

Arctic Business Analysis

PPPs and Business Cooperation



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Nordic co-operation

Nordic co-operation is one of the world's most extensive forms of regional collaboration, involving Denmark, Finland, Iceland, Norway, Sweden, the Faroe Islands, Greenland, and Åland.

Nordic co-operation has firm traditions in politics, the economy, and culture. It plays an important role in European and international collaboration, and aims at creating a strong Nordic community in a strong Europe.

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Arctic Business Analysis

PPPs and Business Cooperation



Entrepreneurship
and Innovation



Creative and
Cultural Industries



**PPPs and Business
Cooperation**



Bioeconomy



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1 INTRODUCTION

The Arctic region is increasingly attracting economic and political interest. New business opportunities are on the rise and Arctic stakeholders are playing a key role in facilitating and creating favourable conditions for boosting Arctic economic activity. There is currently a wide spectrum of business activities, of which oil and gas, mining, and shipping are well known. Nonetheless, the Arctic region holds great economic potential to be realised in other areas such as the (blue) bioeconomy, tourism, innovation and entrepreneurship, and indigenous cultural businesses through business activities and policies designed to address specific opportunities and needs of the region.

Business development in the Nordic Arctic must be rooted in its people(s) and have a drive to create innovative development, in which the Arctic's unique resources and human capital become competitive on a global scale. Urbanisation has especially highlighted the necessity of Arctic business development. Rural Arctic communities are under pressure, as younger generations want services, opportunities, and education offered in greater metropolitan areas. Arctic business development is therefore an existential issue because creating economic hubs of a sufficient size and critical mass would offer younger generations the quality of life they desire. In response, new technologies are revising the concept of "remote" and are rendering previously inaccessible projects economically feasible. Moreover, new technologies in transport, communication, raw material processing etc. are disrupting traditional business models and forcing business to innovate and to reinvent themselves.

The Nordic Arctic countries (through the Nordic Council of Ministers) and other Arctic states (through the Arctic Council and the Arctic Economic Council) have shown clear intentions of promoting the agenda

← Aksla, Norway.
Photo: Jarand Lokeland

of sustainable economic development in the Arctic as the logical next step in the work in and for the Arctic. Sustainable development focuses on a balance between economic, social, and ecological dimensions, and aims to ensure that the needs of the present generation are met without compromising future generations' ability to meet their own needs.¹ As such, promoting sustainable economic development in the Nordic Arctic requires an understanding of the region's business environment and policy incentives, as well as the identification of opportunities for unlocking the Nordic Arctic economic potential, and the development of practical enablers to achieve this end – to the benefit of the entire Arctic. With this perspective in mind, the Nordic Council of Ministers, in collaboration with the Arctic Economic Council, has commissioned the consortium of Voluntas Advisory and the Confederation of Danish Industry (DI) to conduct this Arctic Business Analysis.

The Arctic Business Analysis covers the areas of Entrepreneurship and Innovation, Public-Private Partnerships (PPPs) and Business Co-operation, Bioeconomy, and Creative and Cultural Industries. Each area is covered in a separate publication. This report presents the findings for PPPs and Business Co-operation. The executive summary presents the findings across the four areas of the Arctic Business Analysis.

Nordic Council of Ministers

The Arctic Business Analysis revolves around opportunities to promote sustainable economic development within the Nordic co-operation, specifically the Nordic Council of Ministers (NCM), as well as other Nordic Arctic stakeholders. It is therefore important to understand NCM's Arctic priorities and its organisational structure.

NCM is the official body for Nordic intergovernmental co-operation. The overall responsibility for this co-operation officially lies with the Nordic Prime Ministers. In practice, the Ministers for Nordic Co-operation, on behalf of the Prime Ministers, assume responsibility for the co-ordination of inter-governmental co-operation. Besides the Ministers for Nordic Co-operation, NCM consists of 10 ministerial councils (MRs) that cover different sectors and are supported by 16 committees of senior officials (EK). The work in the Minister Councils are handled within the Nordic Council of Ministers' Secretariat with a Secretary General responsible for the day-to-day operations of the intergovernmental co-operation and its 12 Nordic institutions and 3 Baltic offices.

NCM has since 1996 had an Arctic co-operation programme. A new Arctic co-operation programme, "Nordic Partnerships for the Arctic" for 2018–2021 will enter into force by 1 January 2018. The overall aim is to promote sustainable development in the Arctic with regards to the four themes of 1) peoples; 2) planet; 3) prosperity; and 4) partner-



↑ Tromsø, Norway.
Photo: Alexander Sinn

ships. Nordic Partnerships for the Arctic is an instrument available to the NCM and Nordic and Arctic stakeholders to promote the themes via project funding to selected projects. As a priority and criterion, the projects need to benefit the Nordic countries' Arctic endeavours and promote Nordic added value in the Arctic related to the stated objectives and themes. Nordic added value is important and can be defined in terms of:

- A project or an initiative that would not have taken place within a national framework, but is achieved with greater positive effects through common Nordic solution;
- A project or an initiative that displays and develops Nordic solidarity;
- A project or an initiative that increases Nordic competency and competitiveness.



2 BACKGROUND

In 2016 the Nordic Co-operation Minister (MR-SAM) decided to increase efforts supporting economic development in the Arctic. It was acknowledged that there needs to be more knowledge on the types of actions the Nordic countries and the Nordic Co-operation within the auspices of the Nordic Council of Ministers (NCM) could take. This led to the making of the "Arctic Business Analysis".

The overarching aim of the Arctic Business Analysis is 1) to provide a better understanding of the Nordic Arctic business environment as part of promoting a greater focus on enablers and drivers of sustainable economic activities in the Nordic Arctic and 2) to generate practical recommendations on how the Nordic Co-operation can promote economic activities in the Nordic Arctic through the establishment of a data foundation upon which to draw fact-based conclusions. The findings of the analysis will feed into NCM's Arctic Co-operation Programme in which sustainable economic development is a key theme. Specifically, the analysis will contribute to NCM's focus on economic development and investments in the Arctic – a political priority for the Nordic Co-operation.

In addition to outlining enablers and best practices that can promote sustainable economic activities on behalf of the Arctic population, the analysis is also aimed at contributing to NCM's work with the United Nations Sustainable Development Goals (SDGs). Overall, the analysis will contribute to sustained, inclusive, and sustainable economic growth (SDG 8) in the Nordic Arctic, and an inclusive and sustainable industrialisation and promotion of innovation (SDG 9). Moreover, it will analyse sustainable economic activities related to bioeconomy, creative and cultural industries, and business co-operation, which would promote affordable and clean energy (SDG 7), sustainable cities and communities (SDG 11), and life below water and on land (SDG 14 & 15) among others.

← Iceland, southern region.
Photo: Ross Hughes





3 EXECUTIVE SUMMARY OF THE ARCTIC BUSINESS ANALYSIS

All Nordic Arctic countries are paying more attention to the facilitation and strengthening of **entrepreneurship and innovation**. Denmark, Iceland, Sweden, Norway, and Finland perform very well, whilst limited data makes it difficult to assess Greenland and the Faroe Islands. Nonetheless, there are a number of potential developments which can help improve entrepreneurship and innovation environments across the Nordic Arctic regions. Firstly, entrepreneurial awareness and ability should be developed. This can be facilitated through an increased focus on integrating entrepreneurship education in national strategies, and also implementing such education through local initiatives and local operators. Secondly, collaboration between actors and regions in the Arctic should be ensured. Through such collaboration, the Arctic can improve its ability to diversify and fully utilise each other's entrepreneurial and innovative competitive advantages. Finally, the cultural bias that paints the region as an area with low economic and business development potential challenges Arctic development. This can adversely affect the region's ability to attract investments and capital. Overcoming this challenge through collaboration and branding the Arctic as a single market would therefore be a key driver for future entrepreneurial and economic growth in the region.

In the Nordic Arctic, **Public Private Partnerships (PPPs)** have not been used often as an infrastructure financing model. The region's limited experience with PPPs and the fact that standard PPP models in the market do not necessarily fit Arctic characteristics hamper the increased use of PPPs in the Nordic Arctic. Therefore, the public sector in the Nordic Arctic needs to collect data on PPP best practices and advice from PPP units in international organisations. Furthermore, there is potential to increase the competences of PPPs in the Nordic Arctic as a model to finance large-scale infrastructure projects. Initiatives should be taken to create an overview of Arctic infrastructure needs, expe-

← Iceland.
Photo: Zekedrone

rience, and supervise local governments and municipalities looking to engage in a PPP.

