ECOSYSTEMS OF FEMALE GREEN ENTREPRENEURSHIP IN FIVE REGIONS ACROSS FINLAND, NORWAY AND SWEDEN

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ABSTRACT

This report provides an outline of green female entrepreneurship in certain regions in Finland, Sweden, and Norway. The regions are: South Ostrobothnia, located in Western Finland, which consists of 18 municipalities with a population of 195,000. The region is a significant food industry hub, with two-thirds of its production distributed outside the area. Central Ostrobothnia, also in Western Finland, which comprises 11 municipalities with 67,800 inhabitants, and excels in process technology, logistics, and precision mechanics. Lapland, which is the northernmost and most international region of Finland due to tourism. Norrbotten, which is the largest county in Sweden, is a leader in clean energy, particularly hydro and wind power, and has developed expertise in mining, forestry, and space technologies. And Troms og Finnmark have traditionally been central areas for fishing and tourism. The region also has active innovation activities.

This report examines the status of green female entrepreneurship in these regions. Green entrepreneurs operate at the nexus of sustainability, equity, and entrepreneurship, driving sustainable development through innovative business practices. They can green their operations by reducing environmental impact or develop green technologies for climate mitigation and adaptation. The majority of green enterprises are small or medium size. These entrepreneurs are pivotal in creating social, environmental, and economic value, mitigating climate change effects, fostering community adaptation, and building resilience through innovative solutions like carbon sequestration technologies and circular economy processes.

Research indicates that women entrepreneurs play a pivotal role in advancing sustainability within businesses. They are more inclined towards sustainable entrepreneurship due to their environmental consciousness and the empowerment it brings. Women in business often prioritize community well-being and environmental health, engaging more with social and environmental issues than their male counterparts. Companies founded by women are more likely to be environmentally oriented, with a focus on sustainable natural resource management. Moreover, women are adept at integrating sustainability into their business models, driving innovations, and adopting sustainable practices in response to social and ecological challenges.

Finland, Norway and Sweden provide favorable environments for female workers, indicating that they also support female entrepreneurship through various mechanisms, guidance, and assistance. Despite these supportive environments, in the regions described in the report the labor market is divided between the genders and there are significantly more men than women among entrepreneurs, in Sweden even less than 30% of entrepreneurs are women. The increasing focus on entrepreneurship is driving the development of new theoretical frameworks and national ecosystems, especially in the Nordic countries. Although female-led teams outperform male-led ones in revenue-to-funding ratios and are more likely to achieve sustainability goals, funding remains heavily skewed towards male entrepreneurs. Women also face additional barriers such as childcare responsibilities and lack of role models. To foster female entrepreneurship, especially in green innovations, a joint cross-border strategy and better coordination of supportive activities are needed, along with more research and co-learning on women's entrepreneurship in the region.

TIIVISTELMÄ

KESTÄVÄ ALUEELLINEN NAISYRITTÄJYYS SUOMESSA, NORJASSA JA RUOTSISSA

Tätä raporttia varten on tarkasteltu kestävää naisyrittäjyyttä viidellä eri alueella Pohjoismaissa. Alueet ovat seuraavat: Etelä-Pohjanmaa, joka koostuu 18 kunnasta, joissa asuu 195 000 asukasta. Alue on merkittävä elintarviketeollisuuden keskus, jonka tuotannosta kaksi kolmasosaa jakautuu alueen ulkopuolelle. Keski-Pohjanmaa, johon kuuluu 11 kuntaa ja 67 800 asukasta, ja jossa on osaamista prosessiteknologiassa, logistiikassa ja tarkkuusmekaniikassa. Lappi, johon kuuluu 21 kuntaa ja 176 00 asukasta, ja joka on matkailun ansiosta Suomen kansainvälisin alue. Norrbotten, joka on Ruotsin suurin lääni, ja puhtaan energian, erityisesti vesi- ja tuulivoiman, johtavia alueita. Norbotten on myös kehittänyt asiantuntemusta kaivos-, metsä- ja avaruusteknologiassa. Norjasta mukana on Tromssan ja Finnmarkin entinen lääni, jolle tärkeitä elinkeinoja ovat kalastus ja turismi. Alue panostaa vahvasti myös innovaatioiden kehittämiseen.

Raportissa kuvataan, mikä on kestävän naisyrittäjyyden tila yllä mainituilla alueilla. Kestävät yrittäjät toimivat kestävän kehityksen, tasa-arvon sekä yrittäjyyden yhtymäkohdassa. He pyrkivät liiketoiminnalla ja innovaatioilla edistämään kestävää kehitystä. Tämä voi tapahtua joko vähentämällä liiketoiminnan ympäristövaikutuksia tai kehittämällä kestävää teknologiaa ilmastonmuutoksen hillitsemiseksi tai siihen sopeutumiseksi. Yritykset ja yrittäjät ovat avainasemassa luomassa sosiaalista, ympäristöllistä ja taloudellista arvoa. He auttavat lieventämään ilmastonmuutoksen vaikutuksia, edistävät yhteisöjen sopeutumista ja rakentavat kestävyyttä innovatiivisten ratkaisujen, kuten hiilensidontateknologioiden ja kiertotalouden prosessien, avulla.

Tutkimukset osoittavat, että naisyrittäjillä on keskeinen rooli yritysten kestävyyden edistämisessä. He ovat halukkaampia luomaan kestäviä liiketoimintaratkaisuja ympäristötietoisuutensa vuoksi. Naiset myös haluavat vaikuttaa yritystoiminnallaan toimintaympäristöön kestävyysarvojen mukaisesti. Naisten perustamat yritykset ovat todennäköisemmin ympäristölähtöisiä ja keskittyvät kestävään luonnonvarojen hallintaan. Lisäksi naiset ovat taitavia sisällyttämään kestävyyttä liiketoimintaansa, edistämään innovaatioita ja omaksumaan kestäviä ja ympäristöystävällisiä käytäntöjä vastauksena sosiaalisiin ja ekologisiin haasteisiin.

Pohjoismaat ovat yleisesti tunnettuja tasa-arvostaan sukupuolten välillä. Kuitenkin raportissa kuvatuilla alueilla Suomessa, Norjassa ja Ruotsissa työmarkkinat ovat jakaantuneet sukupuolten välillä ja yrittäjissä miehiä on huomattavasti enemmän kuin naisia, Ruotsissa vain alle 30 % yrittäjistä on naisia. Kaikissa tarkasteltavissa maissa on tarjolla monenlaista tukea ja erilaisia ekosysteemejä liittyen yrittäjyyteen. Myös työn tekemisen puitteet ovat naisille monin mittarein mitattuna erittäin suotuisat. Kannustuksesta huolimatta naisyrittäjien osuus on näissä maissa edelleen suhteellisen pieni. Verrattuna miehiin, naisilla on haasteita saada yritystoiminnalleen rahoitusta, perheissä kotityöt ja hoiva keskittyvät edelleen naisille eikä heillä ole riittävästi roolimalleja yrittäjyyteen liittyen. Naisyrittäjyyden edistämiseksi erityisesti kestävien innovaatioiden suhteen tarvitaan yhteistä, rajat ylittäviä toimintamalleja ja parempaa tukitoimintojen koordinointia sekä lisää naisyrittäjyyden tutkimusta alueella. Lisäksi hankkeessa mukana olevat maat voivat ottaa oppia toisistaan.

1 INTRODUCTION

THE AMBITION: A SOCIALLY SUSTAINABLE REGION

"Together, we will promote an inclusive, equal, and interconnected region with shared values and strengthened cultural exchanges and welfare." This means that we will work to involve everyone living in the Nordic Region in the green transition and digital developments, utilize the potential of this transition, and counteract the widening of gaps in society as a result of this transition." (Objective 10)

(Nordic Council of Ministers, 2021)

This report and its correlated literature review are outputs of the GENGREEN (Closing the Small-Business and Gender Gap through education for green sustainable and competitive growth) project funded by Interreg Aurora Programme.

GENGREEN project's main objective is to develop a cross-border recognized programme for green entrepreneurial training directed to women organized in cross-border living labs and online learning platform based on professional mentoring, sharing of best practices and various online and live events. The project will focus on building and increasing competences about green and sustainable business management, digital skills, tech and product innovations, organic methods, cross-border cooperation as well as other topics identified by the needs analysis conducted in the project. The mission of the project is at large to contribute to resilient, inclusive, smart and green Nordic societies and to bring social and economic benefits.

Data collection for this report was performed between January and March 2024 with the aim to understand what is the current status of female green entrepreneurship in all the Nordic countries – Finland, Sweden and Norway - involved in the GENGREEN, with particular attention to five regions: South Ostrobothnia, Central Ostrobothnia, Lapland (Finland), Norrbotten (Sweden), Troms og Finnmark (Norway). (When the project was ideated Troms og Finnmark were just one region and in this report we are refering to it as one region). Information and data collection were completed through a desk research based on the screening of academic papers, newspaper articles, reports and official online statistics, in national languages (Finnish, Swedish and Norwegian) and in English when available.

The objective of this report is to provide general data on female entrepreneurship, identify the challenges and barriers women may face in starting a new business, provide some information on national and regional policies, fiscal incentives and clusters/networks/incubators available for female entrepreneurs. Specific attention is paid to data collection on female entrepreneurship in green activities.

The data presented here will be useful to identify how to best structure GENGREEN activities so that female entrepreneurship training and support through cross border cooperation can be carried out in an effective way.

It is important to underline that the field of study focusing on female green entrepreneurship is quite new: it lays at the intersection between entrepreneurship studies

with a gender perspective and sustainable entrepreneurship studies, both of which are not as extensively researched in "general" entrepreneurship studies. Therefore, data on female green entrepreneurship at regional level and even at national level is rare, when nonexistent.

We want to give special thanks and acknowledgment to Jaana Huhtala for making this report looking as good as it is and to the Interreg Aurora Programme for having funded GENGREEN (2024-2026).

Authors

METHODOLOGICAL NOTE

To gather information on female (green) entrepreneurship in Finland, Sweden and Norway we have used three main approaches: literature review, data analysis and mapping.

- **Literature review:** Some studies have been conducted on the topic of female (green) entrepreneurship over the last decades. Some of this literature has a global approach, whereas other studies focus on specific countries, such as the Nordics. In this report, we review the existing literature on female entrepreneurship with a specific focus on Finland (and specifically South Ostrobothnia, Central Ostrobothnia and Lapland), Sweden (specifically Norrbotten) and Norway (specifically Troms og Finnmark).
- **Data analysis:** In this report, we use both publicly available statistics in the Nordic countries. We came to understand that publicly available statistics on female entrepreneurship and sustainability are scarce. It is also important to note that the definition of entrepreneurship differs between the statistical agencies, and all comparisons should be interpreted carefully and may differ.
- **Mapping:** a mapping of regional ecosystems supporting female entrepreneurship has been performed.

GEOGRAPHICAL CONTEXT OF THE REPORT

You can see from Figure 1 all the regions that are included in this report and also in the Gengreen project. Next, we will introduce shortly these regions and provide more information from each in the following chapters.

South Ostrobothnia (Etelä-Pohjanmaa in Finnish) is located in Western Finland. It consists of 18 municipalities and has a total population of 195,000 residents. The capital city of the region, Seinäjoki, has 66,000 residents and it has benefitted from a steady population growth since 1951, which is the longest period of growth among all regional centers in Finland. In South Ostrobothnia people live in the cities or in the countryside. The region is a major hub of the food industry, and two-thirds of the production is provided for customers and consumers outside the region. South Ostrobothnia is also home to several beverage producers, and it has long traditions in a variety of crafts that still go on today, e.g. textile making, carpeting and furniture industry (Regional Council of South Ostrobothnia, 2024a).

Central Ostrobothnia (Keski-Pohjanmaa in Finnish)) is located in Western Finland. The region has 11 municipalities with approximately 67,800 inhabitants. In the past, tar burning, trade and ship building developed the region, and connected it with the other Nordic countries and Europe. Today, Central Ostrobothnia's has modern ports, an airport and three main roads and high-quality data connections as well as the network of sub-regions. The region has high process technology, logistics, the electronics and precision mechanics industry as well as high-quality agriculture (Regional Council of Central Ostrobothnia, 2024; Statistics Finland, 2023).

Lapland (Lappi in Finnish) is the northern-most region of Finland. Lapland consist of 21 municipalities, and it is among the most sparsely populated areas in Finland: according to Statistics Finland (2023) just under 175,800 inhabitants in 100,367 square kilometers, thus population density is 1.75 persons on square kilometer. Despite its location in the spasely populated north of Finland Lapland is among the most international regions of the country. Together with its neighboring countries, Sweden and Norway, Lapland has more than 1,000 kilometers of open border and almost 400 kilometers of closed border with Russia. The value of exports from Lapland is almost 4 billion euros, which is approximately seven per cent of the value of goods exports of the whole of Finland. Lapland is known for its' tourism and total annual demand for tourism in Lapland has been around one billion euros, half coming from international visitors (Regional Council of Lapland, 2024).

FIGURE 1.
REGIONS IN THE REPORT.
MAP: ISTOCK.

Norrbotten (Norrbottens län in Swedish) is the largest and most north county in Sweden. Its land area is almost a quarter of Sweden's total land area. It is a part of Swedish Lapland and its first cities where Piteå and Luleå founded in 17th century (Regionfakta, 2024a). Norrbotten is a key player in clean energy production. The county has invested for decades into hydro and wind power and its industrial production is entirely fossil-fuel free. While the population is sparse and distances are long, Norrbotten has developed special competencies and innovation networks in sectors such as mining and forestry. Luleå University of Technology has a special focus on wood research. Norrbotten has even an expertise in space technologies with the governmental rocket range and research center Esrange Space Centre (OECD, 2023a).

Troms og Finnmark was a county in northern Norway that existed from 2020 to 2023 (when GENGREEN was submitted). The county was established on 1 January 2020 as the result of a regional reform. It was the largest county by area in Norway, encompassing about 75,000 square kilometers, and was formed by the merger of the former Finnmark and Troms counties in addition to Tjeldsund Municipality from Nordland county (Lægland, 2021). On 15 June 2022, a decision was ruled to demerge the county back to Finnmark and Troms beginning on 1 January 2024 (Hansen, Finnset & Løken, 2022). Parliamentary decision ruled to demerge the county back to Finnmark and Troms beginning on 1 January 2024 (Føleide, 2022).

PHOTO HEIDI ÅKERMAN

2 SO, YOU WANT TO BE AN ENTREPRENEUR?

An entrepreneur is a person who starts a business with the goal of performing an income-generating activity. Such person can go by many names: entrepreneur, innovator, start-upper, and self-employed business owner. The definition of entrepreneur as provided by Statistik Tillväxtverket (2024) is "operativ företagsledare", the English translation would be "operational business owner and manager". Many imagine entrepreneurs as innovative people who start growing businesses based on an original idea or technology, but entrepreneurs range from those who start a small-scale business on the side, to owners of industry with hundreds or even thousands of employees. Often entrepreneurs start up their activity while still remaining employed in other places. Such entrepreneurship is often labelled “part-time entrepreneurship”. There are several benefits of being a part-time entrepreneur. Firstly, part-time entrepreneurs do not rely solely on income from the start-up company, since they also have a steady income and receive benefits from other employment. Additionally, part-time entrepreneurs have the flexibility to develop their businesses at their own pace. This freedom comes from not relying solely on startup income, allowing them to take their time to shape and strengthen both their business idea and company with smaller financial risk. Lastly, a part-time entrepreneur has the opportunity to make use of the networks and competencies of their employer (Marshall et al., 2018). The term entrepreneur is broad and must be interpreted with flexibility.

Although various factors such as economic development, culture, and technology are crucial in understanding the creation of new ventures (Acs et al., 2005; Reynolds, 2011), studies indicate that individual factors such as motivation and confidence have the most significant influence on the complex decision to initiate new businesses (Arenius and Minniti, 2005; Minniti and Nardone, 2007). However, motivation is a complex, conceptual process. Motivation is the requirement of all actions. Becoming an entrepreneur requires entrepreneurial motivation, which consists of entrepreneurial attitudes. After weighing the motivations against possible difficulties, the potential entrepreneur will decide on what to do about the business idea (Machado et al., 2016). Radu-Lefebvre et al. (2021) note that motivations for becoming an entrepreneur are twofold. There are people who deliberately choose to build their own businesses and then there are people who are pushed to become entrepreneurs by external factors. The first one's motivations can include self-fulfilment and self-awareness whereas the latter can include such factors as the necessity to make an income or pushing oneself out of poverty.

Possibly one of the most important goals of entrepreneurs is success, which is, however, defined by every person in a slightly different way. In the study of Minarcine and Shaw (2016), entrepreneurs understood success as freedom of choice, to be the masters of their own destiny, to be happy, and be able to vary the work-life balance. According to Carree and Verheul (2012), internal motivations make entrepreneurs more satisfied with the experience of entrepreneurship than if the motivators are extrinsic. Interestingly, in McGowan et al. ’s study of 2012, it was found that non-financial factors are more important than financial ones. The pull factor of independence, the possibility to decide independently what to do and the flexibility of time is intriguing to many entrepreneurs

(McGowan et al., 2012; Minarcine and Shaw, 2016). When it comes to establishing green businesses, Melay et al. (2017) discovered that desire to protect the environment and/or to improve the livelihood of other people was motivating entrepreneurs. They are claiming that making profit was not the most important motivation to green entrepreneurs but rather to do business in sustainable way.

There are different views on whether driving motivations are the same for both genders. The motivations and critical challenges are typically the same for both women and men when considering the decision to venture to entrepreneurship according to McGowan et al. (2012). Contradicting this, the research of Machado et al. (2016) shows that businesses are created by different genders for distinctively different reasons. In wealthy countries, such as the Nordic countries, the household income is not generally the crucial factor in female entrepreneurship, while it can still be quite important for male entrepreneurs (Arenius and Kovalainen, 2006; Berglann et al., 2013). According to a study by Langowitz and Minniti (2007), women with high education and high income are likely to become entrepreneurs, because they can engage in business not out of necessity but out of opportunity. The self-fulfillment factor is equally important to both women and men when they consider becoming entrepreneurs (Machado et al., 2016; McGowan et al., 2012). Kovaleva et al. (2023) found out that for Finnish female entrepreneurs' internal motivation was the main reason to start their own business. In Norway, Solesvik, Iakovleva and Trifilova (2019) found similar result in their study related to Norwegian female entrepreneurs. The lack of satisfaction and opportunities in the previous workplace can serve as a good motivator for many to establish their own business (Minarcine and Shaw, 2016). Especially women have been found to start their own businesses because of the frustration caused by the corporate workplace (Mallon and Cohen 2001).

MEASURING ENTREPRENEURSHIP

Many governments and development organizations set themselves the goal of improving the framework conditions for entrepreneurs. Numerous factors influence how much a country promotes entrepreneurial activity and how high the chances are for entrepreneurs to succeed with their business activities. Often, policymakers and other decision-makers lack information and reliable data on entrepreneurial activity and the population's attitude towards entrepreneurship in their country. They therefore find it difficult to identify the right measures needed to improve the framework conditions so that entrepreneurs can flourish (Elert and Henrekson, 2022).

The Global Entrepreneurship Monitor (GEM) aims to tackle the problem of poor and scarce information by providing a methodology to analyse the entrepreneurship scene in a given context and to compile it in a report. More precisely, GEM advises how to collect, analyse and interpret data on the entrepreneurial capacities of individuals, including entrepreneurial activities, aspirations and attitudes. By joining GEM and forming a national research team, local policymakers can gain valuable information on gaps and constraints but also strengths and efficient support schemes in the entrepreneurial ecosystem (Auerswald, 2015).

The Women, Business, and the Law (WBL) index is a prominent World Bank Group dataset that assesses the regulatory framework for women starting a company. In particular, the Entrepreneurship indicator measures legal and regulatory barriers across 190 economies for women who want to set up and run their own business (World bank, 2024a). While the indicator has seen significant improvement over the past 53 years, legal restrictions for women entrepreneurs remain. Women are still underrepresented as leaders and economically meaningful positions, e.g. globally women hold only one out of five corporate board positions (World Bank, 2024b).

As part of the Women Entrepreneurs Finance Initiative (We-Fi), the **World Bank We-Data project** collects data on female business ownership and directorship across the world in 170 economies—responding to the lack of comprehensive and comparable gender-disaggregated data on female entrepreneurship. Data is collected directly from business registries and covers several calendar years. Business registries and statistical agencies are a unique source of information on formal entrepreneurship and play a pivotal role in keeping track of entrepreneurs (World Bank, 2024b).

Supporting entrepreneurship, innovation and development is important to societal progress. Entrepreneurs can lead the way, not just in economic growth, but in broader societal transformation. They inspire society to explore new horizons, innovate and launch new ventures that propel societal advancement (Zahra and Wright, 2016). There are several different types of start-up environments or business networks that help entrepreneurs. Some of these environments are specialised in helping entrepreneurs early on (called incubators), whereas some networks aim at helping entrepreneurs scale-up their companies (called accelerators). There are also other types of environments like co-working spaces, innovation centers and science parks. These different types of start-up environments all have an ambition to stimulate business development and help start-ups grow through training, counseling, workshops, and by giving them access to funding and networks. There is a vast amount of research that suggests that social interaction among entrepreneurs can encourage entrepreneurship (Hayton et al., 2013). According to Bergek and Norrman (2008), the literature on female entrepreneurs in startup environments shows that only few of the companies in incubators have female founders or managers, and the existing incubators do not appear to decrease the existing gender wage gap. Later in this report, we will provide examples of regional startup environments and networks from all the regions participating in this project.

