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2.5 Utilisation, storage and removal solutions of recovered carbon dioxide

Maximum amount of available appropriation: EUR 150,000

Time span: March 2022 – March 2023

Background and description of need for information, with justifications

The project's objective is to increase knowledge about the markets, technologies and policy options for utilisation and storage of recovered carbon dioxide, with special focus on technological carbon sinks, i.e. carbon removal solutions. The project will assess the overall configuration, development and sectors of the relevant markets and explore technologies and policy measures that would promote technological sinks and the deployment of technologies relating to carbon capture, utilisation and storage (CCUS) in broader terms. The project will create conditions for growing business operations, expanding the carbon handprint and achieving Finland's climate targets.

The main objective of the project is to significantly strengthen the knowledge base for considering policy measures and Finland's positions at EU and national levels. The aim is to assess the basis for a legislative climate and energy framework, which enables and creates incentives for carbon capture, utilisation and storage, taking account of reasonable certainty of generating emissions reductions and technological sinks.

The project's perspective specifically involves opportunities to include carbon capture and utilisation and technological sinks in climate and energy regulation. The above-mentioned measures may contribute to achievement of climate targets/obligations and benefit operators deploying these solutions through the emissions trading system (ETS), for example. The models and regulatory needs of voluntary carbon offsetting have been studied before in different projects and this information can be used as background material for the project (https://ym.fi/vapaaehtoiset-paastokompensaatiot and https://mmm.fi/-/esiselvitys-maankayttosektorin-hiilikompensaatiohankkeista, in Finnish).

The project takes into account carbon capture, its use in products or processes, geological and non-geological storage, and storage in products or processes. Technological carbon sinks, i.e. carbon removal solutions, play a key role in the project.

The project's successful implementation requires a team with a high level of commercial, technological and legal expertise in energy and environmental solutions.

Research questions

Technologies

- Current status: What are the currently known technological options for carbon capture, utilisation and geological or non-geological storage, and which of these enable technological sinks?
- Current status: What are the current levels of cost-efficiency of various technological sinks, how do they compare with the cost-efficiency of emissions reduction methods, and how is cost-efficiency estimated to develop?

- Current status: How do different technologies diverge in terms such as the reliability or timeframe of carbon sequestration, cost-efficiency or technological limitations?
- Current status: To what extent are technologies currently being applied and what opportunities are there to apply these technologies in Finland and internationally?
- Current status: What are the products or storage solutions where carbon dioxide could
 most likely be utilised and what is the logic based on which utilisation or storage in
 these products would reduce emissions or generate technological sinks? How
 permanent would a sink be and what evidence is there?
- How much potential does Finland have for biogenic carbon capture and utilisation, which applications are likely to be the most cost-efficient to capture carbon dioxide and what limitations are there to carbon capture and utilisation?

Market

- Current status: What does the current market for carbon capture, utilisation and storage look like in terms of its overall situation and development, taking particular account of technological sinks?
- Current status: How large is the voluntary carbon offset market, what is the share of technological sinks out of this market, and on what solutions is the voluntary offset market for technological sinks based?
- What quantitative and qualitative estimates can be provided for future development of the markets for CCUS solutions and technological sinks in Finland and internationally in terms of size and growing solutions?
- What effects could streamlining the regulatory climate and energy framework relevant to technological sinks and CCU solutions have on the size and development of the market and why?
- What are the solutions in which Finland has competence and export potential and what technologies and products could these be?

Policy and legal context

- Current status: How does current EU law take technological sinks, negative emissions in general, and carbon capture, utilisation and storage into account on the whole, considering the Emissions Trading Directive, the Emissions Monitoring Regulation, the Carbon Removals Communication (forthcoming), the LULUCF Regulation, emissions inventories, the Renewable Energy Directive, the CCS Directive, and any other possible legislation?
- Current status: What has the current EU Commission proposed on decarbonisation (incl. carbon removals) and CCU by the spring of 2022 and to what extent are these proposals applicable to Finnish conditions?

- Current status: How can the opportunities of sequestration in products be taken into account in emissions trading regulation, and what or what types of products should be included in such regulation?
- What changes in EU climate and energy law would provide reasonable certainty of the generation and permanence of emissions reductions and enable expansion in the deployment of CCUS and technological sink solutions?
- How to avoid double accounting or other accounting inconsistencies between sectors (ETS, non-ETS, LULUCF)?
- How could verification and validation be implemented in terms of technological sinks?
- If Finland creates a national regulatory framework for technological negative emissions, i.e. carbon removal solutions, what matters and questions should be taken into account in this respect?