Business co-operation in the form of clusters in the Arctic are generally few, undeveloped, and still need to secure financing long-term, though local variations exist. Norway is a leading figure in supporting national cluster development through initiatives like Innovation Norway. Public support and increased cross-border co-operation are some of the drivers that will benefit cluster development in the Nordic Arctic. Public funding should ensure that business clusters can be created and developed while also ensuring a secure exit strategy so the clusters become financially sustainable. Furthermore, clusters can support their members and develop a greater market reach by co-operating across borders, as well as branding the region as a place for doing business.

Bioeconomy integrates a number of solutions for a sustainable future, both environmentally, socially, and economically. Bioeconomy is already an important economic segment in the Nordic Arctic, constituting 10% of the overall Nordic economy and moving towards 20% in some countries. Increasing the innovative use of biomass resources from land and sea presents a key opportunity to simultaneously ensure environmental sustainability and economic growth. Bioeconomy development should focus on increasing the value of products derived from biomass, and increasing the uses of sidestreams created by bioeconomy activities. These include practices such as the use of fish sidestreams for pharmaceutical products, wood residues in textile production or fish feed, etc. If bioeconomy in the Arctic is to be harvested, synergies between companies and industries must be built in both public and private sectors as well as across sectors and borders to facilitate the right public support and incentives to drive bioeconomy innovation, commercialisation and growth. Furthermore, the future bioeconomy requires substantial creative capabilities. Rebranding bioeconomy accordingly has the potential to attract a younger generation to an industry perceived as very traditional. As many bioeconomy activities are located in rural areas, developing bioeconomy also counters urbanisation, and promotes rural development and employment in the Nordic Arctic.

The Nordic Arctic **creative and cultural industries** of film, tourism, and indigenous cultural businesses are becoming increasingly important platforms through which the Nordic Arctic countries can create value and growth – economically, socially, and culturally. Despite significant variations in size and development, Nordic Arctic film industries are gaining considerable traction across the entire Nordic Arctic region. Policy support such as public funding and production rebates have been instrumental to the success of film industries, but ensuring long-term development requires knowledge sharing and collaboration in developing film production skills e.g. through official training across the Nordic Arctic. Nordic Arctic tourism has grown steadily in the last

decade. Public support, public-private collaborations, and transnational collaborations have been key in developing Arctic tourism. Transnational collaboration shows great potential, as Arctic regions, especially those in Finland, Norway, and Sweden, are generally perceived as one destination by the tourism market. Growth in Sami and Inuit indigenous businesses offer an opportunity for economic growth whilst integrating Arctic indigenous peoples into the regional and international economy. Business opportunities include indigenous tourism, film, and other cultural activities. However, it is important to ensure that Nordic Arctic Indigenous peoples' culture, life, and creative work are promoted and not misrepresented when developing these areas.

↓ Reykjavik.
Photo: Scanpix





4 THE NORDIC ARCTIC BUSINESS ENVIRONMENT: PPPs AND BUSINESS CO-OPERATION

4.1 MAPPING OF ECONOMIC ACTIVITIES AND POLICIES: PPPs

← Iceland, southern region.
Photo: Jon Flobrant

This section presents an overview of the state of Public-Private Partnerships (PPP) in the Nordic Arctic region. Broadly defined, PPPs involve the private and the public sector coming together in a long-term partnership for the delivery of infrastructure projects for which the private sector takes a considerable share of the risk. Work on fostering a PPP-friendly environment and business clusters seems to be undeveloped in the Nordic Arctic. There is a lack of data and official policies

SUMMARY: All Nordic Arctic countries have very little experience with Public-Private Partnerships, both practically and on a policy level. However, in recent years there has been increased focus on the potential for using PPPs in financing infrastructure projects in the Arctic. The limited economic data on past PPPs adds an additional measure of risk for smaller administrative units when establishing large, new PPPs, since there is only a thin foundation of experience from which to learn. In addition, standard contracts and support mechanisms currently favour larger metropolitan-based PPPs

rather than the possible projects in the Arctic. There are several support mechanisms for PPPs and similar infrastructure projects in the Nordic region from which the Arctic areas could benefit. However, limited resources and skillsets in the public sector make it more difficult to successfully apply for such support. This leads to a situation where current mechanisms and funding options are not properly utilised. However, PPPs can be seen as one procurement tool out of several and is therefore not always the most suitable or the financing tool with the greatest value. money.



pertaining to the areas, and there is no facility or organisational infrastructure dealing with PPPs on a regional basis. Hence, to uncover information concerning this subject area from a Nordic Arctic perspective, interviews have been conducted with investors, infrastructure experts, researchers, and officials in the Arctic in relation to PPPs. Based on this, the study identifies certain opportunities and enablers.

None of the Nordic Arctic countries have specific policies promoting PPPs in the Arctic. The few guidelines and standard contracts that exist on PPPs cater more towards metropolitan areas rather than Arctic situations. Of all the Nordic Arctic countries, only the Greenlandic Government seems to be in the process of developing specific PPP policies. Governments in Sweden and Norway have both released reports and political programmes that encourage PPP pilot programmes.² This

↑ Nuuk, Greenland..
Photo: Mads Pihl

“None of the Nordic Arctic countries have specific policies promoting PPPs in the Arctic. The few guidelines and standard contracts that exist on PPPs cater more towards metropolitan areas rather than Arctic situations. A collection and dissemination on best practices on PPPs in the Nordic Arctic could be considered.”

has had little effect when compared with more traditional funding mechanisms. Of the Scandinavian countries, Norway has had the most experience with PPPs in the Arctic through the construction of roads in various locations, as well as housing projects in the city of Hamaroy.³ Finland’s experience with PPPs primarily relates to roadworks. Finnish roads have been financed by investors from local banks, the European Investment Bank, and the Nordic Investment Bank. Furthermore, none of the Nordic Arctic countries have established PPP units that can facilitate, supervise, and manage PPP projects. Ergo, the Nordic Arctic has very little experience with PPPs in comparison to many other countries. However, the model is slowly gaining traction as a possible model to finance infrastructure projects. The Faroe Islands explored the possibility of using a PPP model in the construction of new tunnels, but eventually opted out due to lack of bidders and public criticism of the idea. In Greenland,

the Greenlandic Economic Council has studied possible PPP opportunities in the country and local municipalities have declared their interest in using PPP models in the delivery of infrastructure and housing.

A key challenge with large infrastructure projects and their financing in the Arctic is a lack of adequate skill levels in local administrations. Experiences from European and Canadian infrastructure projects show that large-scale PPP projects demand a dedicated team with legal, engineering, and project management skills. Finally, financing infrastructure through PPPs seems less attractive to the Nordic countries, as they have strong public finances. Their strong credit ratings also allow Nordic countries to borrow large sums of money at cheaper rates than investing in collaboration with private companies. Academic experts and investors have also warned against the consequences of municipalities in the Arctic using PPPs. They characterise it as an “easy way out”, as PPPs can be more expensive in the long run⁴ because the private

↓ Source: World Bank Group’s Public-Private-Partnership in Infrastructure Resource Center.
^a Loan agreed EUR 52.1 million
^b Loan agreed EUR 337.6 million
^c Total of four projects

	SWE	NOR	FIN	ISL	FRO	GRL
PPP Units	0	0	0	0	0	0
Loans from Nordic Investment Bank’s Arctic facility loans	1 ^a	4 ^{bc}	0	0	0	0

sector takes a large part of the risk, but that risk is in fact being paid for by the public sector. The Danish Ministry of Finance also highlighted in a presentation to Greenland's Economic Council that, "PPPs are not a shortcut to complete projects when the budget or liquidity is tight."⁵