2.1 GREEN ENTREPRENEURSHIP

Green entrepreneurs operate at the intersection between sustainability, equity and entrepreneurship. They are still a small niche but with the potential to yield important insights and drive sustainable development. Thus, entrepreneurs have a critical role in sustainable actions because they create the strategy and structure of the company (Melay, O´Dwyer, Kraus and Gast, 2017).

Green entrepreneurship can be approached in two ways: 1) Input-based: Entrepreneurs who actively green their business by adapting their operations to climate related risks, by reducing emissions, or by minimizing their impact on the environment, for example by lowering water consumption or managing waste. 2) Output-based: Entrepreneurs whose primary business is the development or deployment of green or climate-smart technologies that contribute to climate mitigation, adaptation, resilience-building, and/or environmental conservation. It is important to note that these categories are not mutually exclusive. Businesses can simultaneously reduce their operational carbon footprint, while also developing green and climate-smart technologies. Furthermore, women green entrepreneurs can exist within any sector, including hard-to-abate industries or climate-vulnerable sectors such as agriculture (IFC, 2023).

Affolederbach and Krueger (2017) suggest that green entrepreneurship can be divided to two streams: one which is seeking profit when creating environmentally sustainable technologies, societies and businesses and one that primarily addresses the social inequalities and is not seeking profit. It is important to underline that many of the female green companies are established by individual entrepreneurs and that the companies might be small or medium in size. Occasionally green enterprises can be spin-offs from academic work (Demirel et al., 2017).

Green entrepreneurship is the pursuit of business opportunities that create social, environmental, and economic value while reducing environmental impacts (Saari and Joensuu-Salo, 2019). They are seen as agents of change, the ones who are making the green transition to happen (Affolderbach and Krueger, 2017; Kim et al., 2023). Green entrepreneurship contributes to mitigation of effects of climate change and biodiversity loss, adaptation to these issues, and resilience-building. For example, green enterprises can mitigate the effects of climate change by developing carbon sequestration technologies, help communities to adapt to the impacts of climate change through new food production systems or create more climate-friendly sectors by replacing heavy industry with circular economy processes (IFC, 2023).

DIFFERENCES AMONG GREEN ENTREPRENEURSHIP, SOCIAL ENTREPRENEURSHIP, NATURE-BASED ENTREPRENEURSHIP, GREEN WASHING AND GREEN CARE

A social entrepreneur is someone who pursues novel applications that can solve community-based problems. These individuals are willing to take on the risk and effort to create positive changes in society through their initiatives (Heuer and Marquard, 2014). Social entrepreneurs may seek to produce environmentally friendly products, serve an underserved community, or focus on philanthropic activities. They have a broader scope than green entrepreneurs. In Finland, social entrepreneurship is defined by Yhteiskunnallisten yritysten osaamiskeskus (2024), in English, Centre of expertise in social enterprises, as follows: 1) Enterprises business actions main aim is to promote their social objective 2) majority of the profit is used to support the social objective 3) company is enhancing participation and democracy in their management.

Nature based enterprises (NBEs) use nature as a core element of their product/service offering. Nature may be used directly by growing, harnessing, harvesting or restoring natural resources in a sustainable way and/or indirectly by contributing to the planning, delivery or stewardship of sustainable nature-based solutions (McQuaid et al., 2021).

Green washing (a compound word modeled on "whitewash") is a form of advertising or marketing spin in which green PR and green marketing are deceptively used to persuade the public that an organization's products, aims, and policies are environmentally friendly (Union of International Associations, 2021).

Green Care in Finland refers to nature-based interactive activities that promote people's quality of life and well-being as preventive or rehabilitative actions in different types of environments. The environment can be, for example, a forest, a garden or a farm. Green Care's well-being effects arise simultaneously through the revitalization of nature, experientiality and community (Green Care Finland, 2024). Green Care can be, for example, family work that utilizes elements available in nature, such as animals and insects, mental health rehabilitators working on farms or alpacas visiting the elderly service unit.

Theory and first empirical evidence suggest that – compared to conventional new ventures – green ventures have a more positive economic and social impact and are less harmful or even beneficial to environmental quality. Green entrepreneurs are also important for economic development. They can make a significant contribution to decreasing unemployment, poverty and environmental problems; they can promote competition, which encourages businesses to improve their products and services, and innovation, which leads to a better allocation of resources and a more efficient economy (Zhu et al., 2023).

2.2 BEING A WOMAN MATTERS IN GREEN ENTREPRENEURSHIP

There is a wide range of studies related to female entrepreneurship and the theme has interested the scientist but still, as Brush and Cooper (2012) point out, the subject needs more understanding and studies. Women entrepreneurs have become the most rapidly expanding segment of entrepreneurs around the globe (Cardella et al., 2020). Women entrepreneurs make significant contribution to economy, driving entrepreneurial ventures and economic growth. Their efforts contribute to job creation and rise in the gross domestic product (GDP) on a global scale. Cardella et al. (2020) point out that women represent globally smaller proportion of entrepreneurs compared to men and this gap widens in more developed countries. In this report we noticed the phenomena when looking at the statics from different countries. They also found out that scientific literature is lacking knowledge on how women run their business, what barriers they face during practicing entrepreneurship and what resources they need to success. In this report we

noticed that in Nordic countries there are more men than women entrepreneurs, but there is knowledge on how women run their business, their barriers and resources they need.

When talking about female green entrepreneurship the number of studies is even smaller. Barrachina et al. (2021) are showing that the number of research of women entrepreneurs and sustainability has grown in recent years, so topic is interesting to researchers. The main interest in the studies was gender differences. Research indicates that future women entrepreneurs are increasingly drawn to the environmental and social aims of sustainable entrepreneurship. This approach not only offers a compelling business model but also empowers women. The drive for both entrepreneurship and sustainability is often inspired by the success stories and experiences of other women in the field.

Green female entrepreneurship encompasses businesses created and managed by women which may range from microbusinesses that foster basic income generation to high growth ventures with disruptive technologies (McAdam, 2022). Women are often driven by a commitment to address social issues and tackle ecological challenges and they are encompassing a broader vision of prioritizing social impact together with financial benefits (Barrachina et al., 2021). They run their businesses based on their knowledge, experience, added value, good-quality services and environmental impact.

In this report and generally in Gengreen project we are seeing the concept of female green entrepreneurship coming together with the sustainability, divided into social, economic and environmental, and entrepreneurship affected by gender (Figure 2). This creates the unique construct of female green entrepreneurship which we are supporting and developing in this project in different regions in Nordic countries.

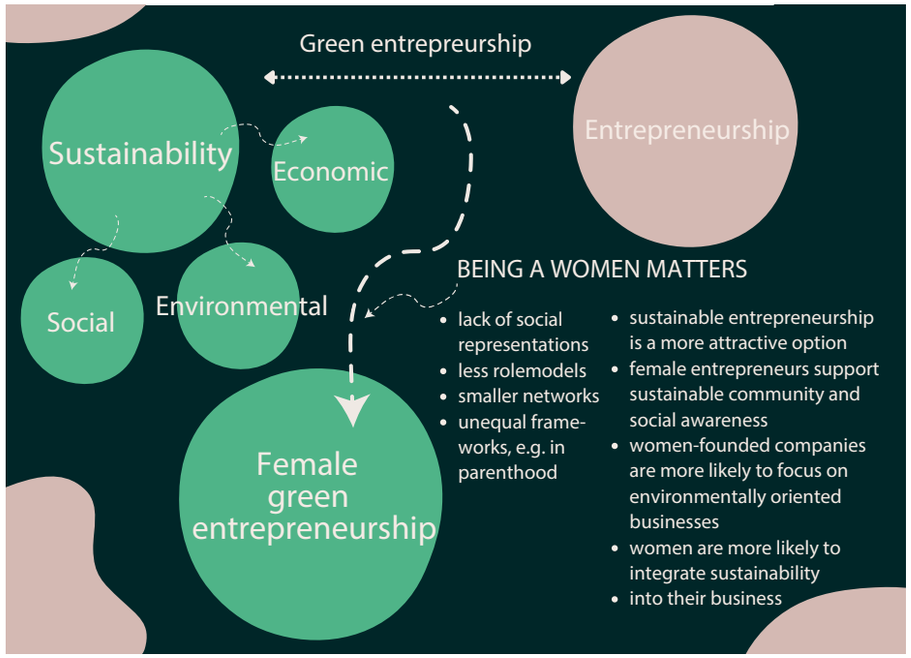

FIGURE 2. CORRELATION BETWEEN GREEN ENTREPRENEURSHIP AND GENDER IN GENGREEN PROJECT. SOURCE: AUTHORS' ELABORATION.

2.2.1 FEMALE ENTREPRENEURS DRIVE GREEN INNOVATION

There are several reasons why supporting women in green and climate-related enterprises could lead to business gains and drive more sustainable impact. The following findings are based on research highlighting the significant role of female entrepreneurs in promoting sustainability in business.

Sustainable entrepreneurship is a more attractive option for women. According to Braun (2010) and Outsios and Farooqi (2017), women entrepreneurs are more motivated to make their businesses environmentally friendly and are more proactive in seeking green networking opportunities compared to their male counterparts due to their environmental consciousness. This motivation aligns with the increasing market demand for sustainable products and services, making sustainable entrepreneurship a compelling option for women. Mujeed et al. (2021) further suggests that sustainable entrepreneurship is a logical and attractive choice because of the empowerment of women.

Female entrepreneurs support sustainable community and social awareness. Marconatto, Ladeira and Wegner (2019) examinate the sustainability of solidarity economy organisations, noting that women in these organisations often prioritise community and environmental well-being, which aligns with sustainable entrepreneurship principles. Studies by Marcus, MacDonald and Sulsky (2015) and Hechavarría et al. (2012) showed that female entrepreneurs are more likely to engage with social and environmental issues compared to their male counterparts, who are more traditional and economically oriented. Furthermore, women-led businesses often incorporate sustainable practices while contributing positively to their communities and the environment (Mahajan and Bandyopadhyay, 2021).

Women-founded companies are more likely to focus on environmentally oriented businesses. Women's participation is crucial not only for economic growth but also when considering the types of enterprises women establish. According to the results of Hechavarría (2016) and Liu, Anser, and Zaman (2021), women-founded companies are more likely to create environmentally oriented businesses than those founded by men. Additionally, women living in societies with strong gender socialisation traditions are more likely to engage in environmentally related entrepreneurial activities than male entrepreneurs. Women, motivated by a sense of justice and responsibility towards the environment, are often at the forefront of initiatives that promote sustainable natural resource management. This alignment with ecofeminist values drives women to create and manage businesses that prioritize ecological sustainability and justice (Liu, Anser, and Zaman, 2021).

Women are more likely to integrate sustainability into their business. According to Starchenko's (2020) research, women are more likely to integrate sustainability into their business models due to their awareness of social and ecological issues, thereby driving innovation and sustainable practices within their enterprises. Akinbami, Olawoye, and Adesina (2019) study in agriculture highlights that women recognize the significant effects of climate change leading them to adopt innovative and sustainable strategies. The study by Mahajan and Bandyopadhyay (2021) in the sustainable energy sector emphasises that women are driven by a keen awareness of social and ecological issues, which motivates them to adopt innovative and sustainable business models.

2.2.2 CHALLENGES FEMALE GREEN ENTREPRENEURS EXPERIENCE

Despite many good examples of the potential impact of women's green entrepreneurship, some challenges remain. According to Guzman and Kacperczyk (2019) studies it seems that men tend to establish more businesses in high-growth industries than women and, as we can see later in the report, women establish generally less companies than men (in the Nordics). We have gathered here some of the barriers faced by women in countries that are located in so called global north. As Nordbø (2022) points out some of the barriers for female entrepreneurs are global and some of them are deeply rooted in the society where they exist in national but also regional level.

Social representations of entrepreneurs and entrepreneurship are masculine. Entrepreneurship is considered to be masculine, and women entrepreneurs have to gain legitimacy when working in their own business, which takes off time from other tasks. Women are also often in a disadvantage role in the public discussion on entrepreneurship (Radu-Lefebvre et al., 2021; Chadwick and Dawson, 2024). Apparently, women have lower expectations and ambitions for growth than men but also women's own perception related to their skills is often underestimated. Women tend to have weaker networks and fewer female role models, e.g. start-up environments often have a male-dominant culture which can discourage women to join them and thus women may have less opportunities and access to the capital and growth. Social networks and role models play an important role in encouraging entrepreneurship, as well as enabling access to funding (Engel et al., 2023; Grünfeld et al., 2020; Bell et al., 2019). Combined, these factors can help explain both lower female entrepreneurship rates, as well as fewer female high-growth companies.

In addition, a women respond better to female role models. Bell et al. (2019) have estimated that if girls received the same exposure to female innovators as boys do male innovators, their innovation rate would increase by 164% and the gender gap would decrease by 55%. Bell et al. (2019) have shown that in America being raised in an "innovative neighborhood" – characterized by a high number of patents – positively influences children's innovation when it comes to entrepreneurship initiatives, emphasising the significance of exposure for young girls. Typically, these effects are also influenced by the technological focus of the neighborhood; those who grew up in such environments are more likely to specialise in that same area. The impact on girls is magnified when there were female innovators present (male innovators do not have that same impact). This is not necessarily related to better schools but rather to transfer of human capital such as mentors, networks or internships. The stereotype of "lack of fit" into entrepreneurial environment can be significant experience for female entrepreneur (Jennings and Brush, 2013). Encouraging more female role models and expanding the definition of success in entrepreneurship are key factors in reducing identity conflicts and imposter fears among women (Ladge et al., 2019; Chadwick and Dawson, 2024).

Female entrepreneurs have less access to external funding than male entrepreneurs. Several studies (Female Founders Fund, 2023; Montoya et al., 2021; Brock and de Haas, 2023) point that female entrepreneurs are not being able to raise as much capital as their male counterparts. Therefore, female entrepreneurs today use much more diverse sources of funding than male entrepreneurs. For instance, angel funds constitute

16% of the funding that female entrepreneurs receive, whereas it only constitutes 6% of funding male entrepreneurs receive (Unconventional Ventures, 2019). This may be caused by a lower preference for risk and a higher fear of failure among women than men. However, it can also be due to gender biases among financial institutions as mentioned above.

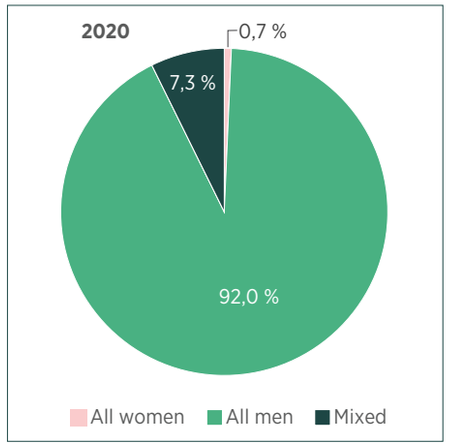

FIGURE 3. CAPITAL RAISED BY GENDER IN THE NORDICS IN 2020. SOURCE: UNCONVENTIONAL VENTURES, 2021.

The capital raised by all-women teams is significantly less than that raised by all-men or even mixed-gender teams in the Nordics (Figure 3). One explanation for the lower volume of investment going towards founding teams with at least one female member can be found in the variations of investments by industry. Women are predominantly represented in industries related to children, wellness, beauty, fashion, education, food, or health (in this order). Women are underrepresented in sectors such as semiconductors, robotics, and energy (Unconventional Ventures, 2021). However, this is only one simple explanation. The experiment of Brooks et al. (2014) reveals that when presented with the exact same start-up project (via a video) 68% of the investors were inclined to invest when the idea was pitched by a man, but only 32% were inclined to invest when a woman pitched it. The experiment setup was conducted in the USA, but the research reflects how difficult it is for women to obtain funding.

According to a study by Malmström and Wincent (2018) in Sweden, women entrepreneurs seeking loan financing from national banks to finance transactions are often faced with stricter information requirements compared to men. However, when seeking financing from local banks, this discrimination tends to diminish or vanish. Also, there is evidence from Sweden that governmental investment funds have unconsciously discriminated against businesses lead by women, because they systematically misjudged the growth potential of women lead companies (IFC 2023). Regarding public funds, Alsos and Ljunggren (2017) discovered that among those managing public investment in Norway, there persists still a belief that investing in women-owned businesses is less profitable. Generally, female entrepreneurs' experiences are often overlooked and given less credence compared to men with the similar level of experience. The same authors also noted one of three women with significant role in the investment system in Norway, whom they interviewed, expressed a genuine interest in specifically supporting women

entrepreneurs. This apparent gender indifference is associated with an industry characterised by masculine behaviours and language, which either makes the industry unattractive to women, or encourages them to assimilate.

Framework conditions are especially important for enabling female entrepreneurship. The framework conditions from the side of society play an important role for enabling women to participate in professional activities in general, but also becoming entrepreneurs. If these framework conditions are worse for entrepreneurs, it will make it less likely for women to choose to start a business (Grünfeld et al., 2020). Similar findings were found in Molina-López et al.´s (2021) study where there was a positive and significant effect between the external support that women entrepreneurs receive and the overcoming of the barriers they face.

Many women have children to take care of and parenting is affecting female entrepreneurs. The current system pushes young women into jobs that are only temporary. The costs of parental leave are largely paid for by female-dominated sectors. The current system hinders growth, employment and internationalisation in female-dominated sectors (Arenius and Kovalainen, 2006; Neergaard and Thrane, 2011). E.g., Neergaard and Thrane (2011) found out that even though the Danish parental leave system was well-working with employees, it was not practical for entrepreneurs. 11% of the female entrepreneurs postponed or refrain trying to have children because they found it impossible to combine entrepreneurship and family-life in the framework of Danish parental leave system. Also, women with children find it hard to adjust the childcaring necessities, such as taking care of sick children, with entrepreneurial activities (Winn, 2004).

Many of the companies in Nordic countries are SME's and therefore the support for the small companies is crucial to them. Nordbø (2022) found out that female entrepreneurs from small, rural tourism enterprises felt that they have to give up their companies because lack of the local administrative support to their small businesses. They also felt that a small enterprise is not an enterprise at all. Similar results were found by Tillmar et al. (2022a) from Swedish care sector female business owners towards general support. When it comes to small businesses in rural Scandinavia, it is also worth of noting that the disposable income of rural female business owners in Sweden is almost 55,000 SEK smaller a year than the employed women in rural areas (Tillmar et al., 2022b).

It seems that women take less risk than men. Risk is another important element of any entrepreneurial activity. The ability to tolerate risk is a vital link between opportunity recognition and entrepreneurial enactment (Marlow and Carter, 2004). Women generally exhibit greater risk aversion compared with men (Eckel and Grossman, 2008), but the more women are familiar with the decision context, the more risk they will take (Johnson and Powell, 1994). Consequently, women may avoid high growth or high potential return ventures because they typically involve more risk (see e.g. Berglann et al., 2011; Chadwick and Dawson, 2024). Their motive of being an entrepreneur is to provide themselves employment without necessarily having ambitions for growth (Hessels, van Gelderen and Thurik, 2008). Kepler and Shane (2007) found that among Finnish nascent entrepreneurs, females are significantly more likely to prefer a business with a low risk-to-return ratio.

PHOTO **SILJE KVAMMEN**

3 FINLAND – THE NORDIC COUNTRY WITH THE STRONGEST THIRD SECTOR SUPPORT FOR ENTREPRENEURS

Finland has 5.6 million inhabitants, and during the last 50 years, it has transformed from an agriculture-based economy into a modern service economy. In Finland, the national entrepreneurship policy is centrally guided by the government; the government decisions are locally implemented by the municipalities (Heinonen and Hytti, 2016). Each government holds the office for four years. As the political agenda changes with each new office, the entrepreneurship policy may not remain stable over longer periods of time. The existing policy reflects both the priorities of the current government and the economic and social conditions of Finland during a certain period.

From gender balance perspective, Finland is considered to be rather egalitarian, as women and men are equally active in the employment and labour market (Kyrö, 2009). The Global Gender Gap Index, published by the World Economic Forum (2023), reveals that Finland, with a score of 0.863, is the third leading country in gender equality in the world. Promoting equality is seen as a national project from which citizens and political system can benefit (Raevaara, 2005). According to Salmi and Närvi (2017) and Grönlund, Halldén and Magnusson (2017) both men's and women's high employment rates in Finland and generally in Scandinavia are popularly attributed to social policies that supports reconciliation of the work and family life. However, there are certain exceptions to gender equality in Finnish society. The most striking is that labor markets are polarized between genders. This polarization occurs in occupations, sectors, authorities, and wages (Grönlund et al., 2017). Women are more frequently employed in the public sector, while men are more often employed in the private sector. This gender-based division extends to entrepreneurship, with both men and women operating in sectors characterized by gender segregation.

