & Sarajärvi, A. (2018). *Laadullinen tutkimus ja sisällönanalyysi*. Tammi. [Restricted availability] Retrieved 2021.13.09 from: <https://www.ellibrary.com/book/9789520400118>

- Työ- ja elinkeinoministeriö. (2016). *Hankintalain kokonaisuudistus: Siirtymävaiheen toimenpiteet ja järjestelyt*. Retrieved 2021.13.09 from: <https://tem.fi/documents/1410877/2132242/Hankintalain+kokonaisuudistus+-+siirtymävaiheen+toimenpiteet+ja+järjestelyt.pdf/d42cc677-8dcd-4c8a-a6b1-6a7b93678273/Hankintalain+kokonaisuudistus+-+siirtymävaiheen+toimenpiteet+ja+järjestelyt.pdf?t=1468492185000>
- Valtioneuvosto. (2013). *Valtioneuvoston periaatepäätös kestävien ympäristö- ja energiaratkaisujen (cleantech-ratkaisut) edistämisestä julkisissa hankinnoissa 13.6.13*. Retrieved 2021.13.09 from: <https://tem.fi/documents/1410877/2795834/VN+periaatepäätös+kestävien+ympäristö-+ja+energiaratkaisujen+edistämisestä+julkisissa+hankinnoissa/4295c1e9-7ff5-4d14-abd9-3e9806ebab16>.
- Valtioneuvosto. (2019). *Valtioneuvoston julkaisuja 2019:31*. Pääministeri Sanna Marinin hallituksen ohjelma 10.12.2019. *Osallistava ja osaava Suomi: sosiaalisesti, taloudellisesti ja ekologisesti kestävä yhteiskunta*. Helsinki 2019. Retrieved 2021.13.09 from: <http://urn.fi/URN:ISBN:978-952-287-808-3>
- Valtioneuvosto. (2021). *Hiili- ja ympäristöjalanjälki hankinnoissa- lainsäädäntö ja mittaaminen. Valtioneuvoston selvitys- ja tutkimustoiminnan julkaisusarja 2021:2*. Retrieved 2021.13.09 from: https://julkaisut.valtioneuvosto.fi/bitstream/handle/10024/162672/VNTEAS_2021_2.pdf
- Valtiovarainministeriö. (2017). *Valtion hankintakäsikirja*. Valtioministeriön julkaisu – 29/2017. Retrieved 2021.13.09 from: <http://urn.fi/URN:ISBN:978-952-251-879-8>
- Valtiovarainministeriö. (2020a). *Kansallinen julkisten hankintojen strategia 2020*. Valtioneuvoston julkaisuja. Retrieved 2021.13.09 from: <http://urn.fi/URN:NBN:fi-fe2020090768680>
- Valtiovarainministeriö. (2020b). *Kansallinen julkisten hankintojen strategia 2020. Liite 2*. Retrieved 2021.13.09 from: <https://julkaisut.valtioneuvosto.fi/bitstream/handle/10024/162418/Liite%20%20strategiset%20vaikutusmittarit.pdf?sequence=3&isAllowed=y>

Valtiovarainministeriö. (2020c). *Valtioneuvoston julkaisuja 25:2020*. Retrieved 2021.13.09 from: https://julkaisut.valtioneuvosto.fi/bitstream/handle/10024/162171/VM_2020_25.pdf?sequence=1&isAllowed=y.