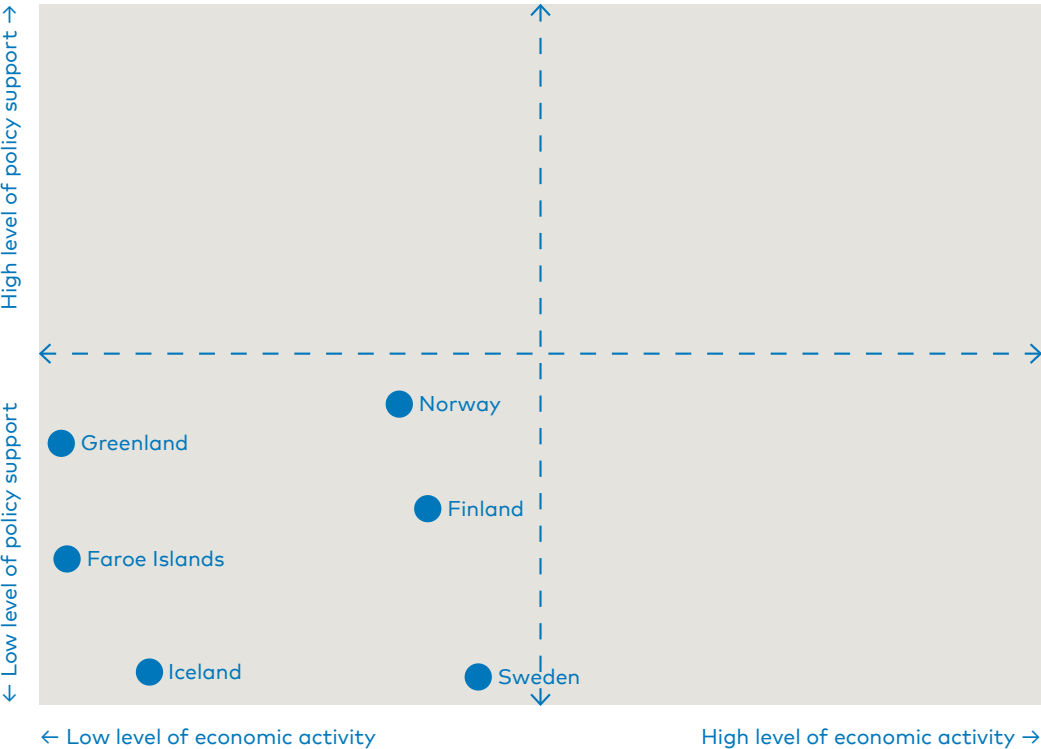
Previous PPP experience and the development of best practices are important for the development of future PPP projects. Currently, the collection of data and experiences on PPP projects in the Nordic Arctic does not exist. Since the Arctic regions such as those in northern Norway, Sweden, and Finland share more in common with each other than they do with their respective capitals Oslo, Stockholm, and Helsinki, data collection based on the overall Nordic Arctic region should take place, rather than by country. Currently, co-operation around best practices and experience happens informally rather than as a strategic development tool. Research shows that none of the administrations in the Nordic Arctic have a dedicated PPP team. This is a challenge because much of the information on the topic depends on institutional knowledge.

→ Construction worker in Nuuk, Greenland.
Photo: Visit Greenland

↓ Note: Based on a qualitative assessment of data on the level of support and economic activity for each country

PPP SUPPORT AND PERFORMANCE

INDICATIVE









4.2 DRIVERS AND ENABLERS OF BUSINESS DEVELOPMENT: PPPs

Lack of investments in the Nordic Arctic and the low interest of private companies in developing large-scale infrastructure projects are key barriers for the development PPPs. Here the key issue is a lack of sufficient certainty of demand and revenue. According to investors, many factors determining time and ramp-up of demand are outside the control of the private partner in the Arctic. In addition, the lack of PPP experience in the public sector and lack of developed standard models for the Arctic are further barriers. PPPs take practice to perfect and often, it takes several PPP projects to learn how best to execute them. Previous PPP experiences make it easier to develop future policies, apply for support funding, and ensure that the necessary skills set in the local administration are present. Nevertheless, the amount of large-scale PPP projects currently in the Arctic are limited. Private partners would not get involved in a PPP if there were no benefits. Therefore, implementing an adequate financial structure from the beginning is important so that taxpayers, politicians, and investors are all content. Likewise, it is a pre-condition for investors that there is political support and long-term stability for the development of a successful PPP. An effective PPP project normally lasts decades. It is therefore important that the political support and the administrative people involved last for more than a four-year election cycle. For an international example, the Netherlands have had a fairly consistent PPP policy for the past 20 years. Because of this, they have been able to build significant know-how on running successful PPP projects that are on time and within budget. The stability and consistency from the Dutch government has made it an attractive market for private investors.⁶

← Reine, Norway.
Photo: Alexander Sinn

Selecting the right projects for a PPP is important. Academic research in the area highlights that the projects should be long-term and large scale, and there should be a steady stream of income, such as fees, road tolls, utility bills, or airport charges. It is also important to define infrastructure hotspots in the region and then prioritise them accordingly through an overview of the Nordic Arctic infrastructure needs, experiences, and potential. As one interviewee said for this report, Nordic Arctic regions should avoid "another joint Barents Transport Plan, with little action and a lot talking."⁷ An overview of infrastructure hotspots will make it easier for investors to plan long-term construction in the Arctic. Prioritisation should also be based on the benefit the projects bring to the Nordic Arctic as a whole and makes pooling of resources easier. Despite some large-scale projects in the pipeline, projects in the Arctic are not always large enough for municipalities to use a PPP model.

The Nordic Arctic region could be inspired by the government of Canada, which in 2009 established a PPP unit with a mandate to improve the delivery of public infrastructure through PPPs. They promote best practices, provide expertise and incentives, help with capacity building with improved savings of around EUR 1.6 billions.⁸ PPP Canada is the leading source of expertise in Canada and is responsible for collecting and sharing knowledge on PPPs. The unit does not only assess or give advice on PPPs on a federal level, but also invests in provincial, territorial, municipal, and First Nations infrastructure through the PPP Canada Fund.⁹ To date, the fund has invested almost EUR 1 billion euros in infrastructure projects across the country. One of the projects has been the Iqaluit airport in Nunavut – the only PPP funded airport in the Arctic so far.

To strengthen infrastructure investments in the Arctic, it could be beneficial to facilitate an overview to be collected and disseminated so that information and management advice on infrastructure projects, investment opportunities, and PPP potential can be provided adequately. Such an overview could be facilitated through a number of institutions and/or organizations (e.g. part of the Northern Dimension Partnership on Transport and Logistics or as an independent unit under the Nordic Investment Bank similar to the European PPP Expertise Centre connected to the European Investment Bank) or as a separate project to be taken on after an overview has been provided. The Arctic Economic Council and/or the Nordic Council of Ministers could also provide the facilitation of the mentioned overview. The key objective is to gather relevant experiences, supervise local municipalities, and attract investors. This would enhance the procurement phase and give

"The Nordic Arctic region could be inspired by the government of Canada, which in 2009 established a PPP unit with a mandate to improve the delivery of public infrastructure through PPPs"

the private partners a much better understanding of the long-term possibilities. Furthermore, such an effort could be aligned with many other countries' work with dedicated PPP units.¹⁰ Facilitating a network of PPP experts in the Arctic and adding them to a UNECE Roster of PPP experts could also be explored. The network would be a compilation of PPP experts willing and ready to contribute to the implementation of the Working Party PPP Program.

It is to be noted that Public-Private Partnerships only represent one tool in a broader toolbox of financing mechanisms. It is always recommended to complete a PPP feasibility study before proceeding with the PPP model. The feasibility study is important because it takes time and practise for the public sector to benefit fully from the model. One opportunity for certain Arctic regions could be to start with smaller

↓ Reine, Norway.
Photo: Filip Gelda



There are currently very few drivers and enablers that support PPP projects in the Nordic Arctic. Most financing support and advice has to be found in general forums like the Northern Dimension Partnership on Transport and Logistics support fund (NDPTL) and the European PPP Expertise Centre. Previous investments in infrastructure projects in the Arctic region have occurred with support from, among others, the Northern Dimension, Nordic Investment Bank, and the European Investment Bank.

NDPTL does not directly give advice to governments. The partnership is set up so that the NDPTL member countries can exchange experience and information on issues that are important to them. The most important issues are then presented in studies and workshops. Here, PPPs are an issue of interest to NDPTL members, but differences in legislation make it a challenge to come up with a unified guide.