The gender pay gap between women and men has decreased slowly in Finland. In 2022, women earned, on average, 84% of the amount earned by men across the labour market. The gender pay gap is influenced by various factors. One key factor is occupational segregation. In many sectors dominated by women, wages are lower compared to those in male-dominated sectors. Additionally, income progression tends to be more rapid for men, and on average, men achieve their peak earnings at a younger age than women. Women also experience slower pay progression due to taking longer family leaves compared to men. It should be noted that in Finland, educational attainment does not justify higher salaries for men. Despite women being more educated than men, they still earn less on average at all levels of education. Furthermore, the gender pay gap has repercussions on pensions. Women's average pension in Finland is 80% of what men receive on average (OECD, 2023b).

The World Bank (2024c) presents an index covering 190 economies and structured around the life cycle of a working woman. In total, 35 questions are scored across eight indicators, namely mobility, workplace, pay, marriage, parenthood, entrepreneurship,

and assets. For Finland seven indicators score 100 out of 100, however, parenthood scores only 80. Overall scores are then calculated by averaging each indicator, with 100 representing the highest possible score. Based on this approach, Finland scores 97.5.

3.1 ENTREPRENEURSHIP IN FINLAND

Finland is truly a nation of micro companies: according to Statistics of Finland, there were 570 000 enterprises in Finland in 2022, and 96.5% of them were micro companies (Figure 4). In March 2023, the number of registered new enterprises in Finland was 9,643. Of the registered enterprises, 5,651 were sole proprietors and 3,756 were limited companies (Statistic of Finland, 2022a).

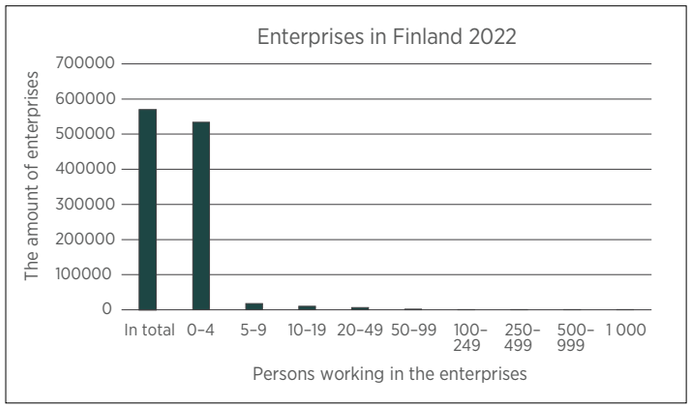

FIGURE 4. ENTERPRISES IN FINLAND 2022. SOURCE: STATISTICS FINLAND (2022A).

According to Statistics of Finland (2022b), only 10% of the working population were entrepreneurs, and the clear minority of them, 34%, were women, as you can see from Figure 5. According to the statistics of Entrepreneurship review (Rissanen, Tiirikainen and Hujala, 2007), the share of female entrepreneurs has been low for a long time: at the end of 2006, there were a record 73,000 female entrepreneurs in Finland, which is a third of all entrepreneurs. One of the possible reasons for this emerges in the last Global Entrepreneurship Monitor (GEM) report (Björk et al., 2022) about Finnish entrepreneurship. In the report 2,000 Finns were interviewed regarding entrepreneurship themes: fear of failure prevents women from becoming entrepreneurs. 53% of men, but only 32% of women, think that they have the required knowledge and skills to start a new business.

The number of female entrepreneurs is even lower among persons with an immigrant background in Finland (Figure 6). Finnish Government (2021) estimated that the number of people with an immigrant background in Finland was 423,500, which is about 8% of the population. 3.9% of persons with an immigrant background were entrepreneurs, and only 28% of them were females. Of the female entrepreneurs in Finland, only 5,6% were women with an immigrant background (Statistics Finland, 2022d).

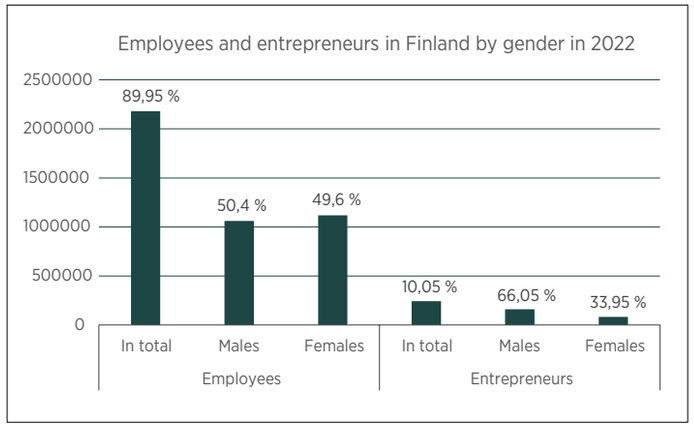

FIGURE 5. EMPLOYEES AND ENTREPRENEURS IN FINLAND 2022. SOURCE: STATISTICS FINLAND, 2022C.

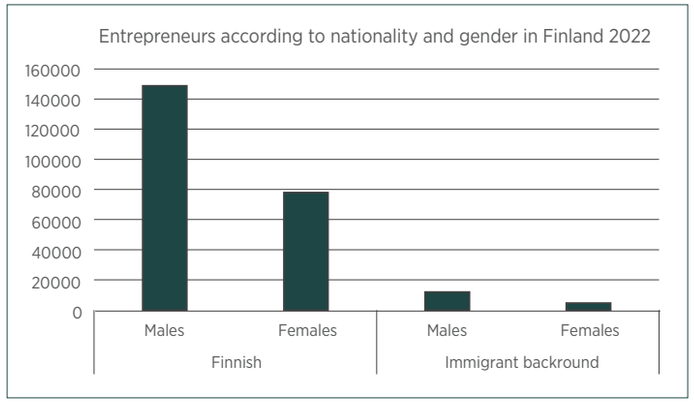

FIGURE 6. ENTREPRENEURS ACCORDING TO NATIONALITY AND GENDER IN FINLAND 2022. SOURCE: STATISTICS FINLAND, 2022D.

FINLAND'S STRONG AND WEAK POINTS IN ENTREPRENEURSHIP

National experts see Finland's **strong points** as the availability of financing, entrepreneurship education in schools, research and development transfer, access to infrastructure and women's entrepreneurship compared to Sweden, Norway, and the Netherlands.

Finland's **weak points** are the lack of support for entrepreneurship in cultural and social norms. In Finland, the percentage of adults expecting to start a business in the coming years has decreased after 2015, whereas it increased in Sweden and even doubled in the Netherlands. Moreover, Finnish respondents identified fewer opportunities than those in Sweden, Norway, and the Netherlands. However, 70% of Finnish adults thought it would be easy to start a business, and the number of informal investors and invested sum per investor both increased (Björk et al., 2022).

3.2 SUSTAINABLE COMPANIES IN FINLAND

There are no collective statistics related to sustainability or green companies in Finland, but we can get some estimation of the situation by looking at different registers. One way is by examining the certified labels in Finland. At the beginning of 2024, there were over 15,000 companies that had received Joutsenmerkki-label, which is the most known ecolabel in Finland. Social enterprises also have environmentally and socially sustainable goals and there are a total of 2,924 companies that have the social enterprise label (Ympäristömerkki Suomi Oy, 2024; Yhteiskunnallisten yritysten osaamiskeskus, 2024). However, achieving these labels requires resources that are not necessarily available for micro or small companies.

There is also some knowledge about why enterprises in Finland want to be sustainable. Sitra (2013) conducted a case study related to the Finnish medium size companies and found out that strategies behind sustainable businesses were avoiding risks, differentiation, and cost-effectiveness. The risk-avoidance strategy was related to the wishes of the consumer and changing legislation but also to the reputation of the company. In the cost-effectiveness strategy companies aim to save different resources and the Finnish clean-tech sector is example of this. Differentiation can be seen in companies as a willingness to innovate for the future and redefine and redesign existing products.

3.3 FINNISH POLICY FRAMEWORK FOR ENTREPRENEURSHIP

Entrepreneurship-related policies and programmes typically fall under the auspices of the Ministry of Employment and Economy, the Ministry of Education and Culture, the Ministry of Agriculture and Forestry, and the Ministry of Finance. Implementation of policy actions is carried out through several organisations reporting to the ministries on regional and municipal levels (OECD, 2020).

The administrative burden for starting a business in Finland is generally considered to be moderate. Recent governments have streamlined business regulations and norms by simplifying licensing and reporting obligations and developing electronic communication to enhance information flow between different public authorities. Overall, regulations related to the start-up process do not appear to be a barrier to taking up self-employment (OECD, 2017).

In the current governmental programme, there is an aim to improve entrepreneurship in Finland. The government invests especially in science, development, and innovation actions. The goal is a competitive, entrepreneur-friendly Finland that attracts investments. Their vision is that, by 2031, Finland will be the most interesting country in the world to invest in and innovate in. The government also hopes that Finland's competitiveness, economic growth and productivity will rise to the level of other Nordic countries (Government programme, 2023). The Ministry of Economic Affairs and Employment – in its vision for Finland in 2030 – stresses the importance of entrepreneurship. The proposal envisions Finland as a society with a strong and growth-oriented entrepreneurial and start-up culture, where the occupation is highly valued. The government's primary task is described as "to ensure a safe and market-based foundation for all entrepreneurs" (Sipilä et al., 2021, 12–14).

Information on business creation is also provided in educational institutions. Unemployed individuals can obtain information on the rules and regulations affecting their benefit status in the case of a start-up from their local TE Offices. Immigrants who are not fluent in Finnish, Swedish or English (the languages in which Enterprise Finland is available) can turn to many public and private organisations that help immigrants to integrate into the Finnish society (e.g. the network of Finnish Enterprise Agencies) but not all such organisations are familiar with start-up practices and entrepreneurship. A dedicated specialist organization for persons with disabilities, Vates Foundation, focuses more on promoting the employment of persons with disabilities than on their self-employment (Vates Foundation, 2024).

There are some relief measures for small businesses in terms of business regulations to limit barriers to part-time and small-scale entrepreneurial activity. For example, in 2024, firms with an annual turnover under EUR 15,000 are not liable to pay value added tax (VAT) and the VAT percentage increases linearly up to EUR 30,000 when the tax reaches the normal level (Vero.fi, 2024a). For small companies whose annual turnover is under EUR 100,000, it is also possible to pay VAT only quarterly, and companies with an annual turnover under EUR 30,000 half-yearly or yearly (Vero.fi, 2024b).

The social security of the self-employed is arranged through mandatory insurance (YEL), similar to the social security costs paid by employers. It influences pension and benefits like unemployment coverage, sick leave, and parental leave. The level of insurance payments is based on the "calculated annual income" self-declared by the entrepreneur. This allows entrepreneurs to choose a lower level of security to avoid high fixed costs, meaning their social security and pensions are often lower than those in paid employment. New entrepreneurs receive a 22% reduction on YEL payments for the first four years. Senior citizens on a full-time old-age pension do not need YEL insurance. These measures lower barriers to entrepreneurship, especially for new entrepreneurs and retirees (Työeläke.fi, 2024).

3.4 FINANCING ENTREPRENEURSHIP IN FINLAND

Several institutions provide grants, loans, and guarantees for new business start-ups. These include the TE Offices that focus on labour market policy; ELY Centres that concentrate on regional policy; the financing company Finnvera; and the Finnish Funding Agency for Innovation (Tekes). In the beginning of 2018 Tekes and Finpro, who helps SMEs to go international, have merged into a single entity called Business Finland. Business Finland is in charge of innovation financing and promoting export, investment and travel to Finland. These different institutions focus on different aspects (Suomi.fi, 2024).

The most important grant for inclusive entrepreneurship is the Startup Grant, issued by TE Offices. It provides new entrepreneurs with a secure income for up to 12 months while they establish their business. Recipients report that the grant accelerates business establishment and offers government encouragement. The greatest impact was reported among women and those with limited entrepreneurial experience, suggesting it helps compensate for a lack of individual networks (Stenholm and Aaltonen, 2012). Furthermore, the ELY Centres offer grants for significant investments that are meant to support the growth and renewal of small and medium-sized enterprises. They also offer

specific support for entrepreneurial activity in the rural areas where labour market opportunities are scarcer (ELY Centre, 2024a).

Banks are the major financiers of Finnish small businesses and entrepreneurs. Business Finland and the ELY Centres, along with Finnvera, are the main alternatives to bank loans. In recent years, the credit policies regarding business loans from banks in Finland have tightened. 75 percent of SMEs believe that lenders' credit policies have become stricter. The most significant reason for this tightening is the sharply increased interest rates. In addition, collateral requirements and equity requirements have also increased. Public risk financiers like Finnvera may support and share the risk with banks by offering guarantees (usually 50%) for loans, thus increasing the state's liabilities (Suomen Yrittäjät, Finnvera Oyj and Työ- ja elinkeinoministeriö, 2024).

There are also indirect funding channels, such as European Union's funding. This funding for enterprises is indirect, coming in the form of various development services, research implementation, and co-development with the academic sector. For example, Finland is getting funding from three of the European Union's regional and structural policy funds, which can all be directed towards developing entrepreneurship and the entrepreneurial ecosystem and are decided and distributed regionally (European Commission 2024; Ministry of Economic Affairs and Employment of Finland 2024).

However, when comparing women and men in finance, the share of women remains low in Finland. According to the Unconventional Venture (2021) report, the funding for all-women teams has significantly decreased in Finland in recent years (Figure 7). All-male teams still constitute the majority of funded teams, comprising 96.7% of all funded teams in 2021. In comparison to all Nordic countries, Finland fared better in terms of funding for all-women teams in the years before COVID-19. Indeed, the most significant drop for all-female-founded companies was in Finland (Unconventional Ventures, 2021).

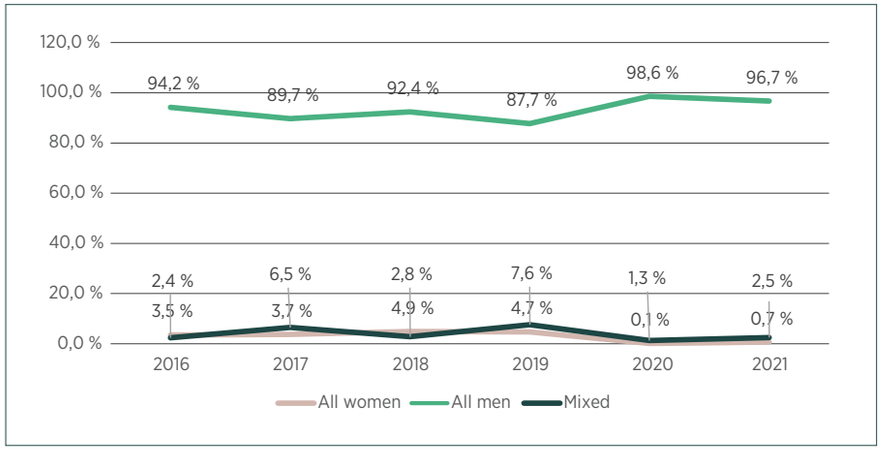

FIGURE 7. FUNDING FOR TEAMS ACCORDING TO GENDER. SOURCE: UNCONVENTIONAL VENTURES, 2021.

3.5 THIRD SECTOR IS PART OF THE ENTREPRENEURIAL ECOSYSTEM IN FINLAND

Finland can be considered a land of the associations. There is a strong tradition to develop the community via the third sector. This extends to entrepreneurship. There are several third sector organisations that support entrepreneurs at the local, regional and national level. One of the most fundamental is Suomen Yrittäjät [Entrepreneurs of Finland] organisation, which has almost 70,000 members and is the largest business-related organisation in Finland. The aim of the organisation is to support entrepreneurs and enhance the entrepreneurship in Finland. The organisation has a local association in almost every municipality and city in Finland (Suomen Yrittäjät organisation, 2024).

Finland Chamber of Commerce (Keskuskauppakamari) and their 19 regional Chambers of Commerce (Kauppakamari) work towards creating better entrepreneurial environment with their 22,000 member enterprises. The organisation is dedicated to finding solutions for developing business ecosystem in Finland (Chamber of Commerce, 2024). Finnish Enterprise Agencies (Uusyrityskeskus) is an association and a network with 33 regional agencies working towards helping, assisting and promoting entrepreneurship, especially starting entrepreneurs. They provide, e.g. assistance, advisors, counseling and guides (Finnish Enterprise Agencies, 2024).

In Finland, there are also organisations focusing on women entrepreneurs. One of the most important is the Women Entrepreneurs of Finland (Suomen Yrittäjänaiset), which is supported by the European Social Fund (ESF). The Women Entrepreneurs of Finland has almost 60 local offices around Finland and approximately 4,000 members. They work as a representative of women entrepreneurs at the national and EU levels (Women entrepreneurs of Finland, 2024).

In this report, we are focusing on predominantly rural regions and their entrepreneurial ecosystems in Finland. The three most important organizations operating in rural areas are ProAgria, the Rural Women's Advisory Centre (Maa- ja kotitalousnaiset) and the Central Union of Agricultural Producers and Forest Owners (MTK). ProAgria has expertise in rural entrepreneurship and agriculture. The organisation is a national umbrella for nine regional centers where they operate and provide aid for the operators in rural areas (ProAgria, 2024). The Rural Women's Advisory Centre is the one of the largest organisations for women in Finland with its 23,000 members. It provides knowledge and expertise on food, nutrition, entrepreneurship, rural landscape, and environment promoting women's perspective on the matters (Rural Women's Advisory Centre, 2024). The Central Union of Agricultural Producers and Forest Owners (MTK) is a national organisation for farmers, forest owners and rural entrepreneurs with over 316,000 members and 14 provincial unions. MTK is the union with expertise, and it protects the status of farmers, forest owners and rural entrepreneurs in society and public debate supervising their interest, also at the international and EU levels (The Central Union of Agricultural Producers and Forest Owners, 2024).

3.6 ENTREPRENEURIAL ATMOSPHERE IN FINNISH REGIONS

Figure 8 below presents data on entrepreneurial atmosphere at the regional level. In rural areas, such as South Karelia and South Savo more than 60% and in Lapland more than 55% of adults think they have the required skills and knowledge to start a business, whereas in Southwest Finland only about 40% of adults hold this belief. Regions with fewer than 30 respondents were excluded from the map.

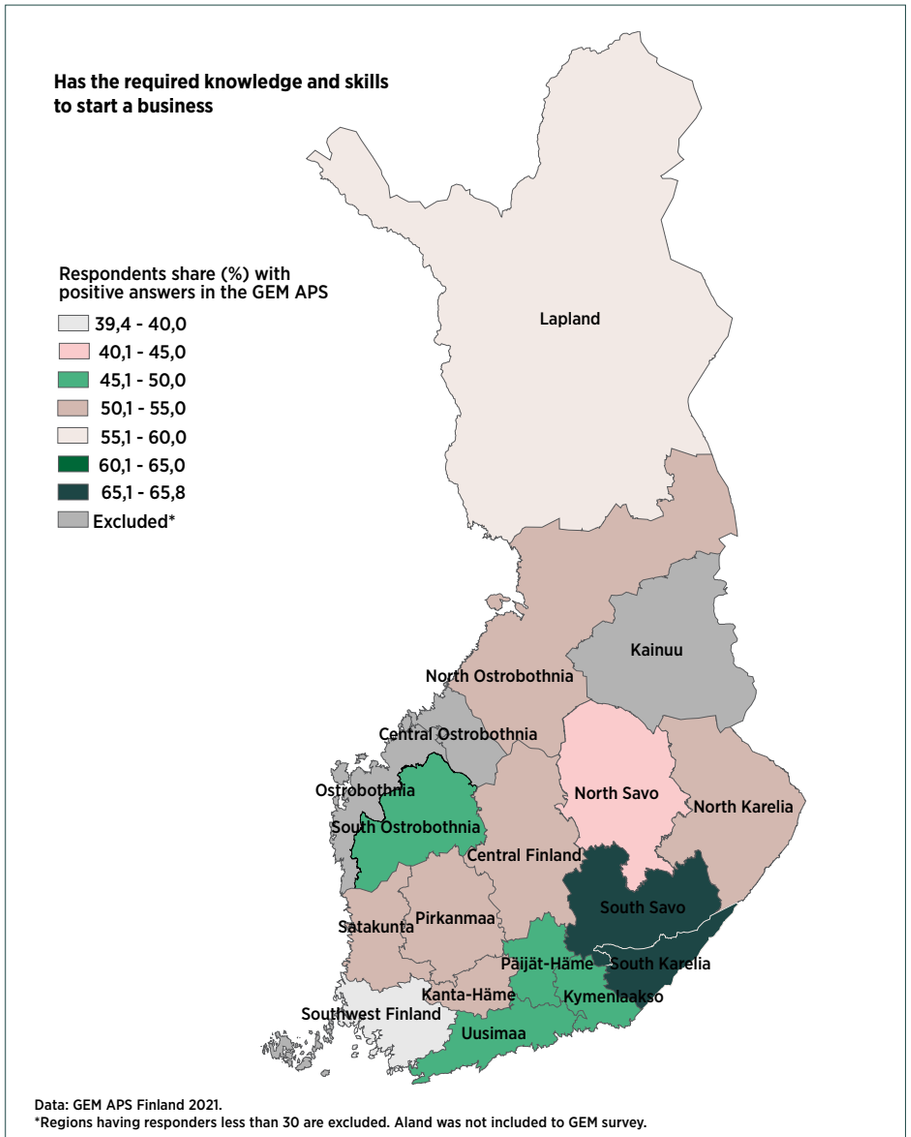

FIGURE 8. FINNISH ADULTS' CONFIDENCE IN ENTREPRENEURIAL SKILLS. SOURCE: BJÖRK ET AL., 2022.

