

Can cross-border business models enable the green transition of ferry traffic in the Nordic archipelago?

Analysis of opportunities and barriers

FINAL REPORT

Version 1.2



Authors:

PBI Research Institute

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Anders Jungar

Frans Koskinen

Kim Wikström

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1 Summary and Recommendations

A well-functioning transport infrastructure is key for any society to thrive and develop. This is particularly true for the Nordic archipelago¹, comprising of thousands of islands distributed over a large area. The ferry² traffic is currently facing several similar challenges across the Nordic Archipelago such as:

- An urgent need to decrease GHG emissions to meet both EU and national emission reduction targets such as Fitfor55 and Finland's law on climate neutrality by 2035.
- Outdated ferries running on fossil fuels with alarmingly low utilization rates (10-30%)
- Strongly fluctuating demand with peaks during summertime resulting in challenges to meet the needs of different user groups such as permanent inhabitants, people living part-time in the archipelago, tourists and local businesses in need of transport services.

The ferry traffic today is a complex and fragmented entity, with many public actors involved in the strategic planning, improving efficiency and organizing the ferry traffic. Despite many common challenges across the region, there is very limited cross-border coordination resulting in overlapping studies and development projects on how to decarbonize the ferry traffic. Ongoing or completed projects/studies cover technology options for decarbonization through electrification and the use of renewable maritime fuels, optimal operating/governance models as well as best practices for contracting and procurement. Moreover, digital solutions, such as new or improved ticket booking systems for enhancing the customer experience, and other technologies for improving the ferries' overall energy efficiency are being studied or have already been launched³.

What is the reason for the current limited collaboration? It could be the lack of a big "common threat" in the past such as climate change combined with increasingly strained public finances. In brief, our conclusion is that there has not been any real reasons or incentives for cross-border collaboration.

This said, there are opportunities and potential synergies to be gained via expanded cross-border collaboration. Harnessing the synergies must happen step-by-step as outlined in our recommendations below. Part of this analysis was to validate whether there are prerequisites to create a European company for ferry traffic that would operate across borders and support the region's needs. Our conclusion is that this is a visionary idea but too big as a first step to take.

Recommendations to Nordiska Skärgårdssamarbetet (NSS)

The green transition of the archipelago ferry traffic could serve as a driver for increased cross-border collaboration in the Nordic archipelago. A high-level roadmap to reach a common vision is outlined in Figure 1 below. The roadmap is split into three main steps:

Step1 (Create fertile ground for cross-border collaboration)

Key is to start by building collaboration structures, trust, and personal networks among those responsible for planning, organizing, and procuring ferry traffic in the concerned regions. The outcome from Step1 should be shared visions and long-term goals for collaboration. The willingness to collaborate should be expressed in a public statement (e.g. Letter of Intent). Key activities in Step1 are to share knowledge and experience on e.g. technology options for decarbonization and how to organize the ferry traffic in the most cost-efficient way. Step1 would be kick-offed with a seminar⁴ in the autumn 2024, arranged by NSS.

¹ Nordic archipelago is in the Regions4Climate project limited geographically to the Stockholm archipelago, the Åland Islands and the archipelago in Southwestern Finland (SWE: Åbolands skärgård)

² Ferries (SWE: frigående färjor/förbindelsebåtar, FI: yhteysalus) are here defined as free-going vessels. Ferries transport passengers and can in many cases also transport vehicles (cars, trucks, buses) and cargo.

³ <https://www.finferries.fi/sv/aktuellt/pressmeddelanden/finferries-forbindelsebatsresor-kan-bokas-elektroniskt.html>

⁴ See Appendix2 for proposed seminar agenda.

Step2 (Collaboration within selected topics)

Once common goals and visions have been defined and a true willingness to collaborate has been established, harnessing the synergies from collaboration will require a more stable, structured platform. NSS could take a prominent role in enabling and driving the establishment of this platform. The Kvarken Council EGTC⁵ serves as a prime Nordic example of what can be achieved in sustainable transport infrastructure development when there are shared visions and long-term goals and a genuine willingness to collaborate. The “world’s most climate friendly passenger car ferry”, Aurora Botnia which operates between Vaasa and Umeå, entered traffic in Aug 2021⁶. The new ferry was the result of a 10-year project, where the Kvarken Council played an instrumental role.

Focus during Step2 would be on selected sub-areas identified in Step1. Step2 could also include applying for EU funding for developing a new zero carbon ferry concept that suits the region’s needs. Finland and Sweden have had close collaboration for 60 years in icebreaking, which has included common concept design for new icebreakers⁷.