International benchmarking

 What market models or climate/energy legislation promoting the deployment of CCUS (incl. non-geological storage) and technological sinks have been put in place around the world, including the Nordic countries, the Netherlands, the United States and certain Asian countries?

Links to the Finnish Government's decisions and preparations

The project's results are intended for use in EU-level advocacy efforts, allocation of public funding and implementation of the Climate and Energy Strategy as part of the path towards a carbon-neutral Finland by 2035. The assessment needs relevant to the theme have been outlined in the final report of the working group on sector integration and the climate entries made by the Government as part of its negotiations (budget session) on 9 September 2021.

Finland aims to achieve carbon neutrality by 2035 while the EU targets 2050. Several countries around the world have set carbon neutrality targets. Carbon neutrality may require utilisation and storage of greenhouse gases to reduce emissions and strengthen carbon sinks.

The capture, utilisation and storage of greenhouse gases are becoming a significant future business. Finland has the technological opportunities and competence to develop solutions for the capture, utilisation and non-geological storage of greenhouse gas emissions. Technological sinks are an opportunity for Finland.

Reporting

The project is expected to produce an interim report by June 2022 and a final report by 2023, following the guidelines for the Government's analysis, assessment and research activities.

The project should organise one workshop or seminar in cooperation with the EU Commission and other EU-level stakeholders and another with one or more keynote speakers with global expertise on the theme. The project should also seek to obtain information from Finnish and international expert bodies, including representatives of business and industry.

The interim and final reports should be published in Finnish and English. Translation costs should be taken into account in the project budget.

2.7 Limits on nutrient input in coastal waters and effort sharing in load reduction

Maximum amount of available appropriation: EUR 260,000

Time span: March 2022 – December 2022

Background and description of need for information, with justifications

Nearly all of Finland's coastal waters and open sea area suffer from eutrophication due to excessive and long-lasting nutrient input (HELCOM 2018), and future development points to increased eutrophication as a result of global warming (Fleming et al. 2021). The state of the marine environment has been classified as weak in accordance with the criteria of the Marine Strategy Framework Directive (Korpinen et al. 2018), and based on the classification of the Water Framework Directive, only 14% of the surface area of coastal waters are in good condition.

The Programme of Prime Minister Sanna Marin's Government includes the commitment to continue intensified measures aimed at restoring water areas to a good ecological state and protecting the Baltic Sea. In April 2021, the Government published its <u>sustainability</u> <u>roadmap</u>. It states as the goal that by the 2030s the ecological status of Finnish waters, especially coastal waters, will be improving, and nutrient emissions into water systems will have been reduced in accordance with the load targets presented in the water and marine management plans.

International cooperation to improve the state of the Baltic Sea and to reduce eutrophication is long-term in nature, and through the Baltic Sea Action Plan, the Baltic Marine Environment Protection Commission (HELCOM) has approved the maximum allowable nutrient inputs, also known as nutrient input ceilings, for the Baltic Sea and its sub-basins (HELCOM, 2009). The nutrient input ceilings for phosphorus and nitrogen have been defined in such a way that their achievement by reducing input is expected to promote a decline in eutrophication and the achievement of a good state of the marine environment. Based on the nutrient input ceilings, the HELCOM contracting parties have also agreed on effort sharing related to the reduction of nutrient loading. Each country has been assigned a reduction quota, in tonnes, for their phosphorus and nitrogen loading.

HELCOM's nutrient input ceilings apply to the open sea. The Finnish coastal waters are extensive and characterised by numerous islands. They must be examined separately, and they call for more detailed assessment and planning than the open sea area. The need to reduce nutrient inputs in the coastal waters has been discussed in the river basin management plans and the marine strategy. National input ceilings for phosphorus and nitrogen, enabling the achievement of a good state of coastal waters, have been determined separately for each sea basin bordered by Finland, and they are included as general environmental targets in the marine strategy (Laamanen 2015). The purpose of general environmental targets is to steer the content of the action plan. To achieve a good state of Finnish coastal waters, nutrient inputs must be reduced more than in the open sea. In other words, the nutrient input ceilings for coastal waters must be lower than those required for the open sea.