According to Björk et al. (2022) nearly half (49%) of Finnish indicated that the fear of failure would deter them from launching a business. This apprehension has been more pronounced in Finland than in Sweden, Norway and the Netherlands and has grown since 2015. Back in 2015, the percentages in Finland, Sweden, and the Netherlands were nearly identical, but by 2021, Finland had the highest level of concern about this issue. Women were especially likely to report this fear in Finland, while in other countries, the gender gap was less pronounced. In Finland, 56% of women stated that fear of failure prevents them from starting their own business, compared to 38% among men. When examining female entrepreneurs, Siitonen (2019) asserts that the primary driving incentives for entrepreneurship include confidence in one's own competences (45%), societal support (37%), the prospect of job creation through entrepreneurship (36%), a strong passion for entrepreneurship (33%), and educational programs promoting entrepreneurship across various levels (21%). Additionally, Vahtokari (2023) highlights versatile competences and robust professional expertise skills as crucial factors supporting entrepreneurship. According to the research (ibid.), female entrepreneurs have smaller networks compared to their male counterparts, placing women at a disadvantage. Therefore, fostering opportunities for networking and relationship-building becomes critically important.

PHOTO **ADA TROGEN**

4 ENTREPRENEURSHIP IN SOUTH OSTROBOTHNIA, CENTRAL OSTROBOTHNIA AND LAPLAND

As mentioned earlier GENGREEN project is focusing on five regions across Finland, Sweden and Norway. Three of these regions, namely South Ostrobothnia, Central Ostrobothnia and Lapland are in the north-west part of Finland (Figure 9). Of these three regions, South Ostrobothnia has the highest number of entrepreneurs and is well-known for its entrepreneurial atmosphere (Figure 10). Yet, the number of female entrepreneurs is the lowest in South Ostrobothnia, only 28% of the entrepreneurs are women. In central Ostrobothnia 33% of the entrepreneurs are women and in Lapland 34% (Statistics Finland, 2022c). Thus, all of these regions have lower share of female entrepreneurs than the national average.

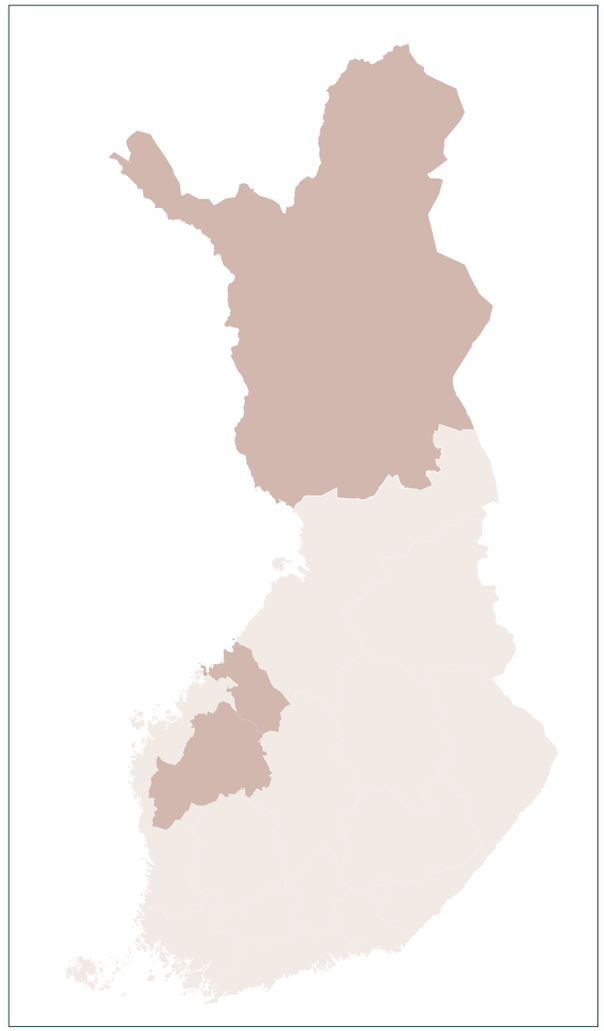

FIGURE 9.
LAPLAND, CENTRAL OSTROBOTHNIA AND SOUTH OSTROBOTHNIA ARE PART OF THE GENGREEN. CONTAINS MATERIALS FROM NATIONAL LAND SURVEY'S TOPOGRAPHIC MAP 2024.

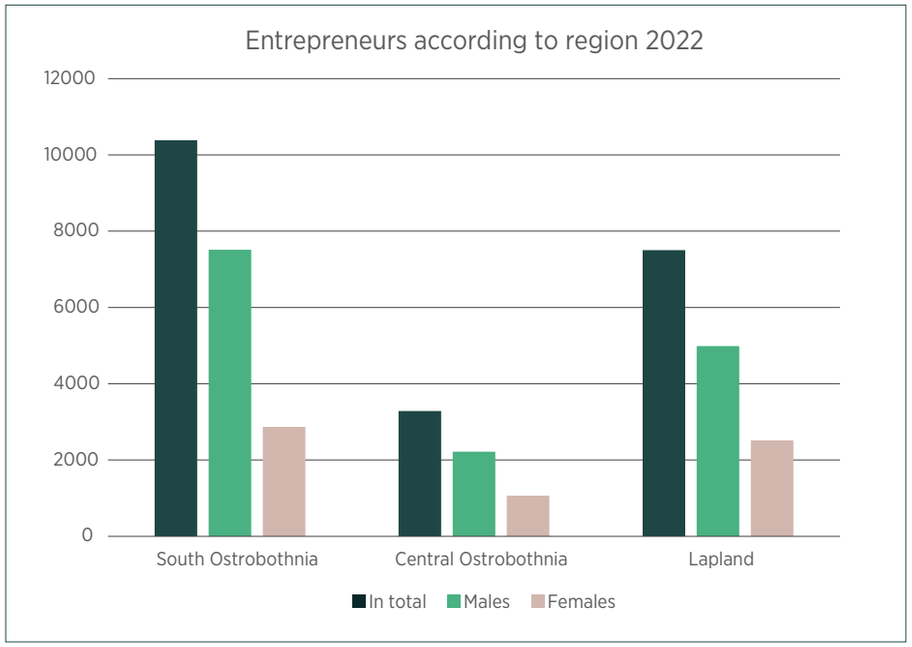

FIGURE 10. ENTREPRENEURS ACCORDING TO REGION IN 2022. SOURCE: STATISTICS FINLAND, 2022C.

According to the Women Entrepreneurs of Finland organisation (2024), the branches of business where women are active are: 32% retail trade, 18% business to business services, 17% social and personal services, 7% hotel and catering, 5% industry, 3% transportation and storage, 3% construction, 2% agriculture and forestry, 2% electricity, and 11% other areas. Especially in male-dominated fields, such as technology, the lack of social acceptance, discrimination and lack of role models are hindering obstacles to the development of female entrepreneurship in Finland (Kovaleva et al., 2023).

Statistics Finland's free database does not provide data on enterprises according to gender but does offer regional data (Figure 11). This data reveals that South Ostrobothnia's high number of entrepreneurs is concentrated in the agricultural sector, which is male dominated in Finland (Statistics Finland, 2022c). In 2022, 76% of Finnish farmers were men, while 24% were women (Kyyrä et al., 2022). It should also be noted that the way Statistics Finland compiles its statistics could be considered masculine. For example, the database includes industries like vehicle repair but lacks information on industries such as beauty care, which in Finland is considered a feminine industry.

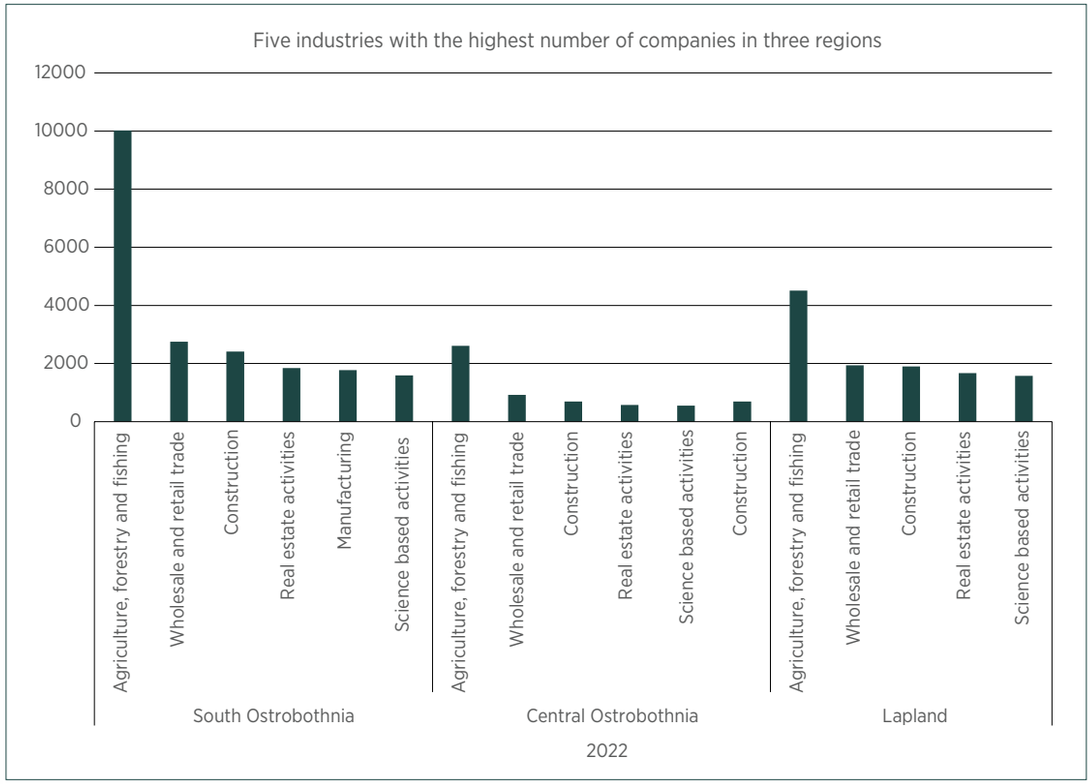

FIGURE 11. FIVE INDUSTRIES WITH THE HIGHEST NUMBER OF COMPANIES IN THREE REGIONS 2022. SOURCE: STATISTICS FINLAND, 2022C.

4.1 ENTREPRENEURIAL ECOSYSTEM IN SOUTH OSTROBOTHNIA

South Ostrobothnia is a region with 18 municipalities and around 192,000 inhabitants (Regional Council of South Ostrobothnia, 2024b). It is known for its entrepreneurial atmosphere. The Regional Council of South Ostrobothnia (2022) has highlighted several times in its regional plan the important role of companies in the region's development. The regional structure of South Ostrobothnia is networked, and companies are concentrated along the main branches of the Kyrö River and Lapua River, primarily along the Kauhajoki-Kurikka-Ilmajoki-Seinäjoki-Lapua-Kauhava axis (Figure 12). The regional strategy aims to build and strengthen ecosystems around the existing economic structure, realise the growth potential of small companies, diversify the business field, and encourage companies to engage in international business. Thus, companies in South Ostrobothnia are supported in various ways.

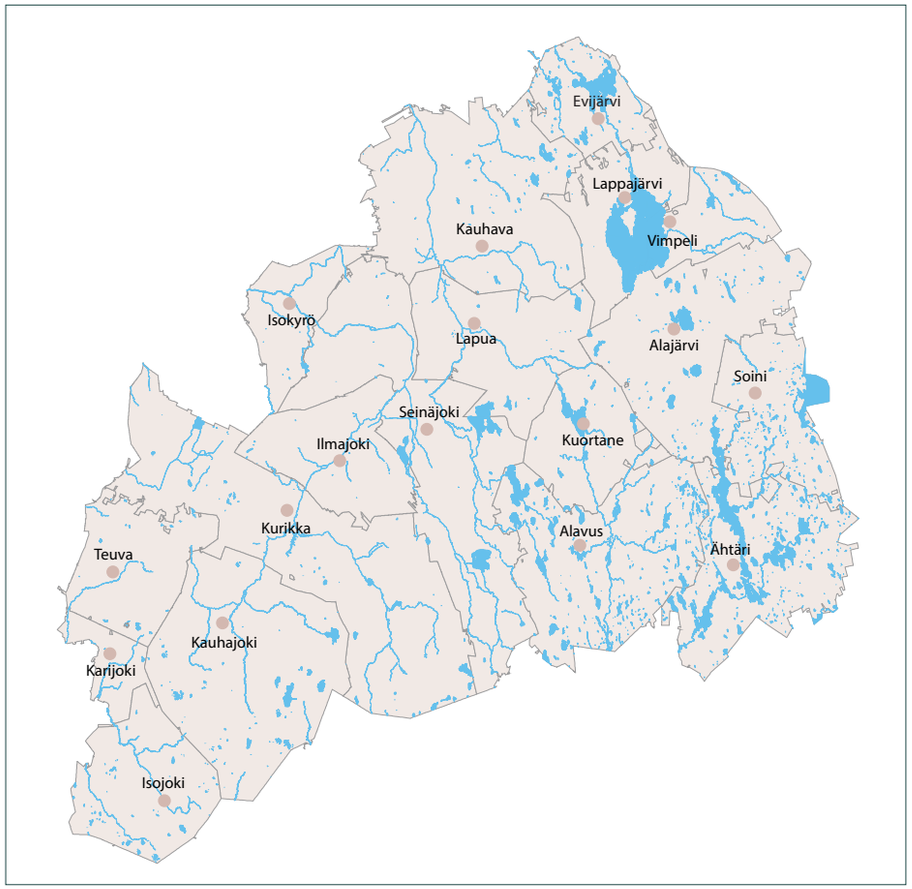

FIGURE 12. SOUTH OSTROBOTHNIA AND IT'S MUNICIPALITIES. CONTAINS MATERIALS FROM NATIONAL LAND SURVEY'S TOPOGRAPHIC MAP 2024.

FEMALE ENTREPRENEURS IN SOUTH OSTROBOTHNIA

As shown in Figure 13, there were 2,870 female entrepreneurs in South Ostrobothnia in 2022 compared to 7,514 male entrepreneurs. The largest number of female entrepreneurs were in the agricultural sector, totaling 888 persons. The half of the female entrepreneurs were in the service sector, and 242 females had their own business in the social and health sector.

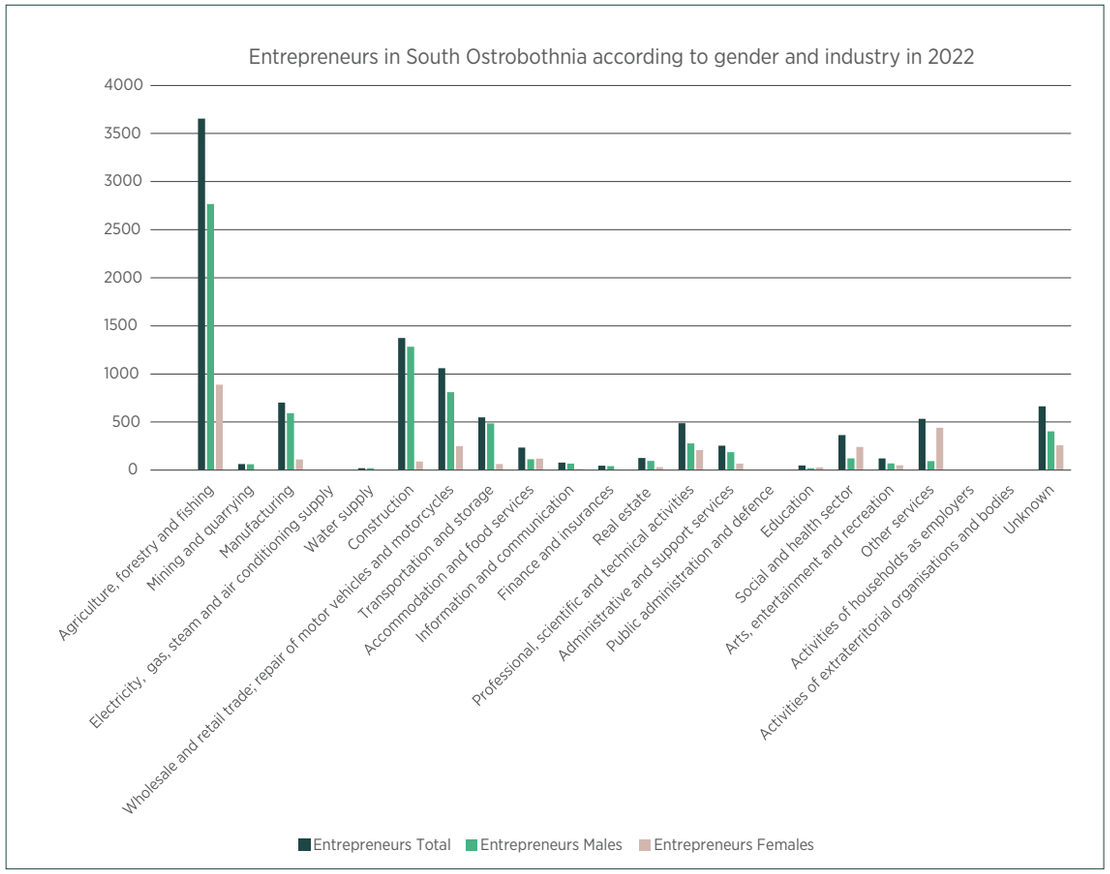

FIGURE 13. ENTREPRENEURS IN SOUTH OSTROBOTHNIA ACCORDING TO GENDER AND INDUSTRY 2022. SOURCE: STATISTICS FINLAND, 2022C.

Supporting enterprises occurs on multiple levels. One is the regional level, stemming from the regional strategy, but a more common level for entrepreneurs is the municipality level. Every municipality has its own support system for entrepreneurs, and it is common to have a dedicated person to support entrepreneurship within the municipality. The development companies founded by municipalities support entrepreneurial ecosystems not only within individual municipalities but throughout the entire region (Figure 14). For example, Seinäjoki, the major city in South Ostrobothnia, has Into Seinäjoki, a company owned by city of Seinäjoki and Seinäjoki University of Applied Sciences. This company provides various services to establish, develop and grow companies, especially in Seinäjoki area, but also in other parts of South Ostrobothnia (Into Seinäjoki, 2024). Other similar companies in the area are Alavuden Kehitys Oy Yrityskehitys Fasadi, Invest Lapua, Isonkyrön kehitys Oy and Järvi-Pohjanmaan Yrityspalvelu Oy (Riihi, 2024).

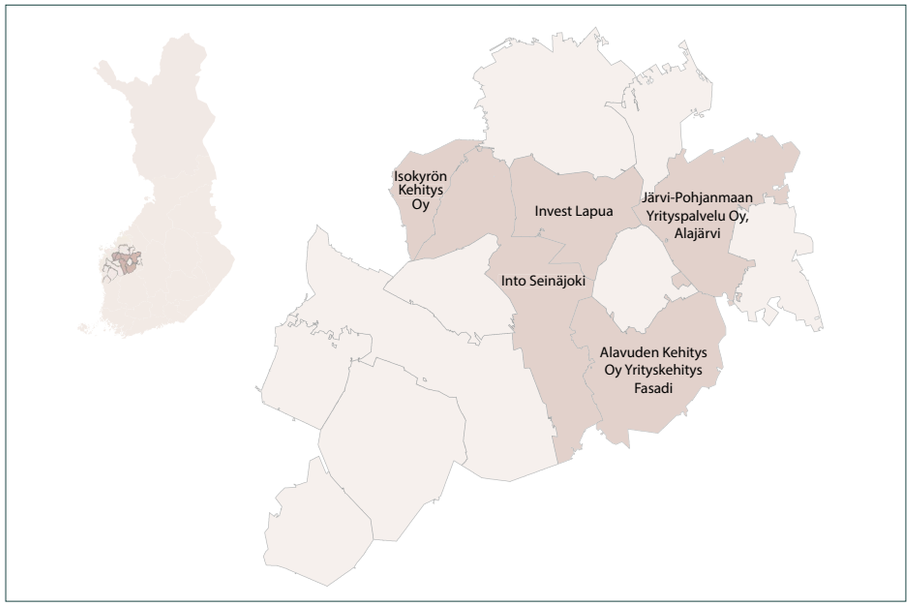

FIGURE 14. MUNICIPAL DEVELOPMENT COMPANIES IN SOUTH OSTROBOTHNIA. CONTAINS MATERIALS FROM NATIONAL LAND SURVEY'S TOPOGRAPHIC MAP 2024.