Step3 (Coordinated investments to reduce GHG emissions)

Step3 involves coordinated investments to drastically reduce ferry traffic emissions. Investments could include ferry newbuild programs to optimize construction costs, standardized onboard technology solutions and charging infrastructure in harbours to reduced operations and maintenance costs as well as standardized piers to enable ferries to operate cross-border in a geopolitical crisis. Required investment that significantly reduce GHG emissions could be enabled by applying for investment support from the EU in a coordinated way.

Vision: Zero emissions in archipelago traffic by 2050?

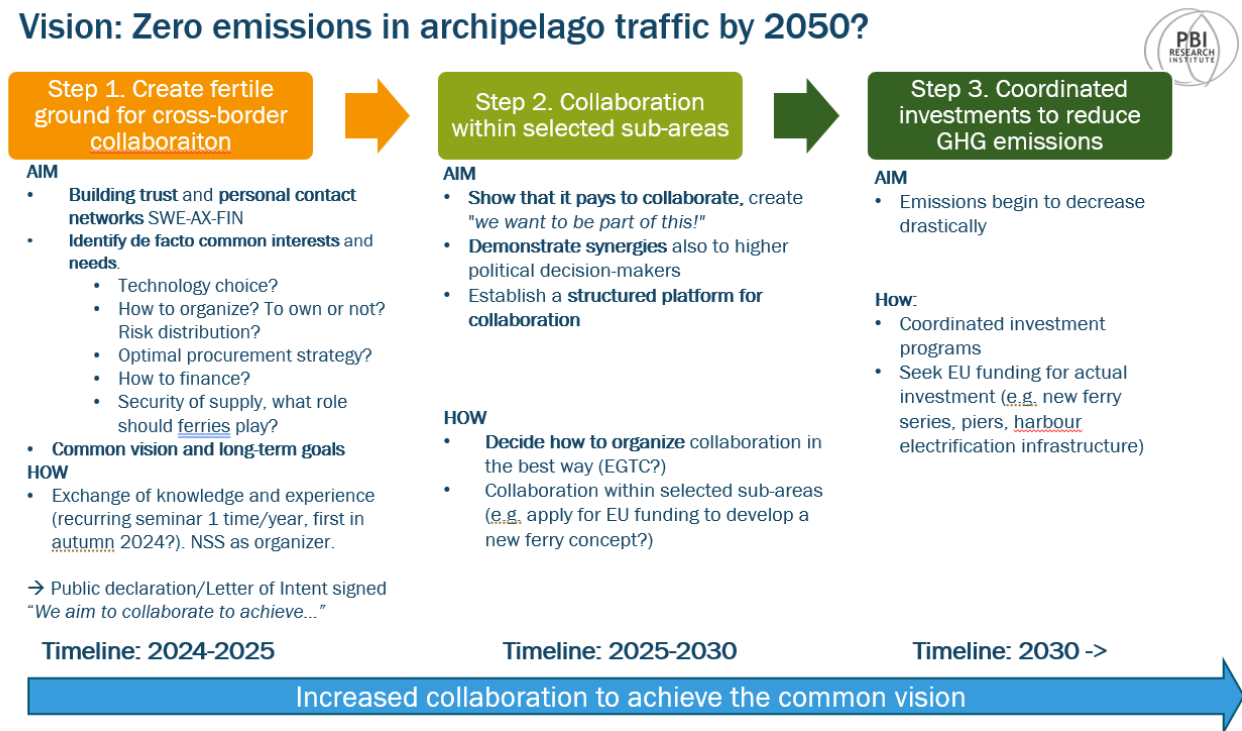


Figure 1 Roadmap for increased collaboration to drive the green transition of ferry traffic in the Nordic Archipelago

⁵ <https://www.kvarken.org/en/>

⁶ See e.g. <https://www.kvarken.org/en/project/aurora-botnia/> and <https://www.wasaline.com/en/portfolio-item/new-ferry-aurora-botnia-cuts-wasalines-co2-emissions-in-half/>

⁷ See e.g. <https://sjofart.prenly.com/p/alands-sjofart/2020-12-10/a/finland-och-sverige-bygger-nya-isbrytare/1875/357473/17483675#:~:text=DE%20NYA%20ISBRYTARNA%20ska%20klara,klart%20i%20slutet%20av%202021.>

2 Background

The Nordic archipelago cooperation (Nordiska Skärgårdssamarbetet, later: NSS) is a cross-border actor between authorities, covering the archipelago regions of Stockholm, Uppsala, Sörmland and Östergötland counties, the counties of Southwest Finland, Uusimaa and Kymenlaakso, and the Åland Islands (see Figure 2). The area is inhabited by ~50 000 people.