Nutrient input ceilings and data on the required input reduction make it possible to agree on effort sharing between countries, as well nationally between different sectors, if required. In Finland, agriculture is now the major source of nutrient input into the Baltic Sea, and serious efforts are now being made to reduce these inputs. In addition to tried and tested measures, new methods have been adopted, including gypsum, structural lime and pulp sludge, which, when spread in the fields, can help to significantly reduce phosphorus loading. Meanwhile, new data on the forestry sector's nutrient input, which accounts for a larger share of overall loading than previously assumed, raises the need to develop new water control measures in forestry. The goal of increasing the consumption of domestic fish creates a pressure to set up more fish farming, which again would increase the nutrient input into the sea. In Finland, nutrient input is monitored continuously and comprehensively, and the data are up-to-date, although not detailed enough, according to some parties.

The programme of measures of Finland's marine strategy for 2022–2027 is now being updated. The updating work and the compilation of the most recent data on nutrient input have indicated that the nutrient input ceilings nationally determined in the marine strategy in 2018 are not entirely consistent and do not provide a true picture of the need to reduce loading. The nutrient input ceilings were determined based on a simple calculation method which did not adequately account for variation in loading due to weather conditions, for example. In some sea basins, the nutrient input ceilings have been set so high that they already appear to have been reached, even at current levels of input. Except for the Gulf of Finland, the state of coastal waters has weakened or remained the same in recent years, which means that that nutrient input needs to be further reduced. The underlying data concerning the nutrient input ceilings of coastal waters must be strengthened, and the ceiling values must be reviewed and updated. Furthermore, the calculation methods must be harmonised as far as possible with HELCOM's calculation of maximum allowed nutrient inputs in the open sea. The revised nutrient input ceilings will be updated in the marine strategy in 2024 when the general environmental targets will next be updated.

The data that will be produced in the project now commissioned will strengthen the knowledge base used to promote equitable effort sharing in the reduction of input among the sectors involved (e.g. agriculture, aquaculture, sea transport, wastewater load from sparsely populated areas, as well as wastewater loads from urban areas and industry). The policy brief (in Finnish) (2/2021) recently published by the Strategic Research Council addresses effort sharing by stating that the efforts to reduce nutrient input must be distributed across different sectors depending on the state of water bodies. Analyses combining nutrient input ceilings and effort sharing, and the resulting discussions, could also promote the introduction of compensation related to nutrient input. Such compensation would be needed, for example to enable sustainable fish farming (BlueAdapt 2021).

The goal of the project is to model and calculate the nutrient input ceiling for each Finnish sea basin (as defined in the marine strategy) that will enable a good ecological state to be achieved and maintained in the basins, based on the most recent available research and modelling data. The project will also provide an updated follow-up indicator for monitoring

the achievement of nutrient input ceilings in all sea areas. In addition, the project will describe the relationship between national nutrient input ceilings and those defined by HELCOM.

The project is also expected to provide information about the present distribution of nutrient inputs across different sectors, as well as the development outlook for sectoral inputs up to 2050, especially the potential for input reduction or the expected needs or outlook to increase inputs in the sectors.

As an important result, the project is expected to present possible approaches to and grounds for effort sharing to reduce nutrient inputs in the different sectors so that the proposed nutrient input ceilings can be reached.

To successfully explore the nutrient input ceiling and effort sharing topics, the consortium carrying out the project must be multidisciplinary. It must have competence in the natural sciences related to nutrient input and input ceilings determined on ecological grounds. The consortium also needs experts in social sciences and possibly in economics to support the assessment of future development in nutrient inputs, for example using questionnaire surveys, and the examination of fair effort sharing across sectors by engaging the sectors in discussions, to the extent possible.

The project is an urgent one, as the process for updating nutrient input ceilings will be launched in 2022.