At the local and regional levels, several organisations provide services for entrepreneurs and support the entrepreneurial ecosystem. The Regional Council of South Ostrobothnia does not offer direct support to enterprises but develops the entrepreneurial ecosystem in many ways. For example, at the request of the Etelä-Pohjanmaan Yrittäjät (Entrepreneurs of South Ostrobothnia) association, it established the EPEK advisory committee to represent trade and industry interests in regional development and strengthen ooperation between the private and public sectors (Regional Council of South Ostrobothnia, 2024a).

There are four EU funded local action groups (LAGs) also known as Leader groups in the area. Leader groups in the area (Liiveri, Aisapari, Kuudestaan, and Suupohjan Kehittämisyhdistys) are local developers operating with the private and public sectors to implement regional development programmes through local projects. Funding for these projects is controlled by the Leader groups and approved by the local ELY centre (2024b).

Additionally, there are third sector organisations, such as the Etelä-Pohjanmaan Kauppakamari (South Ostrobothnian Chamber of Commerce), local Finnish Entrepreneurs associations, particularly the Etelä-Pohjanmaan Yrittäjät (South Ostrobothnian Entrepreneurs), and the Regional Enterprise Agency called Etelä-Pohjanmaan Uusyrityskeskus Neuvoa-Antava (Riihi, 2024).

South Ostrobothnia is considered the food province of Finland, necessitating the inclusion of Foodwest, a company developing food products, in the list of regional entrepreneurial ecosystem. Two-thirds of the food produced in South Ostrobothnia is consumed in other regions, and the area has both primary production and food processing enterprises of various sizes (Ruokaprovinssi, 2024).

There is also an active fourth sector in South Ostrobothnia. Several social media groups are available for entrepreneurs in the region. Here are a couple of examples specifically for women entrepreneurs:

- Facebook group Etelä-Pohjanmaan Naisyrittäjät
- Facebook group MIB – Mothers in Business Pohjanmaa
- Facebook group Yrittäjät Seinäjoki
- Facebook group Hyvät siskot Seinäjoki
- Whatsapp group called "Piirin alueen toimijat" where are lot of women entrepreneur members.

South Ostrobothnia does not have its own university, but it hosts the University Consortium of Seinäjoki (2024), which offers various programmes and guidance related to sustainability and entrepreneruship. For example, Vaasa University provides several open university courses related to business management. Seinäjoki University of Applied Sciences (2024) also offers courses for entrepreneurs, such as Green Care studies and courses related to bioenergy. Vocational schools in the region provide specialised vocational training that may include entrepreneurship and sustainability studies. These organisations offer various studies, workshops, seminars, and webinars for entrepreneurs through their projects, making them valuable resources for education on entrepreneurship-related issues.

4.2 ENTREPRENEURIAL ECOSYSTEM IN CENTRAL OSTROBOTHNIA

Central Ostrobothnia is a small region in Finland, with a population of 80,000 inhabitants and 11 municipalities (Figure 15). Despite its size, the coastal location has historically ensured strong trade and production (Regional Council of Central Ostrobothnia, 2024). The economic structure of Central Ostrobothnia comprises 66% services, 26% processing activities, and 6.3% primary production (Keski-Pohjanmaan tilastoja, 2021).

In its 2021 strategy, the Regional Council of Central Ostrobothnia (2021) envisions a prosperous region of sustainable growth by 2040. The strategy focuses on developing competence, competitiveness, and accessibility with goals related to a strong countryside, climate and environment, well-being and community, attraction and retention, and internationality. A key objective is to "Enable innovation in green growth and digitalization by developing and orienting knowledge, training, and RDI activities, and increasing cooperation between different sectors of the economy." The region aims to support SMEs in their transition towards a circular economy and the commercialisation of innovations.

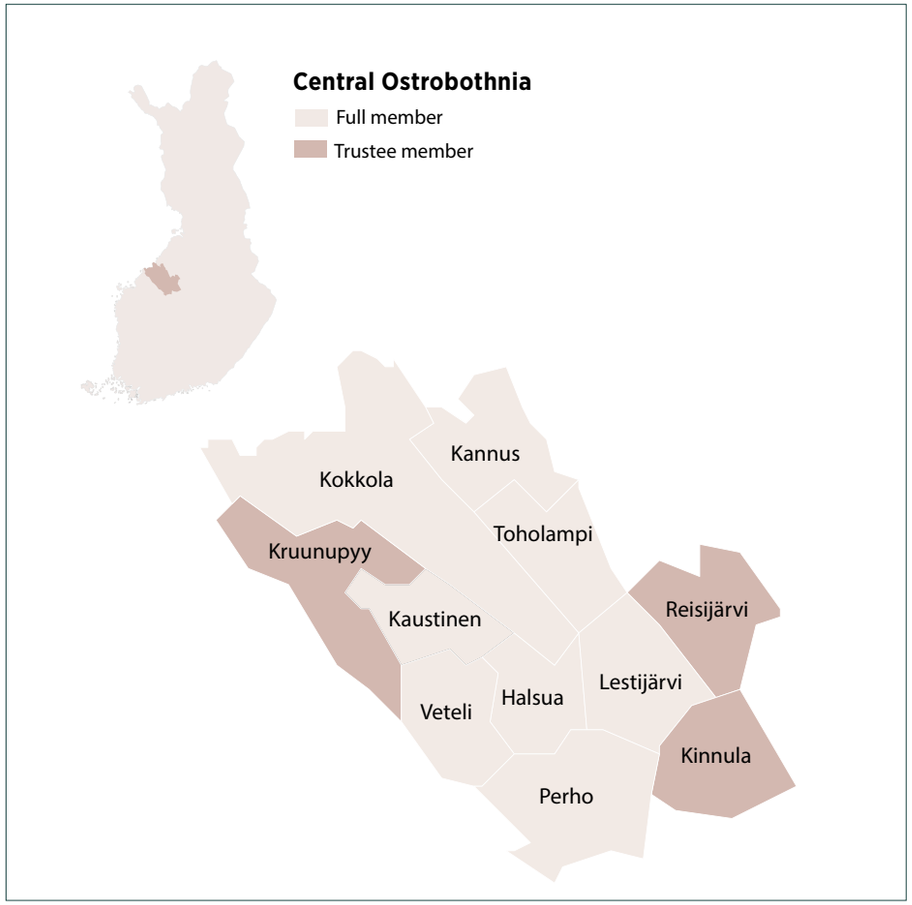

FIGURE 15. CENTRAL OSTROBOTHNIA AND ITS MEMBER MUNICIPALITIES. SOURCE: REGIONAL COUNCIL OF CENTRAL OSTROBOTHNIA, 2024. CONTAINS MATERIALS FROM NATIONAL LAND SURVEY'S TOPOGRAPHIC MAP 2024.

FEMALE ENTREPRENEURS IN CENTRAL OSTROBOTHNIA

In Central Ostrobothnia in 2022 there were 1066 female entrepreneurs, which means female entrepreneurs account for 32% of entrepreneurs in the region. Companies run by female entrepreneurs operated in 17 of the 22 industrial classifications (Figure 16). The most popular being agriculture, forestry and fishing (32%) and other service activities (15%) (Statistics Finland, 2022c).

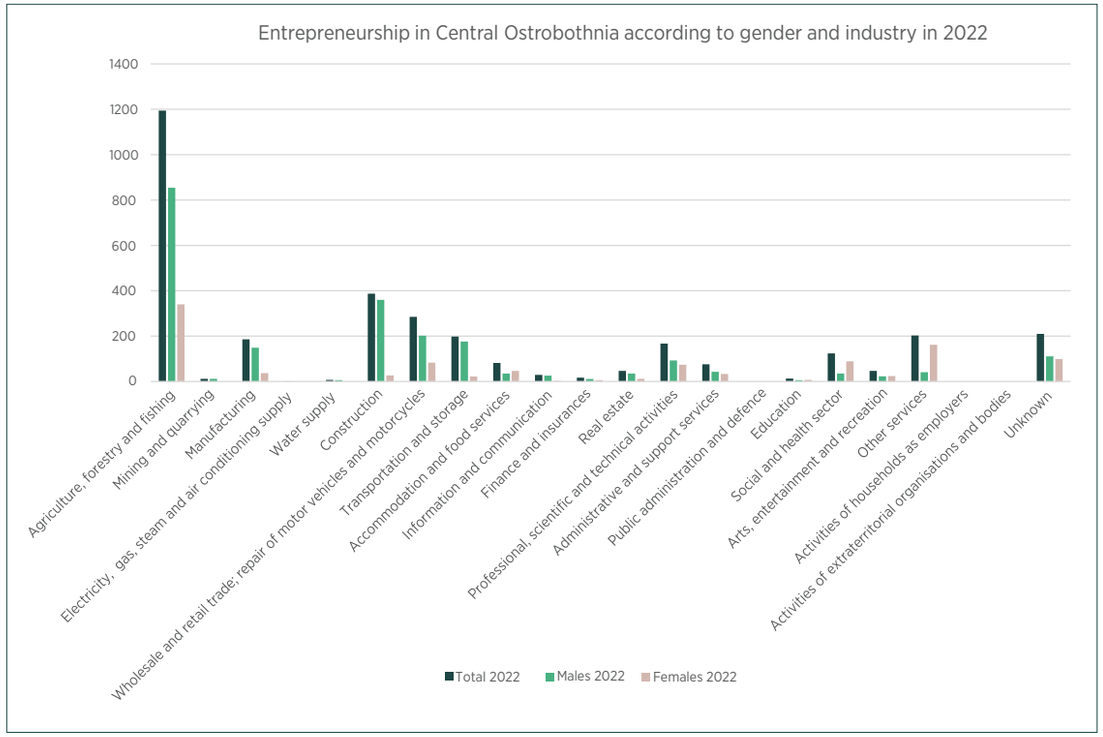

FIGURE 16. ENTREPRENEURS ACCORDING TO INDUSTRY AND GENDER IN CENTRAL OSTROBOTHNIA IN THE YEAR 2022. SOURCE: STATISTICS FINLAND, 2022C.

Due to its geographical location and long-standing history of collaboration throughout the different regions of Ostrobothnia (namely Ostrobothnia and Northern Ostrobothnia), the different support systems available to entrepreneurs and companies often do not strictly follow the regional lines.

The utilization of available services within the region is followed by the Suomen Yrittäjät business confederation in its annual vitality barometer (Suomen Yrittäjät, 2023). This national survey compares regions from an entrepreneurial perspective. In the 2023 barometer for Central Ostrobothnia, 36 respondents answered questions about regional public support for entrepreneurs. Of the respondents, 28% had used services for starting their company, 48% had utilized entrepreneurial advisors, 31% had participated in developmental projects, 3% had used incubators, and 13% had not used any public services. Notably, none had used services related to internationalisation. Almost half of the respondents cited the region's educational offerings as the key aspect of its attractiveness.

Nationally available services from ELY Centre and unemployment offices applicable to the Central Ostrobothnia region include company development funds from the Just Transition Fund (JTF) 2021-2027 and the European Regional Development Fund (ERDF) 2021-2027. These funds are often managed or monitored by the Regional Council of Central Ostrobothnia (2024). In addition, national RDI-funding is available in areas such as Vaasa city center, Kokkola city center, Vikby, Pietarsaari urban area and, Pedersöre coastal area. As Central Ostrobothnia is a rural area, there are also funds ai-

med at developing farming and agriculture, including investment aid, feasibility studies for investments, development aid, and start-up support.

In addition, regional Leader-funding is available through local groups such as Aktion Österbotten rf, Pirityiset ry and Rieska-Leader ry (Figures 17–19). Aktion Österbotten (2024) provides support within the region, especially aiming to support Swedish-speaking municipalities and entrepreneurs. Their support covers various areas, including support for business experimentation, design, start-ups, start-up grants for rural businesses, business development aid, change of ownership, investment aid, energy aid, and aid for agricultural experimentation. Pirityiset group (2024) offers companies support in the form of start-up support, development support, and investment aid through training projects. Rieska-Leader (2024) offers support in various areas, including investment aid for machinery, equipment, furniture (cost 5,000 – 100,000 euros), entrepreneurship experiments, start-up aid for part-time and full-time enterprises, aid for change of ownership, experimental agricultural aid, planning aid, preparation/start-up aid, aid for groups of enterprises and Business Leader programmes.

Another prominent entity in the region that assist companies is KOSEK - Kokkolanseudun kehitys Oy. KOSEK is a business and development company owned by the City of Kokkola and the Municipality of Perho. KOSEK's main tasks include providing business advice and regional development activities. Their services are free of charge for companies in the region. KOSEK is also a part of the Enterprise Agencies Network (Uusyrityskeskus) (2024). They offer services for starting business, pre-training for new entrepreneurs, and personal advice on various topics such as developing a business idea, financial calculations, marketing and sales, collaboration and networks, collaboration with banks and other relevant parties, and personalised training. They also provide various services, online tools, and events for companies in the area. Other similar organisations also operate within the area, such as Kaustisen seutukunnan yrityspalvelut (Kaustisen seutu, 2024), Yrityskannus (2024) and Pietarsaaren seudun kehittämisyhtiö Concordia (Pietarsaaren seutu, 2024).

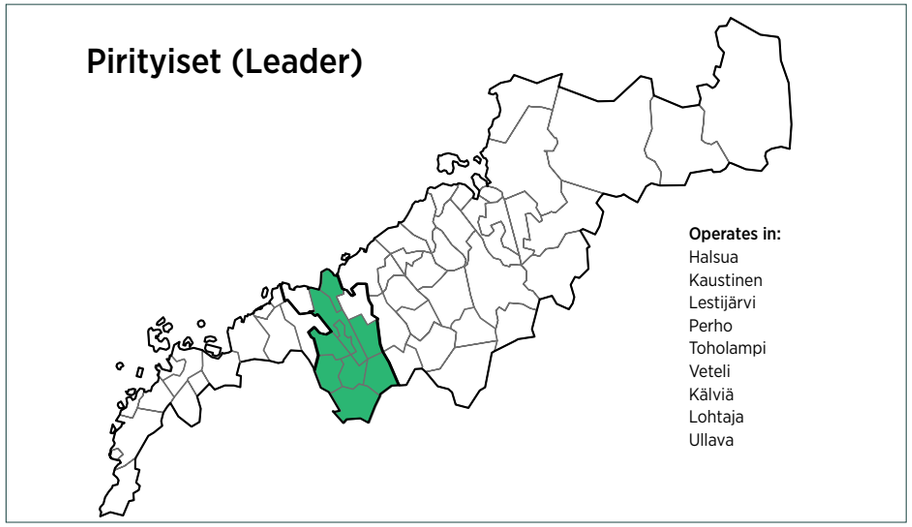

FIGURE 17. LEADER FUNDING IN PART OF CENTRAL OSTROBOTHNIA'S MUNICIPALITIES THROUGH PIRITYISET. SOURCE: AUTHOR VALKJÄRVI, 2024.

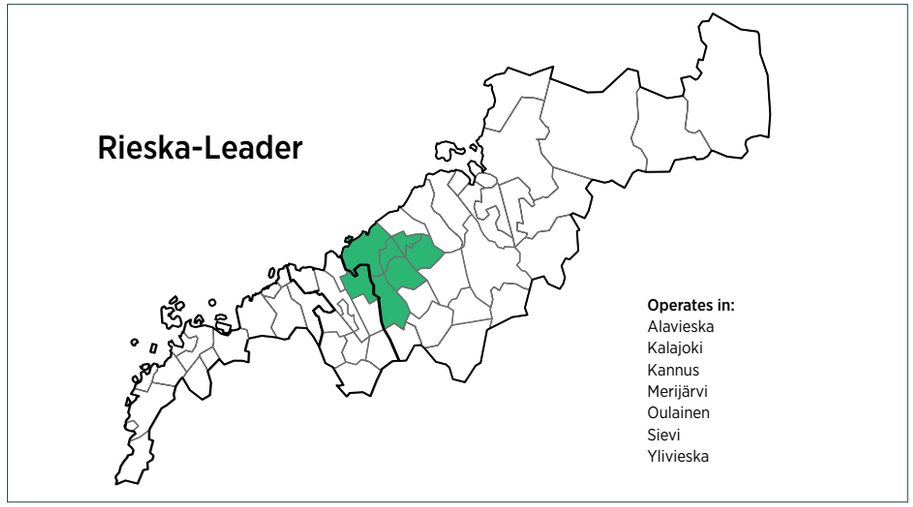

FIGURE 18. LEADER FUNDING FOR CENTRAL OSTROBOTHNIA THROUGH RIESKA-LEADER. SOURCE: AUTHOR VALKJÄRVI, 2024.

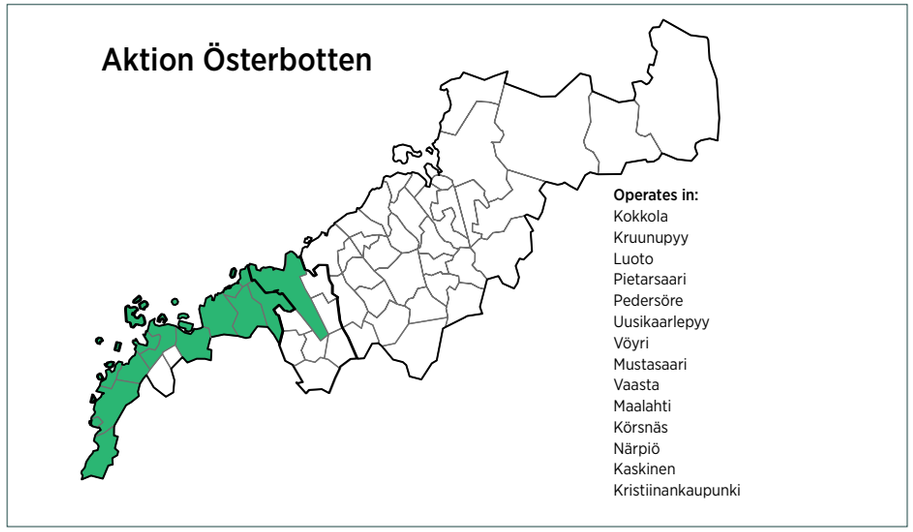

FIGURE 19. LEADER FUNDING FOR THE COASTAL AREA OF OSTROBOTHNIA AND CENTRAL OSTROBOTHNIA, FOR SWEDISH SPEAKING COMMUNITIES AND ENTREPRENEURS. SOURCE: AUTHOR VALKJÄRVI, 2024.

Viexpo (2024) operates within the Central Ostrobothnia region and offers support in internationalisation. The Viexpo cooperative has over 50 years of experience in internationalisation and exports. Their mission is to advise companies across all sectors on export and internationalization matters. Viexpo aims to enhance the capabilities of SMEs in the various stages of internationalisation, expedite their entry into new markets, facilitate the initiation of exports, and reduce the risks associated with internationalisation and exporting.

Taito Keski-Pohjanmaa (2024) is an association established in 1969 as part of the national Taito organisation, with the aim of promoting Central Ostrobothnian crafts as both a cultural tradition and a way of life. In autumn 2020, the Taito Association was ac-

credited as an expert organisation under the UNESCO Convention for the Safeguarding of the Intangible Cultural Heritage. Taito Keski-Pohjanmaa primarily offers craft courses and workshops, craft education, a craft school for basic art education, rehabilitative work activities, well-being at work activities sale of craft materials and products, support for craft entrepreneurship, events, exhibitions, and cultural tourism services. The association's activities are open to all.

The various actors also establish projects providing services to regional entrepreneurs. For example, there are currently ongoing projects related to entrepreneurship and sustainability, such as Bothnia Business Heritage. This project aims to support those operating in culturally significant areas and businesses within these areas to be better equipped to conduct business, commercialise the areas respectfully, and network with others in similar fields (Västernorrlands museum, 2024).

As in South Ostrobothnia, the fourth sector is also active in Central Ostrobothnia. Mothers in Business (MIB) has two contact persons and a group of five volunteer organising activities in the Kokkola and Pietarsaari area (Mothers in Business, 2024). Here are examples of regional social media groups:

- Facebook group Keski-Pohjanmaan naisyrittäjät (female entrepreneurs of Central Ostrobothnia)
- Facebook group Young entrepreneurs
- Facebook group MIB – Mothers in Business Central Ostrobothnia

Centria University of Applied Sciences (2024) is the primary regional institution offering entrepreneurial training across most of its degree programmes and open studies. Additionally, Centria's RDI, called entrepreneurship and business team, supports the local area and the businesses. This team comprises three research groups focusing on future work, sustainable business development, and entrepreneurship education. Other universities and universities of applied sciences in the region are Chydenius institute, University of Vaasa, Vaasa University of Applied Sciences, Åbo Akademi University, Novia University of Applied Sciences and Hanken School of Economics. The region also has vocational institutions offering education in business and entrepreneurship under Keski-Pohjanmaan koulutusyhtymä (2024). Their educational offerings include business studies, management and leadership studies and more specialised studies in self-leadership and human resource management.