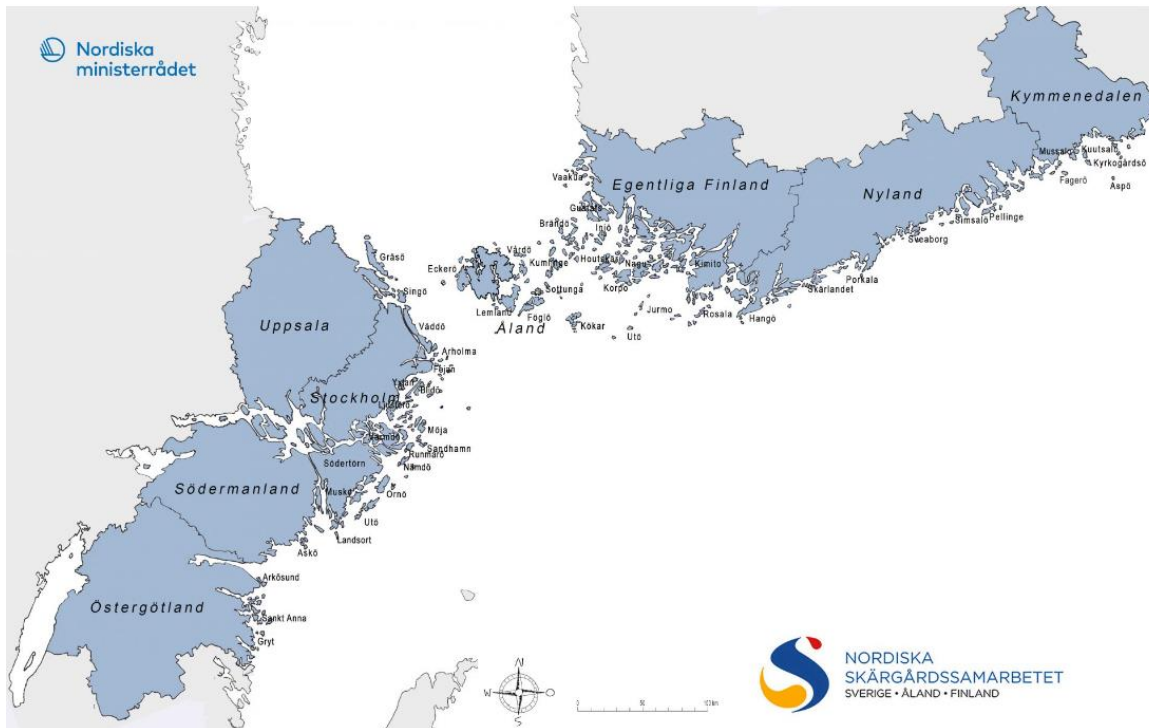


Figure 2 Nordiska Skärgårdssamarbetet is a cross-border cooperation between authorities covering the archipelago regions of Stockholm, Uppsala, Sörmland and Östergötland counties, the counties of Southwest Finland, Uusimaa and Kymenlaakso, and the Åland Islands.

NSS is participating in the EU funded Regions4Climate project. The overarching ambition of Regions4Climate is to advance European transitions to climate resilience in 12 selected regions in Europe. One of these regions is the so called 'Nordic Archipelago', covering the geographical area in Figure2 above. Regions4Climate goal is to *'provide a suite of user-centered tools and frameworks to support socially-just regional climate resilience transitions, while linking new knowledge and detailed understanding of regional ecosystems with innovative technologies and processes'*⁸

Within Regions4Climate Work Package 5, NSS has committed to four main development activities (see Figure 3). All these activities support the green transition of the transportation and energy system in the Nordic Archipelago.

This report focuses on the fourth main activity (Investigating different business models) as marked with green in Figure 3.

⁸ <https://regions4climate.eu/about/>
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Figure 3 NSS has committed to four main activities within Regions4Climate Work Package 5. The report at hand (marked with a green box) supports the fourth activity on investigating business models.

3 Goal, Scope and Methodology

The overall **goal** was to evaluate possibilities for cross-border business models to tackle the challenges faced by the ferry traffic in the Nordic Archipelago. More specifically, the goal was to:

- Identify advantages, value-add, disadvantages and barriers from cross-border collaboration.
- Explore and validate the idea of establishing a company that would operate across borders and support the region’s needs.
- Present initial, alternative ways how necessary investments required for the decarbonization of the fleet could be financed.

An important part of the project was to engage key actors responsible for the management and procurement of archipelago traffic in the region.