The NDPTL support fund grants up to 50% of the costs of preparatory work, moving a project closer to bankability. Preparatory work, such as a financial study on the best financial solutions for a project, is a type of study that could be eligible for support from the NDPTL support fund. One such study could be about a possible PPP model. This provides a good opportunity for the Nordic Arctic. Nevertheless, it takes long-term planning and commitment to reach implementation. Eligible applications to the NDPTL include those from member states (Belarus, Denmark (membership status of Greenland and Faroe Islands not determined yet), Estonia, Finland, Germany, Latvia, Lithuania, Norway, Poland, Russia, and Sweden) and/or international organisations, joint undertakings, or public or private undertakings with an agreement from an NDPTL member state.,

THE NORDIC INVESTMENT BANK

(NIB) has PPP projects in Sweden, Finland, Norway, Poland, and Russia. To these projects, the NIB only provided loans, not direct investments. The first project in which they were involved was the Arlanda Express in 1994. The NIB has mainly provided loans to road projects in Finland and Norway. In 2015, the NIB created the Arctic Lending Facility, in which PPPs could, in principal, take part. The NIB has allocated EUR 500 million in loans for projects in the High North. The Arctic Lending Facility focuses on selected priority investments like infrastructure projects and green energy. Since 2016, loans financed under the Arctic Financing Facility are at EUR 265 million, distributed to three projects in Norway and one in Sweden. The majority of the NIB's operations are located in the Bank's Nordic and Baltic member countries (Denmark, Estonia, Finland, Iceland, Latvia, Lithuania, Norway, and Sweden). Outside the membership area, projects financed by the NIB should be of mutual interest to the country of the borrower and the other member countries.

THE EUROPEAN INVESTMENT BANK

(EIB) not only lends money, but also has a specific PPP unit – The European PPP Expertise Centre (EPEC). This unit helps the European Ministry of Finance with policies on PPPs. Established in 2008, the unit doesn't promote PPPs as a final financing model, but supervises the EU members states on the options. The EPEC members share experience, expertise, and best practices related to all aspects of PPPs. Greenland can apply for loans through their position as an OLT and associate country. The Faroe Islands is associated under Horizon2020.



↑ Nuuk, Greenland.
Photo: Filip Gelda

PPP projects to gather expertise before engaging projects that cost billions of EUR. Public sectors in the Nordic Arctic can collect data on international best practices and advice from PPP units in international organisations including the OECD, World Bank, and UNECE. In Europe, the European Investment Bank has the EPEC unit that specialises in upstream work for PPPs. To help survey the PPP projects in the EU Nordic Arctic and non-EU Nordic Arctic, a consortium of these countries could approach EPEC with an Arctic brief. Under any circumstances, the notion of investments in the Arctic and existing investment models should be investigated through co-operation between funding experts, PPP experts, and investment organisations such as investment bank venture funds, pension funds, and other investment actors along with the Arctic states.

PARTNERSHIP FUNDS INFRASTRUCTURE PROJECTS IN THE ARCTIC

Organisation: Northern Dimension
Partnership on Transport and Logistics
Sector: Infrastructure
Region: The high north

Contact: Oddgeir Danielsen
Director
Mail: <http://www.ndptl.org/fund>

The NDPTL Fund supports preliminary research into possible PPP infrastructure projects. But, they are experiencing little interest from the regions in applying for the funds. The NDPTL works closely together with other investors and are requesting an infrastructure hotspot list for the Arctic to target investments better.

The Northern Dimension (ND) is a joint policy consisting of the EU, Russia, Norway, and Iceland. The ND operates through four partnerships. One of them is the Northern Dimension Partnership on Transport and Logistics (NDPTL). The aim is to facilitate improvements in transport connections to stimulate sustainable economic growth in the Baltic Sea and Barents Region. International institutions like the EIB and NIB are important actors in providing financial support to the ND projects.

Success factors

The Nordic Arctic countries are often dependent on EU funding, especially when it comes to major infrastructure investments. The NDPTL has a special fund that helps public in-

stitutions with 50% of their funding for their projects. So far, the NDPTL has supported nine projects, worth almost EUR 4 million since its start in 2009. For a project to be supported, it has to benefit the general population and has to be implemented. Local governments can also apply for preparatory research into a potential PPP project related to infrastructure in their region.

The NDPTL is an arena for cross-border dialogue concerning policies in key areas like health, environment and transportation. The countries that contribute with funding also get a say in which projects receive funding when they apply. The NDPTL has the mandate to go deeper into Arctic projects than other organisations and funding mechanisms.

The grant from the NDPTL fund is a mechanism that is known to few. With commitment, it can serve as a good funding opportu-



↑ Photo: Scanpix

nity, since the application is shorter and easier to complete than other EU applications.

A part of the success for the NDPTL is their involvement with the European Investment Bank and Nordic Investment Bank when supporting specific projects.

Drivers and challenges

The current political climate makes it difficult to get the partnership to be fully functioning. According to the director of NDPTL, the sour relations between the EU and Russia have slowed down the potential of an effective cooperation in the Arctic. At the same time, China and Russia are investing heavily in infrastructure, while the other member countries of the ND are writing reports rather than taking action.

The politicians in the Nordic are not all fully co-operating with the NDPTL. Where some see it as a strategic partnership based on their Ministry of Foreign Affairs, others let a sub-department in the Ministry of Transport deal with the work in the NDPTL. The director of the NDPTL also believes that it is a challenge for the decision makers in the capitals, especially Brussels, to understand the pace of life in the Arctic. Therefore, a stronger involvement from some of the regions in the high north is encouraged to be more vocal and involved in infrastructure development and financing models.

One driver for further development in the Nordic Arctic would be a hot spot list used to prioritise the infrastructure projects accordingly. This would make it more attractive for investors like the NDPTL to fund such projects.

THE ONLY ARCTIC PPP AIRPORT – SO FAR

Organisation: Iqaluit Airport
Sector: Infrastructure, airport
Region: Nunavut, Canada

Contact: Paul Mulak
 Director
Mail: pmulak@gov.nu.ca

The first airport in the Arctic financed with a PPP model. The airport development project will be completed in the autumn of 2017, on schedule and budget. The lessons learned demonstrate that a strong team with experience is the key alongside spending time on the planning process.

Iqaluit airport is situated approximately 300 kilometres from the Arctic Circle and is the first Arctic airport to be funded with a PPP model. The private partner was responsible for designing, building, financing, operating, and maintaining the airport. The private partner signed the contract with the Government of Nunavut in September 2013, began construction in the spring of 2014, and completed the project in the late summer of 2017 – ahead of schedule and on budget.

The Iqaluit International Airport Improvement Project included new buildings, expanded aprons for planes to park, an upgraded runway, and a new lighting system. The airport is now eight times the size of the previous one and therefore better prepared to serve the visitors to Baffin Island as well as much of Canada's Arctic.

Success factors

The Euro 200 million project is the largest capital project in the territory's history. Therefore, a PPP model was probably the most suitable route for this undertaking. The duration of the project agreement is 30 years, which was decided based on the "value for money analysis."

The fact that federal PPP Canada would fund up to 25% of costs of the PPP model was a driving force of the project. PPP Canada also recommended using a PPP model, even though Nunavut had never used a PPP model before on such large-scale projects.

The key to the successful PPP was the pre-planning phase. An experienced team was put together that had experience with airports, the Arctic, and PPPs. It included both legal experts and engineers. The team also



↑ Photo: Scanpix

met several times with representatives from British Columbia who have implemented many large PPP projects. Good project management meant that the team understood the risk transfers, the procurement process, and the importance of building trust in the PPP model.

The project had a policy that required the private partner to hire Inuit companies and individuals during construction and operations. This was also a part of the due diligence process and the open collaboration between the public and the private partners throughout the project.

Drivers and challenges

One challenge was the public perception of PPPs. The North-Western Territory had gone through some PPP projects that received bad

press. Therefore, communication to key stakeholders was important.

Infrastructure projects in the Arctic can often be a challenge in an often changing climate. The site was inaccessible for up to two months of the year due to cold and snow. There was also a challenge with the procurement of materials for construction. As a result, the project needed a good schedule. The airport never stopped running its normal operations during the improvement project.

Furthermore, there were difficulties in sourcing labour in a sparsely populated area. To combat this, the private contractor also trained people from the local Inuit community.

It is expected that the new airport will be a significant boost to the local economy and tourism and will enhance the interest in the Arctic Circle. The new airport is expected to serve the territory for the next 50 years.