4.3 ENTREPRENEURIAL ECOSYSTEM IN LAPLAND

The region of Lapland has 21 municipalities (Figure 20) and it aims for sustainable success and growth (Regional Council of Lapland, 2024). At the moment, Lapland business scene needs more growing and internationalising companies. The number of companies is low in relation to the regional potential, and the number of exporting companies is small and concentrated among larger companies. In general, the number of companies aiming for growth, particularly strong growth, is small. The changing business service network can meet the growing and developing skills needs of companies, but it requires a common vision from Lapland operators on how business services can efficiently

response to the growth needs of companies. According to Regional Council of Lapland (2022) region needs an entrepreneurship strategy that guides Lapland business service operators and those connected to entrepreneurship in responding to the challenges of the operating environment by enchasing their skills.

Furthermore, the Regional Council of Lapland (2022) and their regional programme cite that a significant challenge in Lapland is getting companies to participate more actively in research, development, and innovation (RDI) activities and to take advantage of the available funding opportunities. Companies must be encouraged to engage in bolder RDI activities, to strengthen their RDI expertise, and to utilize more research information and RDI development services in their development activities than is currently the case.

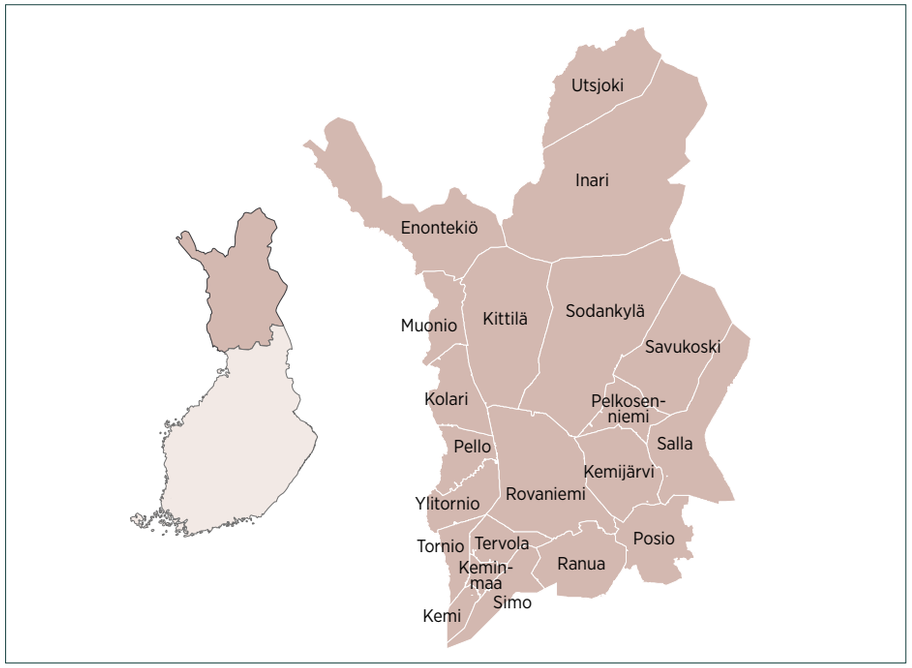

FIGURE 20. MUNICIPALITIES IN LAPLAND. CONTAINS MATERIALS FROM NATIONAL LAND SURVEY'S TOPOGRAPHIC MAP 2024.

FEMALE ENTREPRENEURS AND INDUSTRIES IN LAPLAND

As shown in Figure 21, there were 2,515 female entrepreneurs in Lapland in 2022 compared to 4,986 male entrepreneurs. The largest number of female entrepreneurs were in the services, totalling 433 females compared to 83 males. The second largest number of female entrepreneurs were in the agricultural sector. Additionally, there were over 200 female entrepreneurs each in the wholesale and retail trade, professional, scientific and technical services, and the social and health sectors.

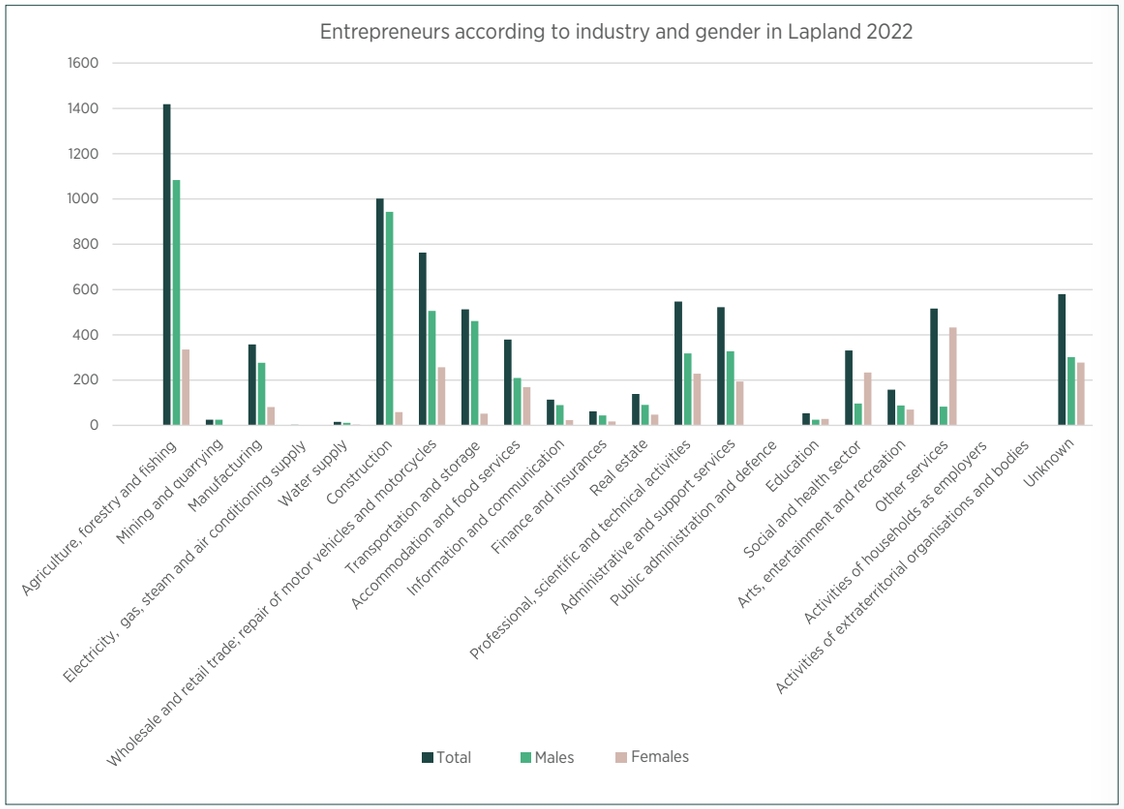

FIGURE 21. ENTREPRENEURS ACCORDING TO INDUSTRY AND GENDER IN LAPLAND IN 2022. SOURCE: STATISTICS FINLAND, 2022C.

In Lapland, as in other areas in Finland introduced in this report, local action groups play a crucial role in entrepreneurial ecosystem. Peräpohjolan Leader (2024) is an association dedicated to serving rural residents, communities and small businesses of Peräpohjola. The association provides funding for projects initiated by entrepreneurs, associations, and other community groups in the region, while also undertaking projects to enhance the region's vitality. Peräpohjola Leader's operational area includes Simo, Kemi, Keminmaa, Tervola, Ranua and Rovaniemi. Similarly, Leader Tunturi-Lappi (2024) operates in municipalities of Fell Lapland: Enontekiö, Kittilä, Kolari and Muonio, offering support, financing, advice, and development initiatives in collaboration with municipalities, associations, entrepreneurs, and partners. Leader Pohjoisin Lappi (2024) focuses on developing the expansive territory of Lapland covering municipalities such as Utsjoki, Inari, Sodankylä, Savukoski, Pelkosenniemi, Salla and Kemijärvi. Leader Pohjoisin Lappi works for small businesses, communities, and people in their home region to develop the area's vitality based on the ideas and needs of the residents. Additionally, Outokaira tuottamhan (2024) is a local action group offering guidance and financing for diverse rural development projects in the Pello, Ylitornio and Tornio regions.

Currently, at the regional level in Lapland, two main projects aim to support the changing entrepreneurial scenario. RYHTI-project (Support structures for social entrepreneurship in Lapland) leverages the outcomes of previous projects to enhance the knowledge and practical expertise in relation to social entrepreneurship. Additionally, it seeks to improve the operating environment and conditions for social entrepreneurship in Lapland. This involves organising events, launching information campaigns, and creating accessible training modules, materials, and guides. The project produces social entrepreneurship training modules and materials for unemployed individuals with diverse educational backgrounds, as well as students in Lapland's vocational institutions and universities. Project collaborates with a national level coordination project for social entrepreneurship (University of Lapland, 2024). Strategista kasvua muutoksessa-project [Strategic growth in changing environment] aims to enhance the skills of SMEs' management and staff, enabling them to respond more effectively to rapid business environment changes, to formulate Lapland's first entrepreneurship strategy, and to promote RDI activities within SMEs and the business interface. The project development aligns with Lapland's smart specialisation strategy priorities (ELY Centre, 2024c).

There are several institutions offering general entrepreneurship education, but none specially targeted at women in green entrepreneurship. Lapland University of Applied Sciences and University of Lapland offer entrepreneurship courses as a part of their study programmes and as optional studies. Additionally, joint LUC entrepreneurship studies are available (Lapland University of Applied Sciences and University of Lapland, 2024). Vocational schools, such as Vocational college Lappia in Kemi and Tornio area, offer varying amounts of entrepreneurial studies as a part of degrees. Several trainings are also available, such as Stop and Go -coaching, Yrittäjyys [Entrepreneurship] training aimed at unemployed job seekers (TE-toimisto, 2024) and the Yrittäjäksi Lappiin [Entrepreneur in Lapland] online course, aimed at university students and people planning to start a business in Lapland (Yrittäjäksi Lappiin, 2024). Lapland's training center REDU (2024) offers entrepreneurship training and services for both new and existing entrepreneurs. REDU also provides training on green transition and green aspects for companies and individuals. Training costs to companies, but it is free for individuals. The training is not specifically aimed at women but targets the unemployed and those at risk of unemployment.


PHOTO SILJE KVAMMEN

5 NORWAY – THE NORDIC COUNTRY OF INNOVATION HUBS

Norway was home to 5.55 million people in the end of the year 2023 (Statistics Norway, 2024) and is generally described as one of the richest countries worldwide in terms of GDP and GDP per capita, while also having one of the highest Human Development Index. Norway is not an EU member but is part of the European Economic Area and the Schengen area.

Norway's SME&E policies are usually included in a multi-annual Action Plan (OECD, 2021) and supported locally by the counties (fylker) and municipalities (kommuner). Innovation Norway is a very important actor in developing the private sector in Norway and is funded and owned by the Ministry of Trade and Fisheries, and almost equally by the county municipalities (fylkeskommuner) (Innovasjon Norge, 2024). As reported by the Nordic Council of Ministers, Norway was the worst performing nation in the European Arctic (Sweden, Norway, Finland and Iceland – no statistics for Faroe Islands and Greenland), according to the Global Entrepreneurship Index 2017 ranking, at rank 22, 11 places behind Finland, second-worst ranked Nordic nation. It also performed last within the Nordics in the Global Innovation Index 2017 ranking, at place 19. However, Norway saw an increase of 13.2% of enterprise entries in the first quarter of 2016, compared to the first quarter of 2007, making it second to Sweden amongst Nordic countries (Nordic Council of Ministers, 2018).

Norway, like every other country in the world, has not yet achieved complete gender equality, but is ranked as second-most equal country in the world, having closed more than 80% of its gender gap according to the World Economic Forum's 2023 Global Gender Gap Report, with a score of 0.879 - which marks a progress compared to the last report (World Economic Forum, 2023). The country also presents with a relatively even access to Economic participation and opportunity, with an estimated score of 80% (100% being perfect equality in access to economic participation and opportunity). That being said, Norway has seen the gap widen in senior roles and women's labour-force participation rate has not gotten back to pre-Covid levels. (World Economic Forum, 2023). Within the top 200 Norwegian companies in 2022, only 15.5% of CEOs and 13% of Chair of the board were women. More generally, only a quarter of the top 200 companies had achieved gender-balanced within their executive committees (Institute for Social Research, 2022).

Norway's gender wage gap was one of the lowest of the OECD countries, with women earning a median income only 4.5% inferior to men's (OECD, 2024a). However, it scored much worse for self-employed women: self-employed women would earn a medium income 19% inferior to men's. The economic context is rather good in Norway's northernmost counties. According to Middleton et al. (2022, p. 40), during the period from 2010 to 2019, the northern counties of Norway experienced robust economic expansion, reaching 55% compared to the national average of 37.1% in Gross Value Added (GVA). Since 2010, Troms has shown the most significant growth (GVA) at 61.5%, followed by Finnmark at 56.5%, and Nordland at 48.4%. In 2010, the primary industries contributing to Norway's GVA in Nordland, Troms, and Finnmark were aquaculture (37.8%),

fisheries (37.4%), electricity, gas, steam, and air-conditioning supply (16.8%), public administration and defense (12.7%), and manufacturing of rubber and plastic products, and other non-metallic mineral products (11.7%). By 2019, the top five industries shifted to fisheries (45.6%), aquaculture (43.2%), manufacturing of food products, beverages, and tobacco products (17%), electricity, gas, steam, and air-conditioning supply (15.4%), and public administration and defense (11.5%). Over the period from 2010 to 2019, the fishing and aquaculture sectors experienced the most significant growth. Additionally, by 2019, the manufacturing of food products emerged as one of the top five industries contributing to gross value added.

5.1 FEMALE ENTREPRENEURSHIP IN NORWAY

Regarding entrepreneurs, the number of female entrepreneurs has slightly increased from 2008 to 2022 as seen in the figure 22 (Statistics Norway, 2023a). However, the share of women in limited companies has grown at a slower rate. The majority of female entrepreneurs in Norway run sole-proprietorship businesses.

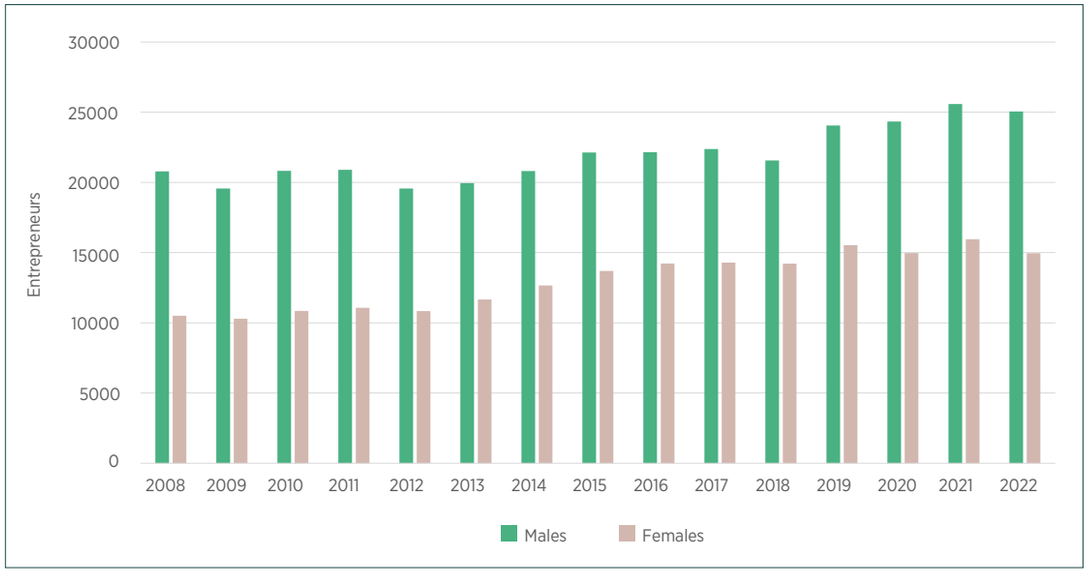

FIGURE 22. MALE AND FEMALE ENTREPRENEURS FROM 2008 TO 2022 IN NORWAY. SOURCE: STATISTICS NORWAY, 2023A.

The World Bank (2024c) presents an index covering 190 economies and structured around the life cycle of a working woman. In total, 35 questions are scored across eight indicators, namely mobility, workplace, pay, marriage, parenthood, entrepreneurship and assets. For Norway seven indicators score 100 out of 100, however, entrepreneurship scores only 75. Overall scores are then calculated by averaging each indicator, with 100 representing the highest possible score. Data refers to the laws and regulations applicable to the main business city (Oslo). Different rules may apply in other jurisdictions so local legislation should be reviewed. Based on this approach, Norway scores 96.9. The overall score for Norway is higher than the regional average observed across OECD high-income economies (95.2). Within the OECD high-income region, there are 12 economies that

score 100 out of 100. It is evident that, although Norway performs well, when it comes to constraints on women starting and running a business, it could consider reforms to improve legal equality. Women remain underrepresented among entrepreneurs in Norway. Key factors, such as women's incomes, capital assets, professional experience and choice of education contribute to challenges that women face while obtaining sufficient capital, relevant networks and relevant expertise (World Bank, 2024c).

The rights of self-employed individuals in the Norwegian social security system are perceived as inadequate. Currently, self-employed persons do not enjoy the same rights as employed persons regarding maternity and parental benefits. Furthermore, 57% of female entrepreneurs have children, which represents a higher share than male entrepreneurs and the general population (Grünfeld et al., 2020). This discrepancy may make it challenging for self-employed individuals to balance family responsibilities with professional activities and to divide these responsibilities between parents.

In Troms og Finnmark the percentage of female entrepreneurs was 39.5% in 2022, which surpasses the national average of 37.4% (Table 1). It is important to note that as of January 1st, 2024, Troms og Finnmark is no longer a county: instead, the official entities are Troms county and Finnmark county.

TABLE 1. MALE AND FEMALE ENTREPRENEURS BY COUNTY IN 2022 IN NORWAY. SOURCE: STATISTICS NORWAY, 2023B

County in 2022	All industries	Males	Percent	Females	Percent
Viken	9,699	6,221	64.1%	3,478	35.9%
Oslo	8,445	4,984	59.0%	3,461	41.0%
Innlandet	2,252	1,439	63.9%	813	36.1%
Vestfold og Telemark	2,920	1,836	62.9%	1,084	37.1%
Agder	2,089	1,333	63.8%	756	36.2%
Rogaland	3,056	1,930	63.2%	1,126	36.8%
Vestland	4,284	2,751	64.2%	1,533	35.8%
Møre og Romsdal	1,417	919	64.9%	498	35.1%
Trøndelag	3,232	2,040	63.1%	1,192	36.9%
Nordland	1,151	711	61.8%	440	38.2%
Troms og Finnmark	1,442	873	60.5%	569	39.5%
Svalbard	19	11	57.9%	8	42.1%
Total	40,006	25,048	62.6%	14,958	37.4%

According to Statistics Norway (2023c) the majority of female entrepreneurs in Norway specialise in scientific and technical activities (900 companies in 2020 accounting for 17.5% of the total), followed by human health and social work activities (16.1%), arts, professional, and entertainment and recreation (14.5%), personal service activities (12.8%) and education (11.4%). In Northern Norway, most female entrepreneurs specialise in care professions, scientific or technical professions and arts and education.

5.2 NORWEGIAN POLICY FRAMEWORK FOR ENTREPRENEURSHIP

The Norwegian Government, precisely the Ministry of Trade, Industry and Fisheries (Nærings- og fiskeridepartementet, 2019), has implemented an Action plan for increasing entrepreneurship among women, launched from 2008 to 2013, with the following objective: The government aims to elevate the focus on fostering entrepreneurship among women nationwide, striving for a more inclusive and gender-balanced industry. Central to this initiative is the recognition that a higher representation of women entrepreneurs can enrich the economy by fostering greater value creation, enhanced flexibility, increased innovation, and heightened adaptability.

Most initiatives aiming at promoting entrepreneurship among women prioritize women within the existing policy instruments and support systems. The initiatives also specifically aim to reinforce the prioritization of women within these systems and to establish clear goals for increasing the representation of women in managerial positions (Nærings- og fiskeridepartementet, 2019).

NORWAY CONCENTRATES ON FOUR THEMATIC PRIORITY AREAS:

- women's political empowerment
- women's economic empowerment
- sexual and reproductive health and rights
- violence against women.

The Action Plan (see The measures of the Action Plan to increase entrepreneurship) integrates into existing initiatives and programmes within the domain of entrepreneurship and innovation. This multidimensional approach combines entrepreneurship with the crucial aspect of "work-life balance," prompting changes in parental leave regulations and fostering an environment where women's entrepreneurial spirit can flourish. The Action Plan (Handlingsplan) was implemented by the then right-wing government, led by Torbjørn Røe Isaksen as Minister of Trade. The measures listed below were enforced by a policy instrument comprised of Innovasjon Norge, SIVA and the Norwegian Research Council (Nybø, 2021).