Research questions

- What level of phosphorus and nitrogen inputs (nutrient input ceiling) enables a good state of the marine environment (marine strategy) and the achievement and maintenance of a good ecological state of Finnish coastal waters (river basin management) in terms of eutrophication? This ceiling should be expressed at the level of sea basins, taking into account the input reduction requirements that HELCOM has specified for Finland. What uncertainties are related to the nutrient input ceiling (e.g. the impact of climate change).
- What is Finland's overall loading on the Baltic Sea and what are the current nutrient inputs from the different source sectors (e.g. agriculture, communities, industry, sea transport, sparsely populated areas, aquaculture) into the coastal waters of different sea basins (development to present day and current state in the sea basins specified in the marine strategy)? If possible, corresponding data must be presented at a more detailed scale for different catchment areas e.g. by using certain cases as examples.
- How much can the different sectors potentially reduce their phosphorus and nitrogen inputs in Finland? What needs or outlooks concerning increased inputs are there in different sectors up to 2040? How do these affect the different sea basins? This analysis should focus on the same sectors as the survey of the present state.
- How could the efforts to reduce inputs be fairly shared among the sectors to achieve nutrient input ceilings, and what grounds and assumptions would such a sharing be based on? Propose two or three alternatives.

Links to the Finnish Government's decisions and preparations

The Programme of Prime Minister Sanna Marin's Government includes the commitment to continue intensified measures aimed at restoring water areas to a good ecological state and protecting the Baltic Sea. The use of gypsum, structural lime and nutrient fibre in fields has been increased in accordance with the Government Programme. In accordance with the Government's sustainability roadmap, the goal by the 2030s is to reduce nutrient emissions into water systems in accordance with the load targets presented in the water and marine management plans. International Baltic Sea cooperation carried out within HELCOM will be strengthened as required in the Government Programme. In April 2021, the Government decided on a programme stretching up to 2027 aimed at eliminating the HELCOM hot spot consisting of agricultural runoff from nonpoint sources into the Archipelago Sea.

Activities that cause nutrient loading or strive to reduce such loading are carried out in the administrative branches of the Ministry of Agriculture and Forestry (agriculture, forestry, fish farming), the Ministry of Transport and Communications (sea transport), the Ministry of the Environment (river and sea basin management), and the Ministry of Economic Affairs and Employment (e.g. promotion of biogas).

The information produced in the project supports the implementation of the EU's Water Framework Directive and Marine Strategy Framework Directive. The Government will approve the updated river basin management plans and marine strategy in 2021. The marine strategy's nutrient input ceilings will be updated in 2024, and this project will support the revision of the general environmental targets concerning the input ceilings. The effort sharing data produced in this project will support the next revision of the programme of measures related to the marine strategy and the river basin management plans, to be launched in 2025. The project will also support the preparations for other decision-making related to nutrient inputs, for example in the Ministry of Agriculture and Forestry, the Ministry of Transport and Communications, and the Ministry of Economic Affairs and Employment.

Reporting

In connection with the project, an event will be organised to present the preliminary project results and the alternative scenarios for effort sharing based on the new information obtained. These will be discussed with stakeholders and representatives from the different sectors.

A final report of the project will be published in Finnish, Swedish and English, in accordance with the guidelines for the Government's analysis, assessment and research activities. The customer will also be supplied with a visually high-quality set of slides on the main research results and recommendations for nutrient input ceilings and effort sharing in Finnish, Swedish and English. All translation costs must be taken into account in the project's budget. Accessibility must be taken into account in the final report and set of slides. In connection with the publication of the final report, a seminar will be organised for key Finnish and international players in the field. The goal of the seminar will be to

promote discussion on the application of nutrient input ceilings and help put effort sharing related to input reductions into practice.

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3.3 Changes in multilateral cooperation from Finland's perspective

Maximum amount of available appropriation: EUR 120,000

Time span: March 2022 – November 2022

Background and description of need for information, with justifications

The research project produces information for use in strengthening and targeting Finland's multilateral cooperation.

Strengthening multilateral cooperation is a key long-standing objective of Finland's foreign policy. According to the current Government Programme and the Government Report on Finnish Foreign and Security Policy from 2020, multilateral cooperation is an integral part of the security and wellbeing of Finland and its people. Finland's economic success is built on multilateral cooperation. Multilateral cooperation is not only a means to promote our national interests but also a way to advance global justice and wellbeing. Multilateral cooperation is the only way to find and implement effective solutions to global challenges. In a white paper published in August 2021, the Ministry for Foreign Affairs outlined actions needed to strengthen multilateral foreign policy.