4.3 RECOMMENDATION: PPPs

The recommendation presented below revolves around opportunities to promote sustainable economic development within the Nordic Co-operation, specifically the Nordic Council of Ministers (NCM), as well as other Nordic Arctic stakeholders.

Improving competencies and knowledge of large infrastructure projects

RECOMMENDATION: Establish an overview on needed infrastructure in the Nordic Arctic and collect best practices for infrastructure and investment opportunities to facilitate project management in local municipalities in the Arctic/high north. This would strengthen competences and the ability of the public sector in the Arctic in large infrastructure projects through the collection of projects in the pipeline, best practices on procurement, and project management.

- **Why:** Good infrastructure is key for economic development in the Nordic Arctic region. Better roads, ports, airports, and connectivity in the region will attract companies and provide a framework for new business development. PPPs are one procurement tool to finance large infrastructure projects. However, experiences with PPPs in the Arctic are generally limited concerning policy support and practical experience. Overall, the lack of human resources within key areas of procurement, contract writing, and project management in the Arctic constitute a key barrier for further infrastructure development.
- **What:** Internationally, various PPP units exist to supervise procurement. Currently these units are changing into more general infrastructure units to cover broader project management. Therefore, the establishment of a group or unit working with infrastructures in the Arctic could cover all the steps of project management of large infrastructure developments in the Arctic. The unit will be able to pool together resources and knowledge and will represent four million people living in the Arctic instead of a few thousand. There are already various funding mechanisms to support infrastructure development in the Arctic but they are

← Reine, Norway.
Photo: Julius Ulbrich

not being used to their full extent. The unit can help by giving advice on funding applications and project possibilities. As an example, there are talks of building three new airports in Greenland and a railway in Lapland. There is still little coordination between the various infrastructure projects. The unit could collect data on planned projects in the Arctic and in this way make it easier for investors and private bidders to find the projects that match their expertise.

- **Who:** This should be undertaken by a group that understands private sector needs and can adjust its organisation to private sector requirements. Furthermore, the group should have competences related to the various procurement models and investment opportunities to fully advise local municipalities on what options they have. Lastly, the unit should also represent the Nordic Arctic region. The PPP unit in the European Union is an independent group under the European Investment Bank, so the Nordic Investment Bank could be an example of a place to host such an Arctic unit. Another place could be the Northern Dimension Partnership on Transport and Logistics.
- **Next steps:** A first step could be to map out large-scale infrastructure projects in the Arctic that are in the pipeline or on the drawing board and combine that with a study on funding sources of previous projects. In this way, stakeholders would have an understanding of projects in the pipeline in all the Nordic Arctic countries and understand the various financial set-ups. The unit could furthermore start focusing on specific infrastructure areas and help develop standard guidelines that match an Arctic context. Here AEC can also play a role in promoting the importance of infrastructure investments in the region.

Tools

Challenge: The human resources needed for projects like procurement of large infrastructure are often limited in certain areas of the Nordic Arctic.

- **Tool:** The Arctic countries and regions can partner up with larger countries to gain access to a specific expertise within the needed areas related to PPPs and investment mechanisms.

Challenge: It is difficult to spot, understand and apply for the available funding mechanisms.

- **Tool:** Create an overview and step-by-step guide of funding possibilities for companies, municipalities, and relevant stakeholders in the Arctic, and include cases of previous successful projects.

4.4 MAPPING OF ECONOMIC ACTIVITIES AND POLICIES: BUSINESS CO-OPERATION

Business co-operation can take many forms, but the most structured and recognised form of business co-operation occurs using clusters, chambers of commerce, or business organisations. This chapter will primarily focus on certified and organised industry clusters that involve several companies. A certified cluster receives a bronze, silver, or gold label from the EU Cluster Excellence Initiative and is therefore benchmarked to other clusters around the world. Clusters are being used to briefly discuss the level of formalised business co-operation in the Nordic Arctic. The reason for emphasizing clusters is that they always involve a multitude of companies. Clusters have different ways of being organised. Some cover a sector, others a geographical scope, but the original cluster idea is still influential in European countries and

SUMMARY: Business Co-operation in this chapter focuses on clusters. The experience and policy support in the Nordic Arctic region varies from country to country. For the most part, the Arctic clusters are immature and still need to secure long-term financing. Norway takes the lead concerning support for national cluster development through Innovation Norway. Currently they support several clusters related to the Arctic. Other clusters are more dependent on regional EU funding or membership fees. The clusters can help develop specific sectors in the Arctic, but a focus that is too narrow also

leads to a lack of critical mass. The clusters must therefore expand their sector focus and at times their geographical scope. Public support and increased cross-border co-operation are some of the drivers that will benefit cluster development in the Nordic Arctic. Public funding should ensure that business clusters can be created and developed while also ensuring a secure exit strategy so the clusters become financially sustainable. Furthermore, clusters can support their members and develop a greater market reach by co-operating across borders.

successful public cluster programmes have been developed and implemented across several geographical regions.¹¹ For more than two decades, clusters have been used to implement regional development policies in several countries.¹²

Cluster policies exist in many of the Nordic Arctic countries, but many of them face the same challenge: a national cluster strategy that still caters to local scenarios. This chapter will only focus on the Arctic-related industry clusters that have been recognised with a quality label for clusters under the European Cluster Excellence Initiative. The initiative was launched by the European Commission in 2009 and supports the management and benchmarking of clusters with a bronze, silver, and gold label. Currently the list includes more than 900 clusters from 41 countries.¹³ Norway has the most clusters involved in Arctic issues, with 12 clusters having some connection to the Arctic region due to the strong support from Innovation Norway. Cluster programmes are one of the central pillars of Norwegian innovation policy under the heading Norwegian Innovation Clusters.¹⁴ In Finland, the Regional Council of Lapland has managed to build up several Arctic clusters with support from regional financing from the European Union. Iceland used to have 10 certified clusters, but their validation has expired. Sweden only has three clusters that currently hold a label. Greenland's experience with clusters comes from two projects initiated by Denmark. It was not possible to find any clusters in the Faroe Islands.

Universities are involved in many of the clusters. Experience from Finland shows that both educational institutions and companies bene-

“Cluster policies exist in many of the Nordic Arctic countries, but many of them face the same challenge: a national cluster strategy that still caters to local scenarios while at the same time puts scenarios into a larger regional and international context.”

→ Bergen, Norway.
Photo: Ignacio Ceballos

↓ Source: Calculations based on data from European Center for Cluster Analysis
° Two clusters are registered in Denmark but works with Greenland

	SWE	NOR	FIN	ISL	FRO	GRL
Certified clusters with bronze label	0	10	5	0	0	2
Certified clusters with silver label	0	1	0	0	0	0
Certified clusters with gold label	0	1	0	0	0	0
Certified clusters in the whole contry	3	27	6	0	0	2°