The **scope** of this study was the ferry traffic in the Stockholm archipelago, the Åland Islands and the Archipelago in Southwestern Finland as shown in Figure 4. Figure 4 also includes basic numerical facts about the ferry traffic in scope. Ferries (SWE: frigående färjor/förbindelsebåtar, FI: yhteysalus) are here defined as free-going vessels that transport passengers and, in many cases, also vehicles (cars, trucks, buses) as well as cargo. Cable ferries (SWE: kabelfärjor, FIN: vaijerilossi) and road ferries (SWE: landsvägsfärjor, FI: maantielautta) were not in scope of the study as per NSS’s request.

Basic facts for ferries* in scope of study

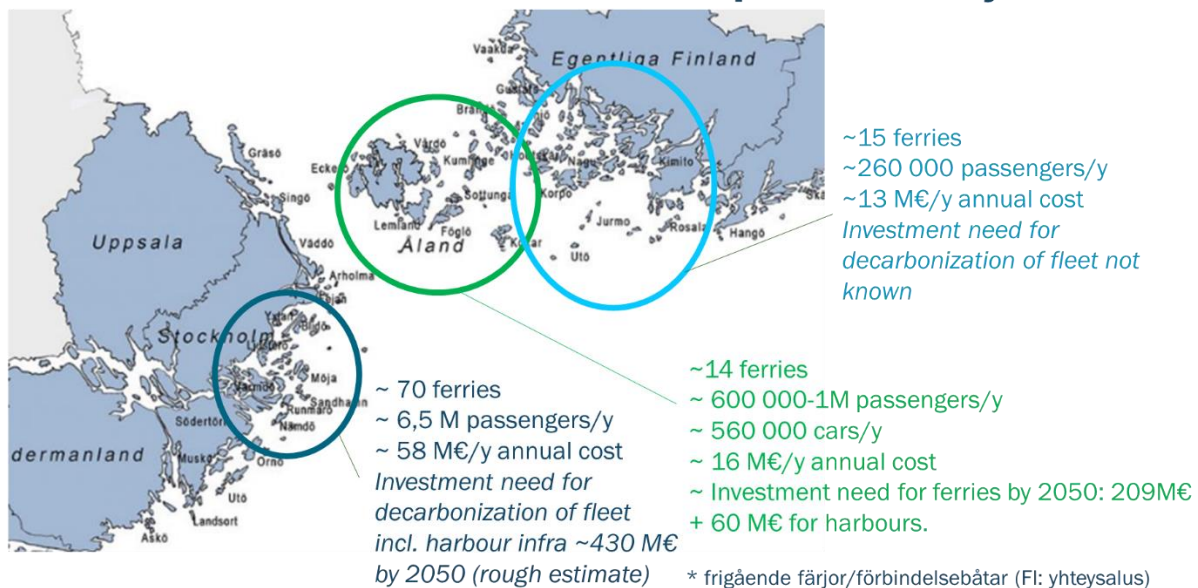


Figure 4 Basic facts for ferries in scope of study.

The analysis was carried out by mapping the current business ecosystem for ferry traffic. This included identification of key actors and challenges for each region, respectively. The analysis included extensive desktop research combined with deep-dive interviews with key stakeholders in the ecosystem. For benchmarking purposes, also interviews with experts from Estonia's Ministry of Climate/Riigilaevastik, Traficom and the Finnish Transport Infrastructure Agency were held. This was done as Sweden and Finland have collaborated closely in icebreaking for more than 60 years. Collaboration has included e.g. common icebreaker vessel concept design.

During the interviews, each actors' views on the opportunities and barriers with a cross-border company for ferry traffic were discussed. Based on the data gathered, a high-level roadmap to enable zero emission ferry traffic through cross-border collaboration was outlined. Intermediate results were shared with both NSS/Annastina Sarlin in separate meetings and with NSS's council meeting during the analysis. A full list of interviewed organizations is available in Appendix1.

4 The Challenge – current state

Common challenges across the region

The region encompassing Finland, Sweden, and the Åland Islands is currently facing significant challenges that demand *urgent* attention and innovative solutions. A primary concern is the drastic reduction of emissions, as highlighted by initiatives like the EU's Fit for 55 and Finland's ambitious goal of achieving carbon dioxide neutrality by 2035.

A critical area of concern is the ferry traffic, as the regions share similar issues and needs, particularly in terms of the modernization required for their ageing and increasingly outdated fleet. This necessitates substantial investments in new ships and infrastructure, such as e.g. charging stations for electric operations and updated piers. Additionally, the regions' experience substantial seasonal variations, with an influx of tourists and visitors during summertime placing a heavy burden on limited resources, and low utilization rates at other times resulting in high emissions per transported person. The administrative challenges related to schedules and routes further complicate the situation, making it difficult to maintain efficient and reliable communications for permanent residents, part-time residents, and tourists alike.