Multilateral cross-border cooperation is conducted at many levels of activity and in various configurations. In foreign policy, multilateralism can refer to all cooperation involving at least three different parties. The UN system, which covers almost all states, offers a framework where global governance can be conducted at its most comprehensive level. In recent decades, measures have been taken to engage civil society and the business world within the same framework – by way of example, the multi-stakeholder model plays a key role in the Sustainable Development Goals. Multilateral cooperation is common also in formations that are smaller than the UN system. Some of such cooperation is official and well budgeted, and decisions may be binding on members. Growing geopolitical confrontation, global inequality, polarisation of value bases, disinformation and critical and worsening of global challenges (including environmental issues) have made this type of multilateral cooperation even more difficult – even though it is deemed justified for the same reasons.

The majority of multilateral cooperation is informal, with no budget or rulebook. In such cases, the aim may be, for example, dialogue, building shared situational awareness and understanding, or producing data and information. Cooperation that produces non-binding decisions may also have significant effects on guidance. In recent decades, especially the G7 (Group of Seven) and the G20 (Group of Twenty) have become significant forums of informal cooperation and decision-making. Using GDP and/or population indicators, the largest countries have – sometimes even successfully – tried to agree on globally significant actions and guidelines, especially in economic and, more recently, environmental issues. Because of the COVID-19 pandemic and the crisis in Afghanistan in August 2021, security issues have also been brought onto the G7 agenda. The English term "club governance" refers to closed membership of cooperation formats. The G7, in particular, has been criticised for being undemocratic: a few rich states are able to make

decisions with a global impact. The G20 includes a number of major emerging states, including China, Brazil and India, but the majority of the countries of the world remain outside it. Finland is not directly a member of either forum, but through the EU it participates indirectly in G20 and G7 meetings. New coalitions may be problematic also if they tend to ignore rather than complement existing inclusive cooperation arrangements. Informal forms of cooperation with a limited number of members have such benefits as a flexible agenda, speed of decision-making, and effectiveness. Regional cooperation arrangements is another form of limited membership. Many regional cooperation forums (such as the Arctic Council and HELCOM) have been established as a response to the need to exert influence on decision-making in their own neighbouring areas. In recent years, coalitions and voluntary commitments built around one topic have become an increasingly common form of cooperation. These have emerged, for example, in the environmental sector in situations where the aim has been to expedite binding global goals and solutions. Such fragmentation of international multilateral cooperation may involve both risks and opportunities.

Changes in the global political situation and great power dynamics have affected multilateral cooperation. Decision-making in the UN and its specialised agencies has become more difficult as the rivalry between the great powers has escalated and the reform of the Security Council is getting nowhere. The WTO's capacity to function has weakened, and negotiations on extensive agreements within its framework have become more difficult. In recent years, rules-based free trade has been promoted mainly through bilateral and multilateral agreements.

China has expanded its activities within the UN system at the expense of democratic values and western countries' influence. In addition, China has established new organisations by the side of old ones, reserving a lead role for itself in the former. China's growing role is followed with concern, because in multilateral cooperation it does not comply with the universal principles of democracy, the rule of law or human rights. At the same time, however, it is recognised that China cannot and should not be isolated: It is essential that China commits to efforts to solve global challenges. The gap between developing and developed countries has also widened (for example in environmental matters and in relation to the funding of (environmental) actions).

The current US administration has pledged its commitment to multilateral cooperation but, especially in certain security policy questions, it has progressed unilaterally or in cooperation with a strictly limited group of participants. The EU or its Member States are not automatically represented in "bilateral" initiatives of the United States. The EU, which is a global advocate of democracy, human rights and the rule of law, was not automatically a party to the US initiative for a Summit for Democracy, for example. Some of the new cooperation initiatives, on the other hand, reflect the growing confrontation between the United States and China.

The project identifies change factors affecting multilateral cooperation and analyses recent and emerging developments in multilateral cooperation, including difficulties in binding decision-making, fragmentation of comprehensive cooperation arrangements, and the

impacts of China's increasing activity and influence. The project focuses on examining forums of informal and restricted groups of participants and their significance from the perspectives of, for example, effectiveness, value base, inclusiveness, and the influence of such small states as Finland. The information produced by the project helps decision-makers in assessing, on a case-by-case basis, for example the following:

- a. the strengths and weaknesses of alternative forms of cooperation (based on such criteria as effectiveness, inclusiveness and legitimacy) and their relation to the UN system and its principles;
- b. (Finland's) need and possibilities to influence various multilateral cooperation processes both from the inside (as a member or through the EU) and from the outside (for example in the capacity of observer or expert).