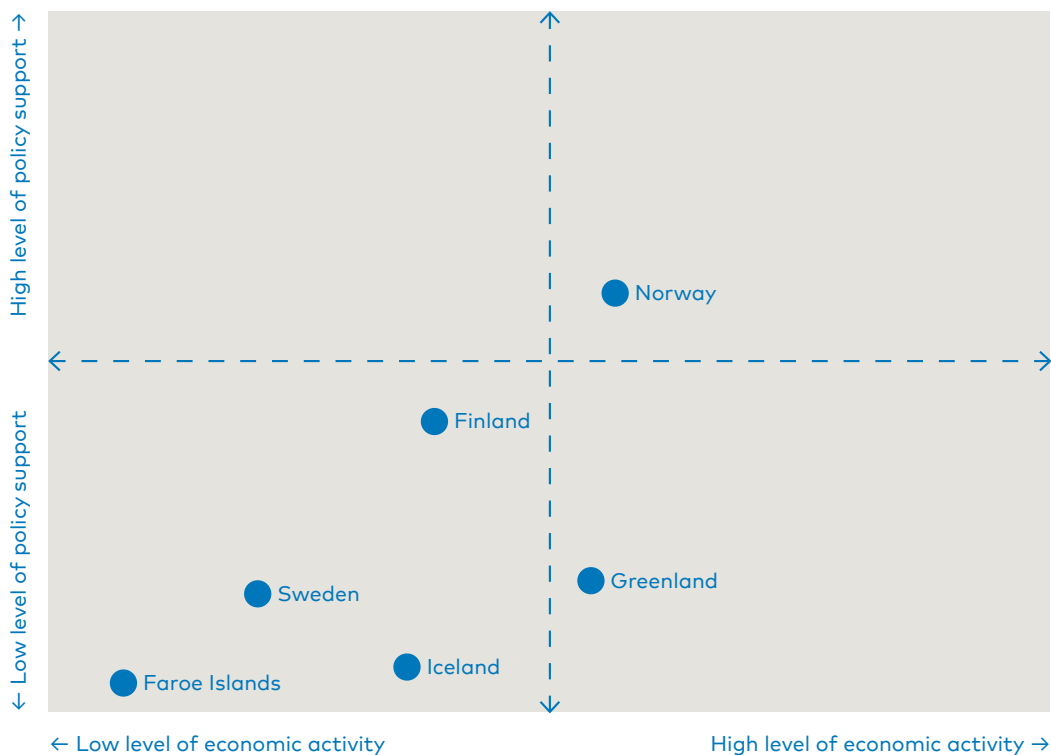


fit from this co-operation. Universities in the Arctic also give a specific understanding on the local context in which the clusters operate. The Iceland Ocean Cluster is a private organisation that connects people and businesses in the marine industry. The cluster was created after the CEO Thor Sigfusson wrote a Ph.D. about its potential. Before the cluster, the fishing industry discarded up to 60% of each cod caught. By finding common interest and connecting industry professionals, the Icelandic fishing industry found a sustainable way to make use of 95% of each cod. In this way, innovative health, pharmaceutical, and cosmetic products have been created because of the cluster. The Iceland Ocean Cluster has also launched the North Atlantic Marine Clusters Project supported by NORA and Nordic Innovation. The goal was to map marine clusters in the North Atlantic, strengthen relationships among them, build arenas to communicate their activities, and develop stronger networks in the ocean sector.

↓ Note: Based on a qualitative assessment of data on the level of support and economic activity for each country

BUSINESS COOPERATION SUPPORT AND PERFORMANCE

INDICATIVE



4.5 DRIVERS AND ENABLERS OF BUSINESS DEVELOPMENT: BUSINESS CO-OPERATION

“Regional growth programmes are a driver for more business clusters in the Nordic Arctic. This could be achieved either nationally or through the EU, combined with university involvement and buy-in from larger companies in the region.”

The likelihood of cluster emergence is significantly affected by government policies and the presence of existing economic capabilities. This means that there needs to be a base of companies around one hub.¹⁵ This could be a region with many companies or a sector-specific economic hub. Generally, the Nordic countries have considerable experience with clusters, but little in the Arctic. The ones that exist often come from a combination of EU funding, university involvement, and a strong partner that might not be located in the Arctic. The lack of critical mass and a large enough market scope are challenges that clusters in the Arctic are facing according to interviews conducted for this report. Some clusters are expanding their initial focus area or geographical scope. Some are be-

coming involved in international partnerships to expand the member companies' market reach.

Regional growth programmes are a driver for more business clusters in the Nordic Arctic. This could be achieved either nationally or through the EU, combined with university involvement and buy-in from larger companies in the region. People interviewed for this report also highlighted the importance of engaging stakeholders and creating unity in the region early on. In Norway, the clusters are encouraged to become financially sustainable after a period of three years. This ensures that the clusters become competitive and have more involvement with the members. The Iceland Ocean Cluster shows that there is a business model for the companies to be involved in the clusters, but also that international co-operation is important.

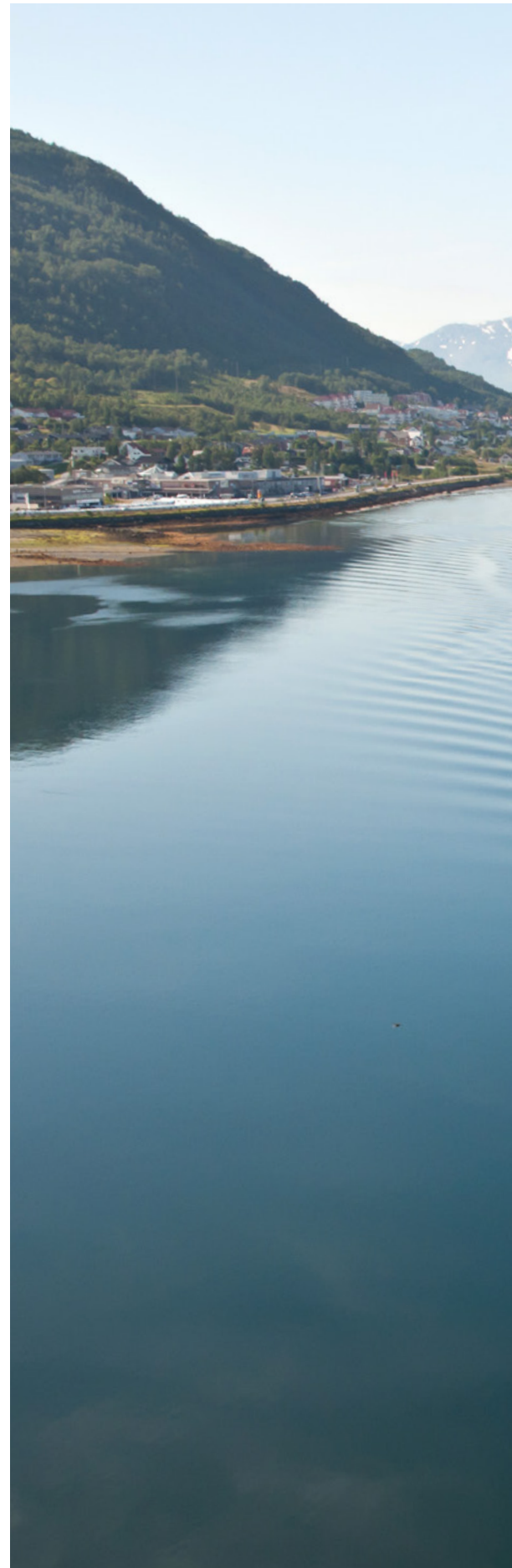
There is a potential for more cross-border co-operation with the few existing clusters. For example, almost all of the countries have clusters

or government organisations working with raw materials and mining, but there is little formalised co-operation or partnerships to develop the co-operation. Increased regional co-operation also allows for greater market reach for the companies and for exchange of best practices. As research showed from Iceland, some cluster policies are made to be a one-size-fits-all, but with a more specific Arctic focus it is easier for the clusters to work together with other organisations that understand the culture, values, and geographical circumstances. It is also important to foster unity in the local communities in the Arctic. One interviewee highlighted that political support combined with support from local companies and universities were essential in creating a strong cluster.

In the EU, different countries have various cluster programmes that go beyond the usual standard of mere financial support by offering advice to cluster organisations, providing individual support correspondent to the developmental stage of a cluster, supporting co-operation across borders, or channelling R&D support through clusters.¹⁶ This shows that there is plenty of experience around Europe that could be used in designing a stronger Nordic Arctic focus on clusters.

"Cluster policies are often made to be a one-size-fits-all. There is a need for a more specific Arctic focus across national borders making it is easier for the clusters to work together with other organisations that understand the culture, values, and geographical circumstances of the Arctic."

→ Ship in Tromsø, Norway.
Photo: Scanpix





AN ARCTIC CLUSTER EXPANDING FOCUS WITH CHANGING PRIORITIES

Organisation: Arctic Cluster of Raw Materials
Sector: Mining and infrastructure
Region: Greenland and the broader Arctic

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The Arctic Cluster of Raw Materials have expanded its geographical and sector scope in order to ensure large-enough critical mass. The cluster also highlights the importance of having key stakeholders involved from the beginning.

The Arctic Cluster of Raw Materials (ACRM) was established by the Confederation of Danish Industry (DI), Greenland Employer's Association (GA), and the Technical University of Denmark (DTU). The cluster is a platform for companies working within extractive industries and the surrounding infrastructures, mainly in Greenland but also in the broader Arctic. ACRM's main purpose is to strengthen the competitiveness in Greenland and Denmark in the extractive industries and infrastructure, and to ensure sustainable growth and employment in both countries.

Success factors

The Arctic Cluster of Raw Materials works within the fields of mining and infrastructure. Through knowledge sharing, networking, and business development, the EU-certified cluster

gathers more than 40 members from companies and organisations working in the Arctic.