Additionally, other significant common strategic questions include whether the public sector should own the fleet, and what is the best procurement criteria. Military mobility and emergency supply also present critical considerations in these challenges.

To address these issues, the region must develop sustainable local transport and interlinked energy systems to enhance inter-regional cooperation. There are numerous common questions to consider, such as how the region can meet commitments of Fit for 55 and Finland's carbon neutrality goal for 2035, how should the region re-organize the 'system' in the best possible way to ensure green transition while optimizing costs, how should the funding issue be solved given the massive investments required and the lack of public funds, and finally, which technologies and fuels should be adopted.

Region specific challenges

The **Stockholm archipelago** faces several identified challenges, particularly regarding infrastructure investments and improvements in piers and harbors, which are essential for maritime traffic. Studies on the required investments are ongoing by Region Stockholm. The region is also grappling with the desire to reduce maritime traffic costs amidst numerous ongoing projects, making it challenging to evaluate the timelines and projected benefits effectively. Additionally, the implementation of electrification and the corresponding infrastructure requirements is under thorough investigation by Region Stockholm, directly impacting fleet composition and tonnage studies. Prepared measures to ensure redundancy, especially in the context of electrification, are crucial to maintaining reliable operations.

Financial planning for the next fiscal year presents another layer of complexity for Region Stockholm due to the significant investment needs and a degree of short-termism in budgeting. The procurement process, currently dominated by a single major operator, poses both benefits and drawbacks, necessitating a balance between small local operators and larger entities to ensure quality and competition. Furthermore, the question of whether taxpayers should bear the technology risks associated with e.g. electrification, or if these risks should be shared with technology providers, remains unresolved. Finally, the needs within various parts of the Stockholm archipelago differ, raising the question of whether standardized vessel types are appropriate for all areas within the Nordic Archipelago.

In the **Åland Islands**, the functionality of maritime traffic is strategically important for the region but also an overly sensitive political issue, as exemplified by the Ansgar contract controversy. The fleet is notably old, with vessels like the m/s Alfågeln facing recurring technical problems. An aging fleet combined with long lead times for spare parts causes frequent and prolonged downtime for the vessels, which disrupts operations and increases maintenance costs.

Studies by the Government of Åland show that significant investments are required up to year 2050, estimated at around 270 million euros, including piers. The investment sum includes 5 new vessels à 40 million eur, 9 million eur for m/s Doppingen and an estimated 60 million euros for piers (investment into piers will be required independently of decarbonization efforts). Central questions here include the governance model and ownership of vessels and the financing of new investments. It remains debated whether the region should own its fleet and whether it is prepared to bear the associated costs, which are substantial for the Åland Island's economy. From a security supply point of view, the Government of Åland should remain owner of at least part of the ferry fleet.

In **Southwestern Finland** governance is complicated by the involvement of three different ministries, as well as the Prime Minister's Office, which oversees the ownership steering of Finferries (holding 70% of the market share) and a steering group for archipelago traffic that includes representatives from ministries and key agencies.

The procurement process is managed by the Regional Development Center of Southwestern Finland (SWE: Egentliga Finlands NTM-central) based on the annual allocated budget. The current legislation relevant for ferry traffic (Skärgårdslagen) is outdated and is currently being revised. Currently, there is no specific regulation (FI: asetust) defining the service level requirements for ferry traffic. This makes it challenging for the procuring agency during procurement when service levels are defined in the procurement criteria.

Competition is minimal, largely due to the state-owned Finferries' dominant market share and the short-term nature of contracts, which do not allow operators to amortize their investments over the contract duration. Longer contracts (up to 15 years) have been proposed as a solution to enable new actors to enter the market, but no final decisions have yet been made.

5 Opportunities and Barriers for cross-border business models

Ferry traffic is clearly at a crossroads. It must be decarbonized but will not be an easy task. This chapter summarizes the identified main opportunities and barriers for cross-border business models in ferry traffic.

5.1 Opportunities

Information-, knowledge-, and experience exchange

Information, knowledge and experience sharing would be the main activity and focus during Step1 in the roadmap towards zero emission ferry traffic, as outlined in Figure1.

There is a clear opportunity for sharing knowledge and experience in the region. Many studies related to the decarbonization of ferry traffic have been made or are ongoing. However, there seems to be little coordination and exchange of findings from these studies between Region Stockholm, the Government of Åland and the Regional Development Center of Southwestern Finland. Better coordination of development projects and studies across the region could save resources and public money and minimize the risk for “reinvention of the wheel”.