The study makes use of the latest research literature and possible empirical data collected during the project, and case studies may be included.

Research questions

- How has international multilateral cooperation changed over the past decade (actors, practices, themes)?
- What kind of underlying factors of change affect the changes?
- How have new forms of multilateral cooperation changed multilateral cooperation?
- What are the strengths (opportunities) and weaknesses (risks) related to different forms of cooperation – especially new and developing ones – from the perspectives of Finland and the EU in particular?
 - How should Finnish decision-makers take these into account when assessing the importance of new cooperation arrangements or the participation of Finland and the EU in their activities?

Links to the Finnish Government's decisions and preparations

Multilateral cooperation is undergoing a transformation; western leadership based on democratic values is challenged; global challenges have exacerbated. The EU and its Member States – including Finland – are discussing the role and meaningfulness of different cooperation arrangements and the targeting of activities. The need for information is intersectoral, as participation in multilateral cooperation covers the entire Government. The information produced can be used as background material for strategic planning and anticipation across the Government.

Reporting

The project produces a final report in either Finnish or English in accordance with the guidelines for the Government's analysis, assessment and research activities (TEAS). If the report is in Finnish, an extensive summary in English is required (executive summary); if the report is in English, an extensive summary in Finnish is required. Short analysis

papers or policy brief articles published during the project will be considered an advantage for the application.

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6.1 Board and management group duties in listed companies – challenges to women's career development

Maximum amount of available appropriation: EUR 150,000

Time span: April 2022 – January 2023

Background and description of need for information, with justifications

The Government is seeking greater equality of gender representation on the board of directors in publicly traded companies. While the proportion of women serving on the boards of listed companies grew in the 2000s, this favourable trend seems to have slowed in recent years. To achieve the objective and determine further measures, research is needed into the obstacles that frustrate balanced gender representation, and especially recruitment of women into top management. This research will focus on the duties of the board and management team in listed companies, including CEOs, from the perspective of gender equality.

Women accounted for an average of 29 per cent of listed company board members in June 2021, which is one percentage point less than in the previous year. The share of women board members in listed companies is 32 per cent in large companies, 29 per cent in medium-sized companies and 24 per cent in small ones. Women accounted for 27 per cent of management group members in 2020, and there are still some companies on the Helsinki Stock Exchange with no women at all in their management groups.

There are few women CEOs in listed companies, with the Finland Chamber of Commerce (see list of sources below) reporting their share at only 8 per cent in 2020. Service as CEO of a larger company and leadership of a business unit at management team level are among the most significant factors when selecting the board of listed companies. Women still only account for 15 per cent of business leaders, which hampers their advancement to board positions and CEO appointments.

The women on listed company management groups are in practice still mainly serving in support functions. The share of women remains very low in the business management of listed companies in the industrial products and services sector, which accounts for about a third of all listed companies. It has grown most rapidly for management team members in large listed companies. The lowest representation of women among management team members is found in small listed companies. Women with technical training remain clearly underrepresented in respect of the educational background of management team members. A higher proportion of women than men had education in commerce, administration or law, while education in technology was more common for male than female company directors.

While some research has been conducted in Finland on obstacles to career advancement of women and gender equality in recruiting management, few studies have focused in particular on listed companies and their top management recruiting practices.

Statistical surveys available for listed companies are mainly based on data concerning the number of individual appointments, and related to careers, education and demographics

(see reports from the Finland Chamber of Commerce and Statistics Finland in particular). These studies do not illuminate the root causes of the trend. A study of gender equality in recruiting top managers in companies was performed as part of the 2015 Gender Equality in Top Management – Changing Practices in Economic Decision-Making (TASURI) project. This study examined how gender equality is considered when recruiting top management at listed companies and SOEs, and what criteria and processes (including the role of executive search businesses) affect the realisation of equality over a recruitment process. The study nevertheless did not specifically focus on the recruitment processes of listed companies and their specific features, nor does it provide answers to the research questions set out below. With respect to academic research, the Women and Leadership project (2005-2010) was one of those that conducted an extensive review of the leadership and career development of women and of the significance of gender in the operations and management of organisations. Various studies have been conducted in recent years on the importance of gender, family and age in the career development of managers, on harmonising work and private life in the lives of both female and male leaders, and on leadership training for women. The focus of these studies has nevertheless not been specific with respect to the recruitment practices of listed companies. While some international research has examined reasons for the lower representation of women in listed company management positions, the findings are not directly transferable to Finland.