A key to the success has been the location of the key partners. The Greenland Employer's Association (GA) has its headquarters in Nuuk, whereas the Confederation of Danish Industry and Technical University of Denmark are based in Copenhagen, where many of the members are also based.

Secondly, the cluster was founded in a time of great optimism in Greenland surrounding the mining industry. The mining fairy tale did not turn out as hoped, but the Arctic Cluster of Raw Materials learned a great deal about the expertise Greenlandic and Danish companies have in working and doing business in the Arctic. Therefore, the cluster could expand its scope to include more sectors, such as within infrastructure, and expand the geographical scope to include the broader Arctic.

The cluster has focused on highlighting



↑ Nuuk, Greenland.
Photo: Mads Pihl / Visit Greenland

the benefits of doing business in Greenland. With a benchmarking report, conferences, and delegations to mining conferences, the Arctic Cluster of Raw Materials helps its members attract new customers and explore new markets.

ACRM presents its findings and promotes its member companies at the biennial conference Future Greenland, at international mining expos and at Arctic seminars. It is behind the annual Greenland conference in the Confederation of Danish Industry in Copenhagen.

Drivers and challenges

A key driver for the establishment of the cluster was the hope in Greenland that the mining sector would rapidly grow. Secondly, the cluster received backing early on from major stakeholders like GE, DI, and DTU. A member-

ship fee model funds the cluster today, but initially the first funding came from The Danish Industry Foundation. An optimism within the sector, involvement of key stakeholders, and financial funding allowed for a strong network to be built and quickly show results that made a difference.

A challenge for further development has been the lack of large-scale mining projects in Greenland. Combined with little competition and knowledge about the Arctic as a place of doing business, it is difficult to attract new members to the cluster. Furthermore, Greenland as a market is relatively small and an economic downturn greatly affects the opportunities for international companies.

REGIONAL DEVELOPMENT WITH STRONG LOCAL POLITICAL SUPPORT

Organisation: Arctic Smartness

Sector: SME

Region: Lapland, Finland

Contact: Kristiina Jokelainen

Manager, International relations,

Regional Council of Lapland

An example of an Arctic regional council developing its companies and educational institutions by working closer together in a cluster and apply for regional EU funding. The ultimate goal with the cluster to retain and attract young people to Lapland.

For many years, it was a joke in the Regional Council of Lapland that the last one leaving the region had to turn off the light. But then the council established a cluster called Arctic Smartness with EU support. Suddenly businesses and research institutions began working closer together to benefit from the unique features of Lapland. The ambition is to ensure that the youth stays or moves to Lapland to create new companies.

At first, the national government refused to support the region, but through funds from EU's regional programme, Lapland created a cluster that focuses on sustaining the impacts of investments in some of the many development projects in the region. Now the region has the attention of the national ministries once again.

Success factors

One of the success factors for the Arctic Smartness Specialisation Programme was the clear understanding that many small companies combined can become big. With increased co-operation, the companies can cut down production and logistical costs.

Secondly, the cluster has many key stakeholders. Strong local political support from all sides has been important to ensure buy-in from large and small companies.

Thirdly, the cluster has started a conversation between different partners in the region. The companies are pushing the universities to think more about the needs of businesses. That has also benefited the R&D units in the companies.

Lastly, the cluster has made it easier to be active in applying for EU funding programmes like Horizon2020. The cluster believes that the



↑ Lapland, Finland.
Photo: Rucksack Magazine

finance mechanisms are there, but it is about finding the right financing.

Drivers and challenges

An initial challenge was the lack of support from the capital when starting the project. A key driver was then building trust with the stakeholders in the region. As one stakeholder said, "complaining is easy. If we want an impact we need to be active. If we want to be different, then we have to make ourselves different." Creating unity was a first step.

One area that the cluster is developing is the fast-growing agribusiness industry. The development of the food sector also contributes with new products that can be used in other sectors. Therefore, the circular economy is a driver.

A challenge and a driver are the young people in the region. They are a barrier because an increasing number of youth are leaving, but a driver because there is a potential in keeping them if they are engaged in the dialogue about sustainable economic development. Furthermore, the educational institutions need to educate the entrepreneurs of the future.

The Arctic Smartness cluster is currently working on becoming certified as a Silver label through the Cluster Excellence Europe programme. This will strengthen the internal project management in the organisation. Kristina Jokelainen from the Regional Council of Lapland sees the cluster as one big puzzle – "Every piece has to fit, so each partner has to bring something to the table. It takes commitment to get development."

NATIONAL SUPPORT FOR ARCTIC CLUSTERS

Organisation: Innovation Norway

Sector: Clusters and innovation

Region: Norway

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Cluster programmes are one of the central parts of Norwegian innovation policy, with three different national cluster programmes grouped under the heading Norwegian Innovation Clusters that was launched in 2014. Since then, several clusters related to the Arctic have been supported.

Innovation Norway is the Norwegian Government's most important instrument for innovation and development of Norwegian enterprises and industry. One service is to stimulate collaboration and development of business communities through the Norwegian Innovation Clusters programme that started in June 2014.

Three separate programmes target clusters at various levels: the Arena Programme, Norwegian Centres of Expertise, and Global Centres of Expertise. The former is for regional, immature clusters, where a lot of clusters related to the Arctic belong.

Success factors

Clusters can apply to the Arena Programme, which includes EUR 250,000 and a three-year contract, with the possibility to extend it by two years. The annual call last year attracted more than 30 applications. Just four were accepted. The criteria for taking part included the cluster's resources, potential for growth, and position in the industry.

The Arena Programme funds clusters like Arctic Maintenance, Arctic Maritime Cluster, Profitable Winter Experiences and the Mineral, Cluster. They all cover companies in the Arctic region.

The services that the national cluster programme provides to the various clusters are networking, funding, and support with internationalisation, among other services. They



↑ Hamnøy, Norway.
Photo: Yuriy Garnaev

also help the clusters become certified and more robust.

One of the first issues for which the clusters get support is developing an exit strategy from the Arena Programme, because the goal is for the clusters to be self-sustaining and independent. That said, several clusters continue with regional funding after their three-year contract expires.

The focus of the Norwegian Innovation Clusters programme is to make sure that the clusters get a good cluster manager and that the members feel like they have ownership, for example through active working groups. A cluster development project like the Arena programme is a targeted effort over a limited period to strengthen and accelerate the development of a cluster.

Drivers and challenges

One challenge in the high north of Norway is to find the critical mass that can justify a cluster. There are simply not enough companies and organisations working within certain areas.

A second challenge is the distance. One key benefit of clusters is the close networks that create opportunities for co-operation, whereas the maritime cluster has members coming from Kirkenes to Trondheim.

A driver for the clusters is the opportunity to become a part of the Norwegian Centres of Expertise, like the most northern NCE Aquaculture. A benefit is that the contract for an NCE is 10 years and worth EUR 520,000.



4.6 RECOMMENDATION: BUSINESS CO-OPERATION

The recommendation presented below revolves around opportunities to promote sustainable economic development within the Nordic Co-operation, specifically the Nordic Council of Ministers (NCM), as well as other Nordic Arctic stakeholders.

Overview of business collaborations and promotion of cross-border co-operation

RECOMMENDATION: Map and facilitate increased co-operation between organizations and clusters working in the Arctic.

- **Why:** Some of the challenges in the Nordic Arctic are smaller markets and lack of critical mass in business communities. Strengthened cluster co-operation increases market reach and connects potential suppliers with customers within a specific expertise area. In addition, cluster co-operation makes it easier to facilitate joint events at conferences and trade fairs. Furthermore, more companies, large and small, can obtain a larger network. Through the cluster secretariats, companies can apply for project funds that would benefit more than just a few companies.
- **What:** Increase co-operation between business clusters and organisations in the region. There is currently very little cross-border co-operation around the Arctic among the Nordic business community, and a key reason for this is the lack of knowledge about potential partners, often because they represent a narrow sector in the Arctic rather than the region as a whole. Hence, these types of co-operation could be enhanced by mapping vari-

← Air Greenland Mechanic.
Photo: Mads Pihl / Visit
Greenland



ous business clusters and organisations currently involved in the Arctic regions.