In addition to the Nordic Archipelago region, it would be wise to connect with other Nordic countries. Norway has been a forerunner in adopting new technology for sustainable transport and has currently more than 80 electrified ferries in operation in the fjords. It should be noted that advancement in battery technology today enables electrification of ferries covering longer distances and even RoPax ferries⁹ ¹⁰. This could make electrification of ferries operating also on longer routes an interesting option.

Potential topics for knowledge and experience sharing are:

- Technology choices and experiences
 - Which clean propulsion technologies work? What are the practical experiences so far from Norway?
 - What digital technologies are there to optimize fleet utilization rate, fuel consumption and improved customer experience through standardized ticket booking systems?
- Optimal governance and financing model for ferry traffic
 - How should the ferry traffic be organized to drive decarbonization in the most cost-effective way? Should the public sector own the fleet or not?
- Financing the green transition
 - How should the decarbonization of the fleet be financed? There is a significant investment need (alone 270 million euro for Åland by 2050 for new ferries and harbours/piers).
- Procurement strategy
 - What is the optimal procurement strategy and criteria to be used to drive decarbonization of the fleet? Which criteria should the public sector use to maintain technology neutrality?
 - How should technology risks be distributed between the public sector and technology suppliers?
- Security of supply
 - What role should ferries play in the new geopolitical situation?

Considering the alarmingly low utilization rates of the current fleet (10-30%) in the region, there are also opportunities to rethink routes and vessels (our understanding is that this is partly done within the Regions4Climate project). As part of this study, the authors witnessed how a vessel consuming 200 liters of fossil diesel/hour made a pit stop at a remote island to drop off one small bag of food to the local inhabitants. This example indicates that the current way of operating is by no means sustainable from neither an emission, nor cost point of view. Could there be lighter and faster vessels for passenger transport, and more heavy vessels carrying vehicles and other cargo serving more islands (than today) on the same route? Drones could be an option for delivery instead of using large vessels as this technology is already available and in use in Norway¹¹.

Coordinated ferry design, procurement and applying for EU financing

Capturing further opportunities as described below is the focus during Step2 in the roadmap towards zero emission ferry traffic, as outlined in Figure1.

⁹ See e.g. <https://thedriven.io/2024/05/22/echandia-to-electrify-two-big-ferries-in-europe-in-largest-order-to-date/>

¹⁰ <https://www.abo.fi/en/news/business-finland-funds-project-for-climate-neutral-shipping/>

¹¹ <https://www.euronews.com/next/2024/02/20/worlds-longest-distance-drone-delivery-service-makes-shopping-more-exclusive-in-norway>

Considering the outdated fleet, there will be a significant need for new investment in both ferries and land-based infrastructure (e.g. piers, charging infrastructure) as described in chapter 4. Before moving to actual investments, there could be coordinated efforts in the area of new ferry concept. Standardization of ferries and onboard technical solutions could facilitate maintenance and repairs. With a common spare parts stock, the current long lead times for spare parts could be avoided. Today, it may take several weeks to get spare parts. Moreover, a similar ferry design would allow for easier crew exchange in case of a crisis.

Also, digital solutions could be standardized. For example, the booking system in use for the ferries in the Åland archipelago has received much criticism by users based on large study published in March 2023¹². At the same time, a booking system has been developed and recently launched by Finferries in May 2024. Coordination in the area of digital solutions also provide opportunities to save costs and resources instead of actors developing their own systems. During the finalization of this report, the Government of Åland and Finnish state-owned operator Finferries announced plans to jointly establish a new company called 'Axferries', that would compete for operation of ferries between the Åland Islands.¹³

Finland and Sweden have had close collaboration for 60 years in the area of icebreaking, which has included common concept design for new icebreakers¹⁴. The region could establish a joint cross-border group that applies for EU funding for developing a new ferry concept. A prerequisite for this is that the regions can agree on common needs and design parameters for the new ferry concept. In a later stage, there could be an opportunity to apply for EU grants for investments through e.g. the EU Innovation fund, especially if the investments include innovate new technologies. Applying for funds from the EU Innovation fund requires the applicant is a registered company, a consortium or Special Purpose Vehicle (SPV).

An estimated minimum of 3 ferries should be ordered by the region within one year to achieve cost synergies in terms of lower construction costs.