This project focuses specifically on analysing the management recruitment practices of listed companies from the perspective of gender equality in the Finnish context, and on obstacles to gender balance in the top management of listed companies in particular. The project seeks to improve the researched evidence base for deciding Government measures to promote gender balance in the leadership of listed companies.

The review and selection procedure for directors of listed companies, the selection criteria, and the status of members of the board of directors materially differ from jobseeking, and from the selection and status of employees, so the findings of studies on women as generally leading employees cannot explain the reasons for board selections in listed companies.

There are very few listed company directors (2/2021: 715 individuals discharging 812 directorships), with several factors potentially influencing the appointment of each new board member, including the recruitment services used. The strategy and circumstances of each company are also highlighted in searching for and selecting each director, as are the objectives of the company's principal shareholders and the networks of its sitting board of directors and CEO. For these reasons, qualitative research into the causes of the trend is also needed to determine and evaluate further measures to realise an effective and productive improvement in the status of women. As the career paths of available individuals have a significant impact on the board and management team selections of listed companies, it is necessary to investigate not only publicly traded companies, but also corresponding factors in other listed companies (First North companies) and other larger businesses from whose management positions individuals are promoted to the leadership of listed companies.

It is important for the study to analyse the specific features of the organisation and recruiting practices of listed companies, including the role of recruitment services, from the perspective of gender equality. Issues related to career development and the evaluation of ability and competence are also important for the study.

Both research interviews and a review of other research materials will be required for the qualitative study. Interviews will be necessary with at least top management members of listed companies and unlisted larger companies, of those in management mentoring programmes and those serving as mentors, and of top management recruitment service suppliers. It will also be important to analyse other research materials and research literature where this is necessary for answering research questions.

To understand the trend in Finland and provide background for determining policy options, a summary of the trend, and in particular of the reasons for favourable change in comparable countries and territories with respect to an equitable representation of genders in the management positions of listed companies, will also be needed based on published studies/research. These countries and territories may include China, Denmark, Estonia, France, Germany, the Netherlands, Norway, Singapore, Sweden and the United Kingdom, together with California and Delaware in the USA. The selection of comparable countries and territories would note the varying features of listed companies and their operating environment, such as the general circumstances and objectives of societies, the development of capital markets and listed companies, and the measures taken to increase equitable representation of genders in the management positions of listed companies.

The main authors of the study will be required to have in-depth knowledge of research on the topic and previous research experience.

Research questions

- What reasons affect the selection of women to serve as a member of the board and management team, including as CEO, in listed companies of varying size, shareholder base and sector? In relation to management team service, particular attention will focus on the appointment of business unit leaders.
- What factors in recruitment processes for these leadership positions, and in the operations of listed companies more broadly, promote or obstruct more equitable gender representation in leading positions at listed companies?
- How, and by taking what measures, can we promote equitable gender representation in the management positions of listed companies?

Links to the Finnish Government's decisions and preparations

The Gender Equality Programme of the Government for 2020-2023 seeks to increase equitable gender representation on the boards of listed companies. The goal is for both genders to have at least 40 per cent representation in the boardroom at large and medium-sized publicly traded companies. This equal representation should be principally achieved in accordance with the recommendations of the Corporate Governance Code of

the Securities Market Association and through measures of their own taken by companies. The Government will monitor progress towards this goal, and evaluate its adequacy on an annual basis.

A study or investigation will also be conducted under the Equality Programme into the causes that limit the proportion of women serving in listed companies as a director, CEO or management team member. This investigation will be undertaken through the VN TEAS study/research described herein. The research findings will be used when evaluating future progress and deciding Government measures to promote the objective. The findings will also be used for final reporting of the equality programme.

The theme of the research is clearly interdepartmental, affecting the purview of several ministries. The findings may also be used for developing private measures, such as the women leaders mentoring programme of the Finland Chamber of Commerce.

Reporting

The project will also produce a final report in Finnish with summaries in Swedish and English. The Government may arrange translations of the final report summary.

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