- **Who:** One facilitator of this process could be the Arctic Economic Council, which already has a network in the Arctic business community. It is also possible to develop a Nordic Arctic business communities' cluster. However, a challenge is providing services to members that are spread across a large geographical area. Moreover, it is important to have a cheap membership option for Arctic SMEs.
- **Next steps:** AEC could facilitate a meeting for the various secretariats involved in the business sector in the Arctic to engage in a dialogue on ways to develop a better overview of possibilities for cluster co-operation in the Arctic.

↑ Reine, Norway.
Photo: Johnny Goerend

5 CROSS-CUTTING ISSUE ACROSS THE ARCTIC BUSINESS ANALYSIS

Desk research, case studies, and interviews have uncovered a variety of recommendations and practical tools to promote sustainable economic development for each focal area in the Arctic. These are presented in the individual reports, this one focusing on public-private partnerships and business co-operation. However, the study also reveals a cross-cutting issue related to Arctic-specific data related to business development. Hence, presented below is a cross-cutting recommendation on data collection and dissemination

A need for Arctic-specific data

RECOMMENDATION: Promote and support a regular collection and dissemination of Arctic specific data related to business and societal development within the Nordic region by supporting national and Nordic statistical offices in data collection and dissemination or Arctic specific data gathering projects.

- **Why:** The Nordic Arctic region offers great potential for business development but has limited Nordic Arctic-specific data to uncover the conditions in which companies operate, social and business opportunities and challenges, resources, future investment opportunities, as well as other aspects of the Arctic business environment. The limited data makes it challenging for stakehold-

ers such as businesses, academics, governments, authorities, and media to engage in more nuanced and accurate discussion on the Arctic-specific needs in business development.

- **What:** There is a need to supplement existing statistical information with systematic and recurring information gathering to develop knowledge of the Arctic specific socio-economic developments and business opportunities.
- **Who:** To strengthen and promote the collection and dissemination of Arctic specific data, the Nordic Co-operation could consider supporting the expansion and long-term sustainability of projects like Business Index North, and ensuring knowledge and awareness of the data by including it in the Nordic Statistical Bank.
- **Next steps:** To promote Arctic-specific data, the national statistical offices or the Nordic Statistical Bank could reach out to the Arctic data collection projects e.g. Business Index North to discuss possible collaborations on how to collect and disseminate data on the Arctic. Furthermore, a dialogue with Arctic business clusters, like the AEC, could be initiated to map the specific information needed.

EXAMPLE: Arctic-specific data gathering e.g. include the Arctic Business Forum Yearbook developed by Lapland Chamber of Commerce, the Economy of the North (ECONOR) publication by statistics Norway, and the Business Index North project implemented mainly by High North Center at Nord University Business School in Norway in Bodø. The Yearbook presents an overview of certain European High North investments and business developments, and discusses actions to be taken to overcome barriers of business and trade. It also presents data on specific investment opportunities and projects. The Business Index North initiative is a project

that runs from November 2015 to December 2018, and is developed through a strategic partnership between academic and research organizations, authorities, and commercial partners from Norway, Russia, Finland, and Sweden. It presents knowledge and statistics on the northern areas of Norway, Sweden and Finland but will gradually expand its analysis to cover the northern regions of Russia, USA, Canada, Denmark (Greenland), and Iceland. ECONOR presents an overview of the circumpolar Arctic economy, including traditional production activities of indigenous peoples, and has been published three times since 2006.

6 METHODOLOGY

Objectives & Definitions

The overall goal of this study is to provide a better understanding of the Nordic Arctic business environment with a focus on sustainable economic activities; and to generate practical recommendations to the Nordic co-operation and other Arctic actors on increasing economic activity in the Nordic Arctic. To this end, the research scope includes four focal areas selected by the steering group as areas of particular interest for sustainable business development in the Nordic Arctic. The Nordic Arctic and the four focal areas are defined below.

The Nordic Arctic is defined as the states of Iceland, Norway, Finland, Sweden and the countries Faroe Islands and Greenland (part of The Kingdom of Denmark).¹⁷ The study will include an overall analysis of the areas mentioned, but for Sweden, Norway, and Finland emphasis will be placed on the northern regions of these countries.

Entrepreneurship and innovation

- Entrepreneurship is when actions take place on the basis of opportunities and good ideas, and are translated into economic, social and/or cultural value for others.¹⁸ Along similar lines, innovation is the process of promoting changes in technologies, products, or administrative practices. It is important, however, that the understanding of entrepreneurship, innovation, and an entrepreneurial mind-set is embedded within regional and cultural contexts.

Public-private partnerships (PPPs) and business co-operation

- PPPs are an interaction between public and private institutions for the delivery of pre-defined services. The aim is to provide public service delivery from a mutually beneficial partnership, though the partnership remains founded in public oversight.¹⁹

- Business co-operation is, in this report, defined as industry clusters, where the seminal definition is a "...geographical concentration of interconnected companies, specialised suppliers, and associated institutions (e.g., universities, standards agencies, trade associations) in a particular field that compete but also co-operate." This definition is combined with the European Cluster Excellence programmes labelling to specify the clusters.²⁰

Bioeconomy

- Bioeconomy consists of the management of renewable biological resources and their conversion into food, livestock feed, bio-based products, and bioenergy via innovative and efficient technologies. It means using biomass intelligently and creatively through the four pillars of bioeconomy: collaborate, circulate, upgrade, and replace.²¹

Creative and cultural industries

- Creative and cultural industries encompass a broader range of activities that include creative and cultural production. In an Arctic context, it often emphasises human creativity as a way to leverage cultural heritage and translate it into a business.²²

Research Approach

To achieve the aim of this study, a three-phase research approach was developed as illustrated below.

Mapping & Cross-Analysis	Case Studies	Findings & Recommendations
<ul style="list-style-type: none"> → Mapping key policies → Mapping recent economic activity → Cross-analysis of focal areas → Identification of drivers and enablers 	<ul style="list-style-type: none"> → Case study selection → Development of case studies → Identification of drivers and enablers 	<ul style="list-style-type: none"> → Stakeholder review of findings and hypotheses → Development of recommendations

Mapping & Cross-Analysis

The mapping sought to identify policies and recent economic activity within the focal areas through extensive desk research. The key insights from the mapping were consolidated in a cross-analysis framework that assessed and correlated the level of policy support with the level of economic activity. The combination of factors indicated opportunities concerning policy and economic activity and gaps for sectors in each focal area. This generated hypotheses on enabling and constraining factors, as well as developed an overview of business development potential in the Nordic Arctic. Considering the challenge in quantifying and measuring the topics of this study, a score-based method was developed based on a qualitative assessment of the policies promoting economic activity and available data on actual economic activity in the Nordic Arctic. The multiple scoring method relied on a pre-defined assessment scale and estimations from various project collaborators.

Case Studies

Enabling and constraining factors identified in the cross-analysis were further examined through case studies of selected businesses, organisations, and projects identified during the desk research and the cross-analysis. Case studies were selected based on their ability to enrich the analysis of gaps and enablers, and ability to scale potential learnings to other businesses, industries, and potentially other Arctic areas.

Findings & Recommendations

Findings and hypotheses from the mapping, cross-analysis, and case studies were assessed and reviewed by several stakeholders in the Nordic Arctic region for evaluation, further development, and final assessment. Finally, knowledge and conclusions were synthesised to develop recommendations on ways in which the Nordic Co-operation, specifically Nordic Council of Ministers (NCM), and other Arctic actors can support specific initiatives in the future to facilitate economic growth, investment, and business development in the Nordic Arctic region.

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Arctic Business Analysis

– Opportunities for people, businesses and investments

In 2016, the Nordic Cooperation Ministers decided to put more emphasis on economic development in the Arctic within the Arctic Cooperation Program of the Nordic Council of Ministers.

The Nordic Council of Ministers partnered up with the Arctic Economic Council in carrying out an Arctic Business Analysis. The aim was to qualify knowledge on the business environment in the Nordic Arctic and how to take the business environment to a next level.

The analysis covers 1) Entrepreneurship and Innovations; 2) Public-Private Partnerships & Business Cooperation; 3) Bio-economy, and 4) Creative and Cultural Industries.

The general findings of the analysis are:

- a need for an increased collection and dissemination of Arctic specific data;
- a need for strengthened cross-border business collaboration between regions and actors in the Arctic; and
- a need for a positive branding of the Arctic as an attractive and sustainable market for investments and economic development.