The Kvarken Council EGTC serves as a prime Nordic example of what can be achieved in sustainable transport infrastructure development when there are shared visions and long-term goals and a genuine willingness to collaborate. The "world's most climate friendly passenger car ferry", Aurora Botnia which operates between Vaasa and Umeå, entered traffic in Aug 2021. The new ferry was the result of a 10-year project, where the Kvarken Council played an instrumental role. Kvarken Council received EU grants for developing the new vessel concept.

Another opportunity to drive the decarbonisation of the ferry traffic would be to rethink pricing and booking policies. Dynamic pricing and introducing a fee for taking one's car onboard the ferry would test if the true customer need for car transport to remote islands, where roads for driving cars are practically non-existent. Enforcing mandatory prebooking of ferries to remote island could decrease unnecessary driving and hence, decrease emissions and save costs. A recent study commissioned by Finland's Ministry of Agriculture/Skargårdsdelegationen analysed opportunities from route optimization and pricing of the archipelago traffic¹⁵ in Finland (excl. Åland Islands).

5.2 Barriers

Differing political ambition and lack of incentives to change status quo

Ambitions to decarbonize the ferry traffic is mentioned in the Finland's Government program 2023-2026. From a national perspective (excluding the Åland Islands), the archipelago traffic concerns a small share of Finland's population and represents a minor share of the state's annual state budget for transport infrastructure. Consequently, the authors' impression is that the archipelago traffic is not very high on the

¹² <https://www.lagtinget.ax/dokument/omstallningsplan-gronare-fartygsflotta-skargardstrafiken-aland-skargard-54173>

¹³ <https://alandradio.ax/nyheter/axferries-ar-namnet-pa-lrs-och-finferries-nya-rederi> and <https://www.sjofart.ax/personer/startklar-for-axferries/>

¹⁴ See e.g. <https://sjofart.prenly.com/p/aland-sjofart/2020-12-10/a/finland-och-sverige-bygger-nya-isybrytare/1875/357473/17483675#:~:text=DE%20NYA%20ISBRYTARNA%20ska%20klara,klart%20i%20slutet%20av%202021.>

¹⁵ <https://www.saaristopolitiikka.fi/uutiset/selvitykset-yhteysalusliikenteen-maksuista-ja-reiteista>

national political agenda. Recent studies and analysis related to ferry traffic, commissioned by Finland's Ministry of Transport and Communications and Ministry of Agriculture and Forestry, have focused purely on the archipelago traffic in Finland, excluding the Åland Island.

For the **Åland Islands**, the functionality of the archipelago traffic is strategically important and has always been high on Åland's political agenda. At the same time, it is also a sensitive political issue, as exemplified by the Ansgar contract controversy¹⁶.

A potential reason and barrier to cross-border collaboration could be the lack of a big "common threat" in the past such as climate change combined with increasingly strained public finances. In brief, there has not been any real reason or incentives for cross-border collaboration.

Governance related barriers include complex structures with multiple agencies and ministries involved in organizing the archipelago traffic, which holds true especially for mainland Finland. Coordinating three different budgets (Region Stockholm, Government of Åland, Finland's state budget) is a governance related barrier not to be underestimated.

There were also differing views among the interviewees on what is the most cost-efficient way to organize the ferry traffic. A key question is whether the public sector should own the fleet of ferries or not. In the case of procuring the ferry traffic as a service, interviewees also highlighted differences in procurement legislation across the region.

Differing needs

Many interviewees noted that the region's transport needs differ significantly. In the Stockholm archipelago, the focus is primarily on large passenger traffic volumes. On the Åland Islands and in the Southwestern archipelago in Finland (SWE: Åbolands skärgård), again, there is also a need to transport vehicles and cargo utilizing the same ferries. Differing needs may imply that planning for standardized vessels across the region may be challenging. Standardized ferries would also require standardized piers, which will require additional investments.

Considering the current low level of cross-border collaboration and the current barriers, the overall conclusion is that establishing a cross-border company that would operate ferry traffic would be a too big first step to take.

Breaking down the barriers require that the regions together can agree on common goals and topics for collaboration and demonstrate to higher political decision makers that financial synergies can be achieved.