THE MEASURES OF THE ACTION PLAN TO INCREASE ENTREPRENEURSHIP: - AS TRANSLATED FROM THE OFFICIAL WEBPAGE

Measure 1: The government will survey how the measures are distributed by gender and establish common standards so that we can have an overview of how much support goes to female entrepreneurs

Measure 2: The government will get better statistics on founders, including a better overview of how they are distributed by gender

Measure 3: The government will fund the Global Entrepreneurship Monitor for 2019, which provides comparable figures across countries

Measure 4: The government will consider whether other criteria can be used in addition to age for measures that support young businesses

Measure 5: The government will submit a parliamentary report on innovation in the public sector

Measure 6: The government will survey entrepreneurship education and the need to possibly strengthen this within health education

Measure 7: The government will follow up on The Storting (Parliament) report on the health industries

Measure 8: Prioritize sectors such as health, care, education and culture and access to the public market

Measure 9: The government will consider several measures that mobilize more women to reach the top in the competition for the measures

Measure 10: The government will assess the Capital Access Committee's investigation and recommendations and prioritize tax and duty changes that strengthen the economy's ability to grow, facilitate restructuring and create new jobs

Measure 11: The government will investigate the possibility of shifting the due dates for the self-employed and small businesses' taxes and social security contributions, as well as investigate a model with minimum deductions for the self-employed as an alternative to actual deductions

Measure 12: The government will carry out a review of all framework conditions and arrangements for entrepreneurs and self-employed persons, and investigate a scheme whereby self-employed persons retain accrued rights to unemployment benefits for an extended period when transitioning from paid work to their own business

Measure 13: The government will consider introducing a system of entrepreneur visas to attract capital and innovative power to Norway.

(Nærings- og fiskeridepartementet, 2019)

In relation to Measure 2, which aims at getting better gender-specific statistics, Statistics Norway has been publishing tables and numbers sorted by gender. Measure 3 has also been implemented: the government has funded the Global Entrepreneurship Monitor to collect Norwegian data and enable comparison with other participating countries (Nybø, 2021). Measure 6 showed a health-specific focus, considering that this sector is predominantly feminine but higher positions are mostly occupied by men. A significant proportion of female entrepreneurs operate in the health sector, as shown earlier in our review, and therefore the government has launched a programme called, "Pilot Health", to promote health-related innovations (not gender-specific) (Nybø, 2021). Measure 8 can be seen as a direct outcome of data analysis, as it emphasises a focus on sectors such as health, care, education and culture, where female entrepreneurs are highly presented, but often overlooked and underfunded. Many ministers and government representatives acknowledge that women face challenges applying for and getting public funding, which this measure aims to address (Nybø, 2021).

5.3 FINANCING ENTREPRENEURSHIP

Attracting capital is crucial for starting and expanding a business. A report conducted for the Norwegian government recommends establishing a publicly supported female investment fund (Grünfeld et al., 2019). Among other proposals, it suggests enhancing the welfare system more open to entrepreneurs by establishing more comprehensive mentor

programmes, removing competitive disadvantages in industries typically pursued by female entrepreneurs. According to a report by Kilden (2022), an independent unit of the Norwegian Research Council focusing on gender research, in 2022, 60% of Innovation Norway's funding was allocated to "green projects", with one-third of these projects being "women-oriented", meaning they were either designed by women, co-owned or targeting female activities.

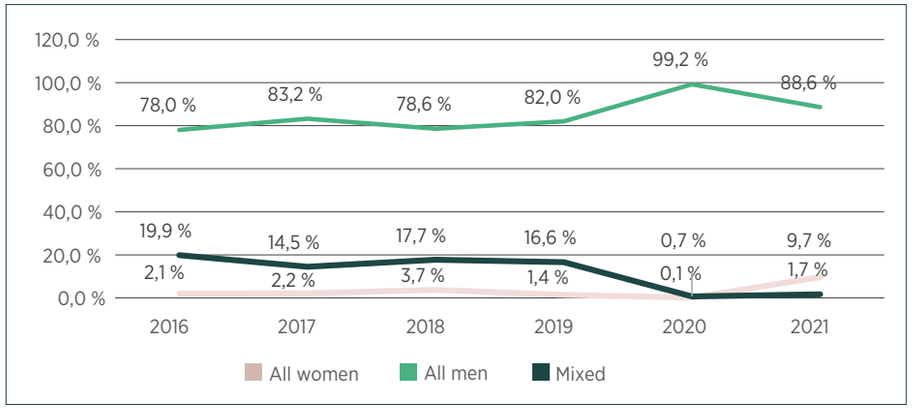

FIGURE 23. TEAMS FUNDED BY GENDER IN NORWAY, 2016-2021. SOURCE: UNCONVENTIONAL VENTURES, 2021.

It seems that funding for all-female teams has increased in Norway in the last year(s), while funding for mixed teams has significantly decreased (Figure 23). All-male teams still constitute the majority of all funding in Norway as having 88.6% of all funded teams in 2021 (Unconventional Ventures, 2021). As of 2022, there were a total of 22,089 female entrepreneurs in Norway. In the same year, women accounted for 37.4% of all entrepreneurs in Norway (including personal owned companies; private and public limited companies), with 20.8% of women represented among these (Statistics Norway, 2023a).

In comparison to all of the Nordic countries, Norway scores better in terms of funding for all-women teams in the last year of data collection. However, women raised only 0.1% of all capital, while mixed teams raised 0.7%. All-male teams, on the other hand, accounted for over 99% of the capital raised overall. In terms of the volume of capital raised by gender, Norway has a considerable distance to cover (Unconventional Ventures, 2021).

WHY IS FUNDING CHALLENGING FOR WOMEN?

Frida Vonstad, from Mo I Rana, established the Coring Company, rated 2nd best start-up company in the world during the year 2023. The "She Loves Tech" competition held in Singapore, is considered one of the most important and successful events for Norwegian women in tech.

Vondstad explains the challenges of funding as a woman, telling an incident where a male investor ignored her and asked the men in the meeting room to explain the technology, she had created herself. This example illustrates how women tend to be disregarded when seeking funding for their projects.

5.4 ENTREPRENEURSHIP IN TROMS OG FINNMARK

The total population of Troms og Finnmark was 242,452 in 2023 (Statista, 2024). Projections indicate a population growth of 3 to 4% in Troms og Finnmark by 2037 (and 2050), which is a positive trend but still lagging behind the Norwegian national average, estimated at 7.3% in 2037 and 10.8% in 2050. The key demographic challenges lies in the decrease of the young active population (18-35 years) in the region, expected to decrease by 13.8% in Northern Norway, while the national average is expected to decrease by 5% (Middleton et al., 2022, p. 18) This demographic shift could pose a barrier to entrepreneurship in the region, as potential young talents for green entrepreneurship leave, potentially worsening the prospects for the existing businesses.

The decrease in local-born or established population is compensated by immigration. At the beginning of 2023, there were 30,806 immigrants (12.7% of total population) living in Troms og Finnmark and 28.4 percent of immigrants were refugees and their family members. In recent years, immigrants have contributed to an upward demographic trend, with significant portion comprising Ukrainian refugees (an estimated 18.6%; Table 2). The population growth would not have been possible without immigration, especially in 2022, as the natural increase was negative (IMDi, 2023).

TABLE 2. POPULATION IN TROMS OG FINNMARK SORTED BY NATIONALITY IN 2022 AND 2023 AND THE POPULATION CHANGE IN PERCENTAGES. SOURCE: IMDI, 2023.

National background	Population in 2022	Population in 2023	Population change in percentages
Poland	2,697	2,732	1,3
Lithuania	1,852	1,843	-0,5
Russia	1,752	1,838	4,7
Syria	1,643	1,538	-6,8
Thailand	1,421	1,448	1,9
Ukraine	289	2,199	86,9

INSPIRING EXAMPLE FROM TROMS OG FINNMARK

In Tromsø, Agnes Árnadóttir stands out as one of the few women running a limited company in Troms og Finnmark. Agnes Árnadóttir is a sustainable tourism entrepreneur. She is the founder and CEO of Brim Explorer AS, which operates hybrid tourism cruise ships in Tromsø, Oslo and the Lofoten islands, making it one of the most sustainable day-cruise businesses in Norway and worldwide (Staal, 2020).

In Troms og Finnmark, most female entrepreneurs specialise in human health and social work activities (21.1% in table 3), followed by arts, entertainment and recreation (almost 16%), professional, scientific and technical activities (13%) and equally in education and personal service activities (10.4%). Overall, female entrepreneurs in Northern Norway specialise in the same fields as the national average, with a particular emphasis on health and social work activities (Statistics Norway, 2023c).

TABLE 3. MALE AND FEMALE ENTREPRENEURS BY INDUSTRY IN 2022 IN NORWAY AND TROMS OG FINNMARK. SOURCE: STATISTICS NORWAY, 2023C.

	Females 2022				Males 2022			
	Norway	%	Troms og Finnmark – Romsa and Finnmárku (2020-2023)	%	Norway	%	Troms og Finnmark - Romsa and Finnmárku (2020-2023)	%
All industries	14 958	100.0%	569	100.0%	25 048	100.0%	873	100.0%
Mining and quarrying	3	0%	0	0%	19	0.1%	1	0.1%
Manufacture	472	3.2%	29	5.1%	790	3.2%	26	3.0%
Electricity, gas and steam	0	0.0%	0	0%	13	0.1%	1	0.1%
Water supply, sewerage, waste	6	0.0%	1	0.2%	22	0.1%	1	0.1%
Construction	139	0.9%	3	0.5%	3 627	14.5%	118	13.5%
Wholesale and retail trade: repair of motor vehicles and motorcycles	1,048	7.0%	47	8.3%	1 788	7.1%	57	6.5%
Transportation and storage	315	2.1%	8	1.4%	3 996	16.0%	111	12.7%
Accommodation and food service activities	282	1.9%	17	3.0%	364	1.5%	17	1.9%
Information and communication	441	2.9%	9	1.6%	1 799	7.2%	55	6.3%
Financial and insurance activities	5	0.0%	0	0.0%	15	0.1%	2	0.2%
Real estate activities	192	1.3%	12	2.1%	400	1.6%	24	2.7%
Professional, scientific and technical activities	2,614	17.5%	74	13.0%	3 681	14.7%	100	11.5%
Administrative and support service activities	1,091	7.3%	33	5.8%	1 875	7.5%	78	8.9%
Education	1,710	11.4%	59	10.4%	1 423	5.7%	55	6.3%
Human health and social work activities	2,405	16.1%	120	21.1%	1 260	5.0%	54	6.2%
Arts, entertainment and recreation	2,171	14.5%	91	16.0%	2 914	11.6%	134	15.3%
Personal service activities	1,914	12.8%	59	10.4%	758	3.0%	27	3.1%
Households as employers' activities	0	0%	0	0%	1	0%	0	0%
Extraterritorial organisations and bodies	0	0%	0	0%	0	0%	0	0%
Unspecified	150	1.0%	7	1.2%	303	1.2%	12	1.4%

5.5 ENTREPRENEURIAL ECOSYSTEM IN TROMS OG FINNMARK: CLUSTERS, NETWORKS AND INCUBATORS

The study on female entrepreneurship in the Nordic countries conducted by Menon Economics, a consultancy, for the Nordic Council of Ministers in 2020 highlights that women often have "smaller networks and fewer role models than men" emphasising the importance of same-gender role models or inspirations (Grünfeld et al., 2020). Norwegian private initiatives targeting women are making significant strides in fostering entrepreneurship and empowerment. HER programme, for example, helps women in starting and growing their own business. They help build relevant networks and they emphasise diversity, particularly focusing on helping women with minority background. The other is called SISU Business, a company which specialises in advising female and senior entrepreneurs and offers two programmes: one for entrepreneurs looking to kickstart their business and other for those seeking growth opportunities. They also offer a targeted sustainable entrepreneurship programme based on the SEAM (Systemic Entrepreneurship Activity Method), which is a hybrid (online and in-person) programme designed to help entrepreneurs enhance sustainability in their ongoing projects. There are several clusters, networks and incubators in Norway. Below we present some incubators and networks in Norway, especially in region Troms og Finnmark.

Nothing Hill is an incubator in the making, a Triple-E (education, entrepreneurship, and entertainment) campus in Kirkenes, Finnmark. They offer coworking spaces for freelancers and different kinds of businesses (Nothing Hill, 2024).

ProBarents is a "regional innovation and development company", also described as an industry incubator. They focus on developing business in the Hammerfest region and Finnmark. Just like ProTromsø, they help startups and businesses grow, by helping them build networks and investing in their projects. They are partners with local programmes like the Næringshage in Nordkapp and with Siva (Selskapet for industrivekst/ the Industrial Development Corporation of Norway), which is a governmental enterprise (ProBarents, 2024).

Norinnova and Biotech North help build networks between researchers and entrepreneurs in Northern Norway.

At Norinnova (Norinnova, 2024), there are a few programmes that can be beneficial to female entrepreneurs (with a green focus). However, they are not gender specific.

- **Arctic Ignite:** for 10 selected young entrepreneurs under 35, every year and funded by the Ministry of Foreign Affairs. Criteria include sustainability, innovation and contributing to developing Northern Norway. Those who are selected get NOK 130,000 for their business idea and a 6-month support, including workshops, mentorship, networks, to help them develop their business. The programme ends with a pitching competition and NOK 500,000 for 3 jury prices and NOK 200,000 for the people's favorite.
- **Scaleup IX:** this programme is specifically designed for businesses that want to grow and scale up. It is a "cohort-based growth programme targeting ambitious early-stage startups in Northern Norway." and it is funded by Sparebank 1 Nord-Norge and Innovation Norway.

- **FutureSea Accelerator** is a "cohort-based programme for growth companies and spinouts from established businesses where the purpose is to promote new innovative ocean-based ideas." and helps with networking in the sector. The programme is funded by DNB.

KUPA facilitates innovation and development projects for start-ups, established businesses and business clusters. They offer incubation and accelerator services to promising start-ups and invest in selected start-ups. They focus on energy, aquaculture, the maritime sector and construction. KUPA operates in Northern Norway and have offices in Harstad, Narvik, Tromsø and Finnsnes. KUPA manages many different clusters and networks and offer their expertise and funding to Northern Norwegian businesses (Kupa, 2024).

Inkubator Salten is an incubator located in Nordland (headquarters in Bodø), part of Siva's national incubating programme. It is related to the innovation company/business KPB AS from Bodø. It has been cited in a small quantitative study on female entrepreneurs with a green dimension as a great tool to network and compensate for the lack of knowledge they have on running a business: it provides them with entrepreneurship courses, legal advice, networks (other entrepreneurs that come to the incubator for instance) (Inkubator Salten, 2024).

Næringshagene [business gardens]: help developing businesses in rural areas all over Norway. "By signing up to become a member of a business garden, the companies are given access to network activities, sharing of knowledge, sharing destiny with other small entrepreneurs; someone to discuss all the challenges you can meet starting a business, access to marketing channels. Besides this, an administrative infrastructure is in Troms Halti Næringshage (Nord-Troms) and Næringshagen Midt-Troms. In Finnmark Linken Næringshage (focus on seafood; offices in Båtsfjord and Vadsø), Nordkappregionen, Næringshage, Orinor (Næringshage and Incubator; Alta and Kirkenes) and Sápmi Næringshage (main offices in Tana and Nesseby)

Innovasjon Norge Arktis: regional division of the state-owned national development bank, which is present locally in Tromsø, Alta and Vadsø. It invests and provides consultancy services to local enterprises (Innovasjon Norge, 2024).

ProTromsø describes itself as a "Business hub" that aims to "improve the competitiveness of Tromsø and Northern Norway", by attracting new businesses, including startups and fostering dynamic networks and investments within the region and also in Europe. ProTromsø collaborates closely with government bodies and the public sector to ensure support for the regional economy (ProTromsø, 2024).

5.6 EDUCATIONAL OFFER FOR ENTREPRENEURS IN TROMS OG FINNMARK

In Norway, there are very few programmes with a specific "green" perspective on entrepreneurship. None of these programmes has specifically focus on women entrepreneurship. Some of the programmes can be followed part-time, alongside the professional life of the participant, for example, in the creation of the participant's own business (Table 4).

Northern Norway follows the trend as women being overall more educated than men in Troms og Finnmark: there are more women that studied either short-term (29.7% women, compared to 17.9% men) or long-term higher education programmes (11.3% women, compared to 8.9% men) (Statistics Norway, 2023d).

TABLE 4. GREEN ENTREPRENEURSHIP PROGRAMMES IN NORWAY.

Entrepreneurship and Business Development (Entreprenørskap og forretningsutvikling)	Nord University	Bodø, Nordland	Master's, 2 years	Course on social and sustainable entrepreneurship
Sustainable entrepreneurship and innovation (Bærekraftig entreprenørskap og innovasjon)	Gokstad Akademiet (private vocation higher education institution)	Sandefjord, Vestfold	Higher vocational education, 2 years (can be followed part-time, alongside daytime job)	Course on sustainable development, focus on sustainable business models
Continuing education – Sustainable Entrepreneurship (Videreutdanning i bærekraftig entreprenørskap)	Universitetet i Sørøst-Norge	Online	Short continuing education course, 1 term	The course/ programme is on sustainable entrepreneurship entirely
Year-long Programme in Sustainable Entrepreneurship and Innovation (Årsstudium i bærekraftig entreprenørskap og innovasjon)	NLA Høgskolen (NLA University College, accredited private Christian college)	Online	Short programme, 1 year	Courses on Entrepreneurship and innovation; on marketing ethics and sustainability. The overall programme focuses on sustainable entrepreneurship.

PHOTO HEIDI ÅKERMAN

6 SWEDEN – THE NORDIC COUNTRY OF GROWTH

Sweden is a country with a population of 10.6 million (Statistics Sweden, 2024) whereas the population of Norrbotten county was 248,500 in 2023 (Regionfakta, 2024a). However, the age structure does not align with the national average: Norrbotten county has a larger share of the population in the age group 55–84 and a lower proportion of women aged 20–49 than the national average (Regionfakta, 2024b). Sweden is an economically prosperous country, with a Gross Regional Product (GRP) of approximately 45,000 euros per capita in 2021. However, in Norrbotten, the GRP was 23% higher than the national average for Sweden (Regionfakta, 2023a).

In 2023 there were 1,229,302 companies in Sweden (Ekonomifakta 2024b). Almost all of these companies, 99.9%, were small or very small with less than 250 employees. A predominant proportion of companies, 75%, were so-called sole proprietorships, that is, had no employees at all (Ekonomifakta, 2024c). During the last century, several structural changes have taken place, and Sweden has transitioned from an agricultural to an industrial and then to a service economy. Nowadays, around 66% of Swedish companies operate in the service sector. Approximately 20% of the companies are agricultural, forestry or fishing companies and 14% are found in industry. Companies in the industrial sector have expanded significantly in recent years (Ekonomifakta, 2023a).

Internationally, Sweden ranks low in entrepreneurial activity, according to the report of the Global Entrepreneurship Monitor GEM (Entreprenörskapsforum, 2023). This applies to both women and men. Swedish entrepreneurship in 2022 has performed well and shows a modest increase from the record listing in 2021. Currently, 9.1 percent of Swedes are engaged in early-stage entrepreneurship (TEA). TEA stands for Total Entrepreneurial Activity and measures the proportion of the population engaging in starting up new businesses or businesses that have been in operation for a few years.

Sweden belongs to the economically prosperous countries, which generally exhibit lower levels of entrepreneurial activity and fewer business start-ups motivated by necessity. According to the Ekonomifakta (2024a) new entrepreneurship in Sweden continues to decline. In 2023, 66,228 companies were started, representing a decrease compared to previous years. Since 2010, around 70,000 companies have been started per year in Sweden. However, according to Global Entrepreneurship Monitor GEM (Entreprenörskapsforum, 2023), 79.6% of Swedes perceive good opportunities to start a business where they live. This is a significant improvement on the 62.5% of Swedes who agreed with this statement in 2020. Perhaps as a consequence of this increased confidence, 13.4% of Swedish respondents plan to start a business in the next three years, up from 8% in 2020. Hopefully, this increase in entrepreneurial sentiment and activity in Sweden will lead to establishment in more new businesses capable of sustainable growth for a long time.

The World Bank (2024c) presents an index covering 190 economies and structured around the life cycle of a working woman. In total, 35 questions are scored across eight indicators, namely mobility, workplace, pay, marriage, parenthood, entrepreneurship and assets. For Sweden every indicator scores 100 out of 100, which makes Sweden's

overall scores 100. According to this index Sweden is among the best places in the world for working women.

GRÖNA NÄRINGAR

In Sweden, the term "gröna näringar" (in Swedish "green industry") refers to economic activities in agriculture, forestry, landscape management, and other natural resource–based commercial activities in rural areas. The concept "green industry" lacks an English counterpart which is why these industries are henceforth referred to as "nature-based businesses". Examples of new industries include the processing of local food specialties (artisan food), new value creation based on forests, the development of experiences related to hunting, fishing, or other outdoor activities, and so on. These industries are core resources for business development in rural areas (Sörensson and Dalborg, 2017).

Nature-based businesses can also be regarded as the backbone of many regions because they represent a high proportion of the total business community. In Sweden, there are regions where these industries employ more than a third of the region's population (Andersson et al., 2014). New knowledge and innovation are crucial for the development of nature-based businesses in Sweden. Previous research has shown that women as entrepreneurs in nature-based businesses are invisible in terms of statistics, as well as in research about women's entrepreneurship, since women are often not listed as the owner of such companies (Sörenson and Dalborg, 2017).