¹⁶ See e.g. <https://svenska.yle.fi/a/7-10049707>

6 Appendices

6.1 Appendix 1 - References and Interviewees

Reports commissioned by the Finland's Ministry of Transport and Communications and the Ministry of Forestry and Agriculture

- 2021: Ferry traffic of the future – study of the development needs
https://julkaisut.valtioneuvosto.fi/bitstream/handle/10024/163387/MMM_2021_16.pdf?sequence=8&isAllowed=y
- 2023: Comparison and risk assessment of operating models of connecting vessel traffic
<https://julkaisut.valtioneuvosto.fi/bitstream/handle/10024/165224/yhteysalusliikenteen-toimintamallien-vertailu-ja-riskiarviointi.pdf?sequence=1&isAllowed=y>
- 2024: Analysis of current ferry routes in the archipelago and their potential need for changes, the criteria for organizing the routes, as well as the implementation and impacts of possible traffic charges (in Finnish)
<https://www.saaristopolitiikka.fi/uutiset/selvitykset-yhteysalusliikenteen-maksuista-ja-reiteista>

Reports commissioned by the Government of Åland (Landskapsregeringen)

- 2022-2023: Conversion plan for a greener ship fleet in the Archipelago traffic in the Åland Archipelago
<https://www.lagtinget.ax/dokument/omstallningsplan-gronare-fartygsflotta-skargardstrafiken-aland-skargard-54173>
- 2023: Towards a fossil-free tonnage - A compilation by the Infrastructure Department at the Government of Åland
[Mot ett fossilfritt tonnage - En sammanställning av Infrastrukturavdelningen](#) (regeringen.ax)

Report from Region Stockholm

- 2021: Sea Traffic investigation / analysis – part 1
<https://edokmeetings.stockholm.se/welcome-sv/namnder-styrelser/kungsholmens-stadsdelsnamnd/mote-2021-08-26/protocol/sjotrafikutredning-del-1pdf?downloadMode=open>

EU REISFER project

- <https://taltech.ee/en/news/nine-partners-join-forces-with-the-aim-of-reducing-carbon-emissions>
- <https://www.etis.ee/Portal/Projects/Display/0d575176-b176-4798-bd23-ba1caa09a3fd>
- <https://www.regeringen.ax/sites/default/files/attachments/protocol/nr46-2023-enskild-l2.pdf>

Other selected web pages:

- <https://tieto.traficom.fi/en/statistics/situational-picture-commuter-ferry-traffic>
- <https://www.finferries.fi/sv/aktuellt/pressmeddelanden/finferries-forbindelsebatsresor-kan-bokas-elektroniskt.html>
- https://www.project-albatts.eu/Media/NewsEvents/25/NewsEvents_25_SLIDES_20230201_17556.pdf

The following organizations were interviewed by PBI as part of this study:

- Region Stockholm
- Åland's Regional Government, infrastructure department
- The Southwestern Finland's Centre for Economic Development, Transport and the Environment (Varsinais-Suomen ELY-keskus)
- University of Turku
- Finnish Transport Infrastructure Agency (FI: Väylävirasto, SWE: Trafikledsverket)
- Traficom, Finnish Transport and Communications Agency
- Estonian Ministry of Climate / Riigilaevastik
- m/s Merituuli ferry crew (site visit onboard ferry)

6.2 Appendix 2 - Initial agenda for seminar on sustainable ferry traffic

Goal of seminar: build networks among public sector actors responsible for developing and securing sustainable archipelago traffic.

Time and location: Autumn 2024, 1 full-day. Location Stockholm, Mariehamn or Turku.

Organizer: Nordiska Skärgårdssamarbetet

Invited participants (initial list):

- Public agencies responsible for organizing the ferry traffic: Region Stockholm, Government of Åland/Infrastrukturavdelningen, Regional Development Center for Southwestern Finland (FI: Varsinais-Suomen ELY-keskus), representatives from Norway
- Ministries: Ministry of Forestry and Agriculture/Skärgårdsdelegationen/SANK, Ministry of Communications, Riigilaevastik (Estonian Ministry of Climate), Sweden's counterpart (if deemed relevant by Region Stockholm)
- Research institute/universities: Estonian Maritime Academy of Tallinn University of Technology (REISFER project), VTT (Regions4Climate presentation on findings so far), Åbo Akademi University/Green Transition Lab, Turku University
- (Optional: operators, technology providers for electrification of ferry traffic)

Potential themes / Streams for seminar

- Technology outlook and options for decarbonization of ferry traffic, experiences
- Governance models – what are the most cost-effective ways to decarbonize ferry traffic? To own or not to own the fleet?
- Procurement strategies and criteria to drive the green transition for ferry traffic
- How to finance the green transition of ferry traffic?

Agenda to include keynote presentations and following panel discussions.

Output from the seminar could be a public declaration to collaborate in selected areas

7 Document version history

Version	Date	Changes made
1.2	16 Dec 2024	Updated facts for fleet in Stockholm region, including estimated investment need. Data from Michael Erman, Region Stockholm.
1.1	4 Nov 2024	Final version, updated based on comments from NSS/Annastina Sarlin.
1	June 2024	First version, approved by NSS