6.1 FEMALE ENTREPRENEURS IN SWEDEN

Out of Sweden's approximately 500,000 entrepreneurs, less than 28% are women. This is a very low percentage from a European perspective and is clearly below the average of 33% in EU countries (Ekonomifakta, 2023b). However, 36% of all businesses run by young people are led by young women, which is a higher percentage of women compared to all age groups. In 2022, around 31% of newly started companies were started by women (29% in Norrbotten), while 67% were started by men. Compared to 2021, the number of new companies led by women decreased by 11%, while the number of new companies led by men decreased by 5%. For the past six years, the percentage of new companies led by women has been stable at around 32 to 33% (Regionfakta, 2023b).

The self-employed rates of women and men are lower in Sweden compared to other OECD or EU countries. For example, in Sweden the self-employment rate of women was 6.4% in 2022, whereas in Finland the rate was 9.8%. The highest rate among EU-countries was in Greece with 24.4%. In Norway, the total self-employment rate of both women and men was 4.7% in 2021 (OECD, 2024b). During the last decade, there have been always more self-employed men than women in Sweden. In 2022, however, the number of self-employed men dropped by around 1,000, whereas the number of women increased by over 14,000. Approximately 28.5% of self-employed entrepreneurs in Sweden were women in 2022 (Statista, 2023).

When it comes to the proportion of women who are operational company managers, the differences are relatively small between the counties. The largest share of SMEs led by women is in Stockholm County with 32% and Skåne with 31%. The group of counties that follows closely behind at 30%, are Gotland, Halland and Uppsala. The smallest share of SMEs is in Jönköping County with 26%, but the difference from the following counties is small. The group of counties that come next is at the same level, around 27–29%. The variation is thus small. All in all, in Norrbotten the number of female entrepreneurs is equal to 3.859 according to data from Statistik Tillväxtverket (2021).

Statistics indicate that women and men run businesses in all industries, but in different proportions. For example, fewer women run businesses in construction, while fewer men run businesses in personal services. This difference is largely attributed to the traditional education and career choices made by young people. People commonly start businesses based on their occupational expertise, which leads to entrepreneurship reflecting a similar gender divide to the labour market. Women also more frequently work in schools and health and social services, where the conditions for entrepreneurship differ in many ways from other industries. When comparing businesses within the same industry, development phase and geographical area however, there are more similarities than differences between women's and men's entrepreneurship (Statistik Tillväxverket, 2021).

The sectors with the highest proportions of SMEs led by women are health and social care and personal and cultural services, where almost six out of 10 companies are led by women. Conversely, the smallest percentage of companies led by women is found in the construction industry and transport, where between 4 and 7% of the companies are led by women, respectively. It is important to note that industry and industry classification itself was created during industrialism and may not always be optimal for understanding today's business (Statistik Tillväxtverket 2021). The table 5 presents the number of female entrepreneurs by industry in Norrbotten and Sweden. The table reveals that agriculture, forestry, and fishing are significantly more common in Norrbotten compared to the whole of Sweden, while the service sector is less common (Statistik Tillväxtverket, 2021).

TABLE 5. FEMALE ENTREPRENEURS BY INDUSTRY IN 2020 IN NORRBOTTEN AND SWEDEN. SOURCE: STATISTIK TILLVÄXTVERKET, 2021.

	Norrbotten	Percent	Sweden	Percent
Agriculture, forestry and fishing	859	27.1%	15,688	11.8%
Personal and cultural services, etc.	818	25.8%	38,093	28.6%
Business services	515	16.2%	35,914	27.0%
Unknown industry	450	14.2%	16,980	12.7%
Trade	323	10.2%	15,330	11.5%
Human health and long-term care: social work activities	210	6.6%	11,249	8.4%
Total	**3,175**	**100.0%**	**133,254**	**100.0%**

6.2 SWEDISH POLICY FRAMEWORK AND FINANCING ENTREPRENEURSHIP

The Swedish Agency for Economic and Regional Growth (2015) was mandated by the Swedish Government to promote women´s entrepreneurship in the period 2007–2014. In brief, the programme aimed to enhance business development more accessible for women interested in starting or growing a business or developing an idea as well as to foster entrepreneurship at universities and higher education institutions. The purpose of the programme was twofold: to stimulate growth, competitiveness and innovation in Swedish industry through more businesses being run and developed by women; to develop a national strategy for ensuring equal access to business promotion efforts for both women and men.

In the period 2011-2014, 65 million SEK annually was allocated to promote women's entrepreneurship and pilot projects. The Government's decision also entailed developing a strategy for business promotion on equal terms. The Swedish Agency for Growth Policy Analysis (Growth Analysis) was tasked by the Government with evaluating the impacts of the programme some years after its conclusion. Due to this programme, the development of women's average earnings from business activities, as a proportion of men's earnings, has developed slightly positively in recent years in relation to the goal of economic equality (Swedish Agency for Economic and Regional Growth, 2015).

The venture capital company Unconventional Ventures (2021) annually maps which company founders receive the most capital in the Nordic countries. The Swedish statistics, which were produced in collaboration with the Swedish Growth Agency, reveals that investments in companies with women as founders have consistently been low, remaining around one percent since 2017 (Figure 24). Also mixed teams consisting of women and men have received only 10% of the investments and teams with only men founders have maintained stable shares almost 90%. The Nordic Web (2018) suggests that venture capital companies are primarily interested in areas such as technology, health and

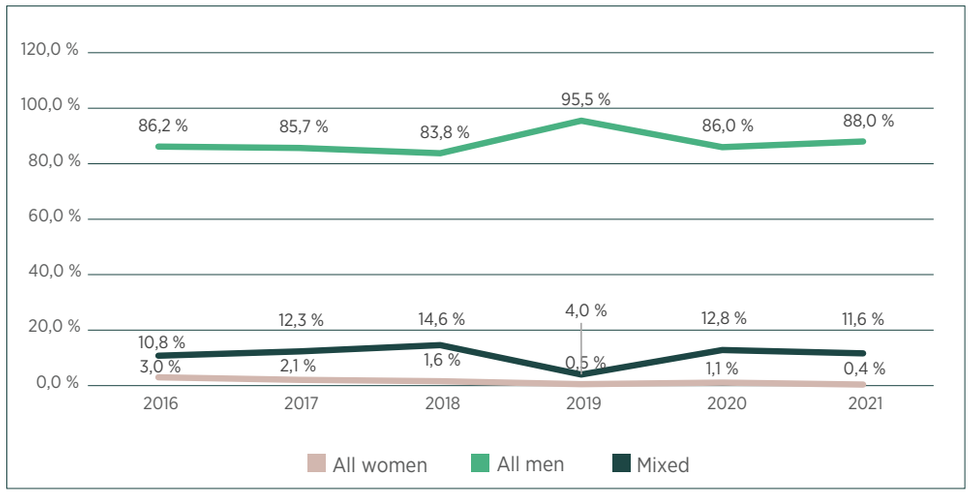

FIGURE 24. TEAMS FUNDED BY GENDER IN SWEDEN, 2016-2021. SOURCE: UNCONVENTIONAL VENTURES, 2021.

medical care, foodtech and transport. According to their survey, very few companies in these sectors are founded by a woman or have a woman on the founding team. However, it's worth noting that the green transition can also present opportunities for women, particularly in accessing finance. The current 'Green Transition' process involves significant capital investment that generate entrepreneurial opportunities in male dominated sectors such as building and construction, transportation etc.

6.3 ENTREPRENEURIAL ECOSYSTEM IN SWEDEN: CLUSTERS AND INCUBATORS

Näringsdepartementet (Ministry of Enterprise, Energy and Communications) has the overall responsibility for cluster policy in Sweden. Under this level, the innovation agency Vinnova encourages and finances research initiatives in a variety of disciplines, such as health, transportation, industrial materials and smart cities. The Invest in Sweden Agency, ISA (under Ministry of Foreign Affairs), has also been involved to some extent in cluster policy. Originally these authorities jointly established a programme organisation called Visanu, which operated between 2002 and 2005 to promote clusters. Additionally, the Swedish Agency for Economic and Regional Growth (Tillväxtverket) promotes competitiveness and entrepreneurship throughout Sweden. Nowadays also the Knowledge Foundation (KK-stiftelsen) supports research and competence development at university colleges and universities to improve the country's competitiveness (Dinnetz, 2007; Balawi and Ayoub, 2022; Vinnova, 2021). According to the United Nations (2011), the policy objectives in Sweden are centered on fostering economic growth and innovation but the Swedish administrations have also prioritized female entrepreneurship on their political agendas and enacted a number of programmes to increase women's involvement in companies.

INCUBATORS AN ENTREPRENEURIAL ECOSYSTEM IN SWEDEN AND NORRBOTTEN

Swedish Incubators and Science Parks (2015) is the Swedish industry association for Sweden's incubators and science parks. SISP has 63 members all over Sweden, which together have more than 5,000 companies with just over 70,000 employees. They develop an efficient innovation ecosystem by adding connections between their members and Sweden's leading universities, companies, public organizations, customer and exit markets.

Being the home of more than 5,000 innovative companies and the local hotspots for entrepreneurs, academia and industry, Swedish Incubators and Science Park's members accelerate economic and societal growth in Sweden through world-class business development and networks. The focus is on knowledge-based, growth-oriented companies and the members together manage about 80 physical venues, offer operational business development, operate or collaborate with clusters as well as have Triple Helix anchoring. Several members also run business angel networks and seed capital funds for early retirement investments in growth companies.

The Arctic Business (2024), which is affiliated with the Luleå University of Technology, is a top-ranked incubator that focuses on sustainable development and helps new companies in Northern Sweden. Their programme offers initial investment, mentoring for up to two years, and support for business development, customer outreach, and investor connections. They also have an accelerator programme that provides free online training, coaching, and events to refine and test business ideas, with open admission and experienced advisors to guide entrepreneurs through the process. Join anytime and learn at your own pace to turn your innovative ideas into successful businesses.

Luleå Business Region is a municipality owned company dedicated to developing businesses and region in the Norrbotten. They run several projects to improve and add skills and knowledge in the area (Luleå Business Region, 2024).

Luleå Science Park (2024) is an ecosystem with business life, academics and industry working together towards innovation in the region. Around 1,200 people and 100 companies are related to the science park thus there is a lot of expertise in several industries.

7 CONCLUSION

In 2018, the Global Entrepreneurship Index ranked all the Nordic countries in the top 30 globally. Sweden was number nine, where Finland and Norway ranked as number 12 and number 21, respectively (The Global Entrepreneurship and Development Institute, 2024). According to the World Bank, these Nordic countries are favourable environments for female to work (The World Bank 2024a; 2024b; 2024c). Consequently, it can be concluded that all the countries investigated in this report provide good environments for female entrepreneurship. This does not mean that the challenges would not exist for female entrepreneurs, but that there are support mechanisms, guidance, and assistance to overcome obstacles.

Despite the perceived similarities among Nordic countries, their national policies and systems differ due to, for instance, historical background and cultural contexts that have shaped their entrepreneurial policies. For instance, Finland has the strong third sector ecosystem supporting enterprises at both national and regional levels. Norway, on the other hand, provides substantial support for innovations, while Sweden provides an optimal ecosystem for working women. However, these supportive environments do not translate into higher numbers of female entrepreneurs. As illustrated in figure 25, the proportion of women entrepreneurs in Finland, Norway and Sweden remains relatively low.

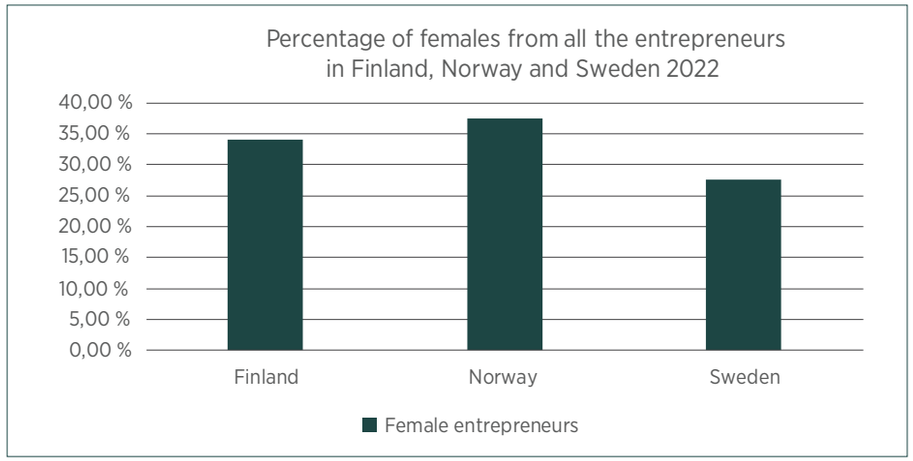

FIGURE 25. FEMALE ENTREPRENEURS IN FINLAND, NORWAY AND SWEDEN. SOURCE: STATISTICS FINLAND 2022C; STATISTIC NORWAY 2023C; STATISTICS SWEDEN 2024.

In the Nordic countries, female tend to establish enterprises in industries such as health care, entertainment, education, and the arts (Figure 26). These sectors typically have fewer high-growth enterprises. Nordic women are underrepresented in science, technology, engineering, and mathematic (STEM), leading to a gender imbalance in those historically male-dominated sectors crucial for achieving Nordic climate goals (Lander Svendsen et al., 2022). The gender gap is also significant in other industries. For instance, the fishing profession is one of the most gender-segregated occupations in Norway, resulting in large disparities in wealth and income distribution. According to the Norwegian Fisher

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Census, between 2008 and 2019, the proportion of female part-time fishers averaged 3.3%, while 2.7% of women were full-time fishers. (Ministry of Trade, Industry and Fisheries, 2021a; 2021b).

The growing attention to entrepreneurship is currently leading towards the development of new theoretical frameworks, as well as national entrepreneurship ecosystems, including various initiatives in the Nordic countries. Policy makers in the Nordic countries are focusing on promoting high growth companies and SMEs. These companies are believed to drive productivity growth, create new employment opportunities, and increase innovation (Nordic Innovation, 2016). In developing new technology solutions, start-ups are considered to play a significant role. Consequently, the Nordic countries have improved their entrepreneurship frameworks over the last decade. In this development, it is important to recognise that female entrepreneurs are particularly motivated to make their businesses environmentally friendly and are more likely to focus on sustainable and environmentally oriented ventures (Braun, 2010; Hechavarría, 2016; Liu, Anser, and Zaman 2021). Therefore, it is important to channel developmental resources also directly to female entrepreneurs.

Ensuring greater participation of female entrepreneurs in green innovations on an equal basis is crucial to create a win-win scenario. In the Nordic region, female entrepreneurs outperform male entrepreneurs by 45% in terms of revenue-to-funding ratio. Moreover, teams led by women, or a combination of women and men are over 70% more likely to positively impact sustainability goals among startups compared to teams solely led by men (Løvslett Danbolt, 2023). Despite this, according to the 2021 Startup Funding Report (Unconventional Ventures, 2021), investors in the region allocate 92 out of 100 euros to male entrepreneurs. As finance is in generally male dominated today, changing the culture will take time and is not a quick fix solution.

In addition to finance, women also need to see patterns for sustainable female entrepreneurship in various sized companies from different industries (Bell et al., 2019; Nordbø, 2022; Ladge et al., 2019; Chadwick and Dawson, 2024). The framework conditions established by society are crucial in enabling women to pursue entrepreneurship. If the support system around entrepreneurs is unfavorable, the likelihood of women choosing to start a business decrease (Grünfeld et al., 2020; Molina-López, 2021). Many women have childcare responsibilities that impact their entrepreneurial activities. This might hinder growth, employment, and internationalisation in female-dominated sectors (Arenius and Kovalainen, 2006; Neergaard and Thrane, 2011; Winn, 2004). Therefore, it is essential not only to provide support for women to become entrepreneurs but also for society to recognize and address the overall well-being and life cycle of women.

As a conclusion, the Nordic countries exhibit a paradox: despite being considered equal societies, they have relatively few female entrepreneurs. Like the employment sector, enterprises are also segregated by gender. Nevertheless, entrepreneurial activities receive substantial support in the Nordics. Based on these findings, it can be concluded that societal attitudes and structural challenges need to be addressed to encourage more entrepreneurial activities among women. Additionally, varying levels of welfare, including financial welfare, and regional differences should not be overlooked when addressing issues in female entrepreneurship. Differences between countries create opportunities to learn from each other and develop the entrepreneurial ecosystem around female

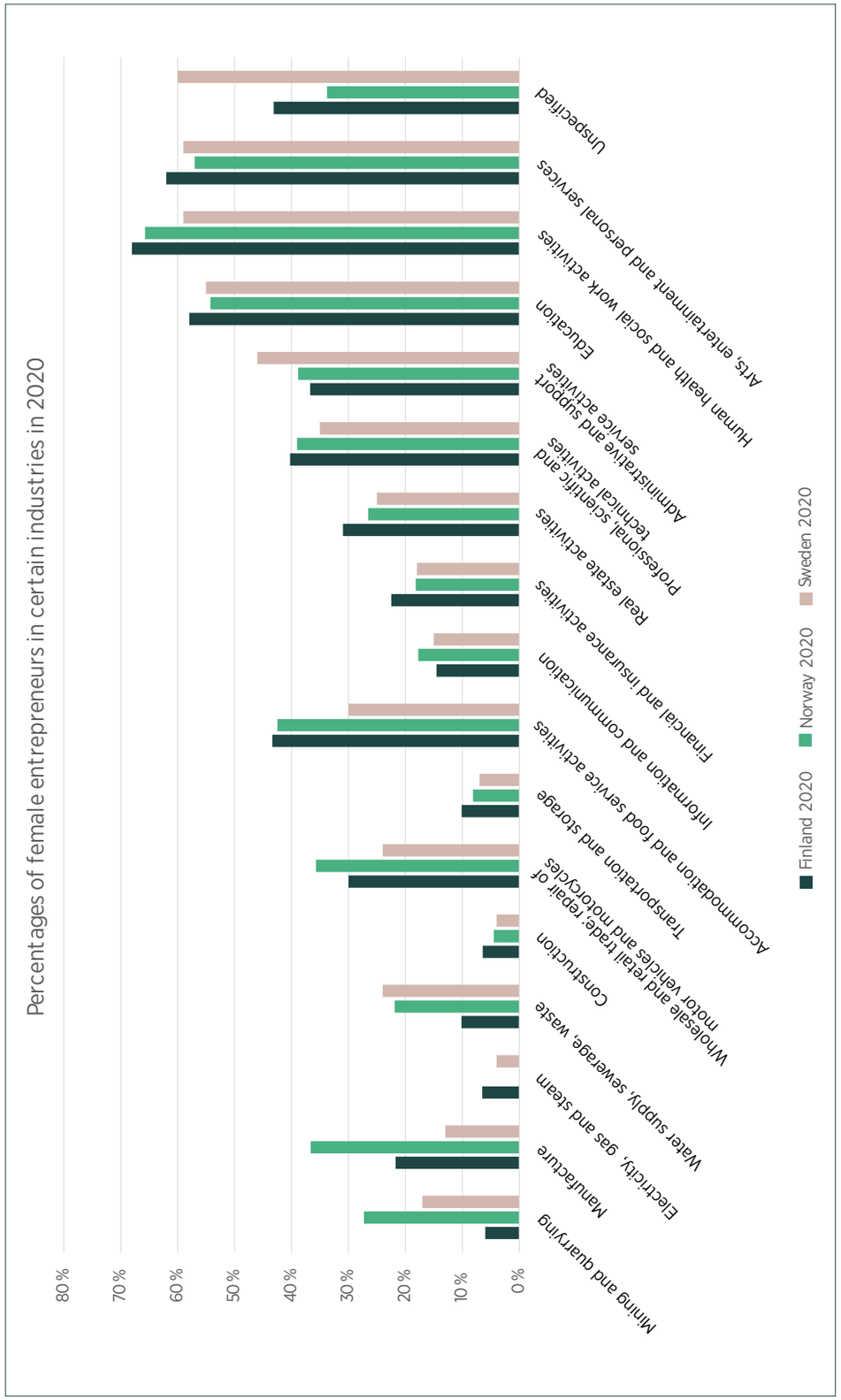

FIGURE 26. PERCENTAGE OF FEMALE ENTREPRENEURS IN VARIOUS INDUSTRIES IN 2020 SOURCE: FINLAND 2022C, NORWAY 2023C, SWEDEN 2024.

green entrepreneurship. To support women's entrepreneurship in Finland, Sweden, and Norway, a joint cross-border strategy is necessary, along with the coordination of activities supporting women's entrepreneurship. Furthermore, more analysis and research on women's entrepreneurship in the Nordic countries are required.

It is our hope that through our GENGREEN project, we can contribute to enhancing and promoting female green entrepreneurship across Finland, Sweden, and Norway. We aim to raise awareness on the necessity to invest in women and provide them with the necessary tools to become successful entrepreneurs.

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