**Accessibility, Transport and Logistics**

**Background Paper**

prepared by the Arctic Centre of the University of Lapland

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**THIS WORKSHOP**

Many key actors highlight limited accessibility within the region, weak intra-regional connections, and narrow transport linkages to the EU’s Single Market areas in the European Arctic as key obstacles for peripheral and sparsely populated regions achieving their full developmental potential. Notwithstanding, transport investments may have impacts on the environment and livelihoods. There is a need to discuss what the actual needs are and where support (including through investment financing) could make the greatest difference. This workshop will consider the EU policies and funding to support the development of transport networks in the European Arctic. In the European Arctic Dialogue Seminar, ICT connectivity will be discussed in relation to broader digitalisation questions in the workshop on “Diversifying European Arctic Economies”. However, in the course of the discussion, participants in the “Accessibility, Transport and Logistics” workshop may raise questions related to digital connectivity, as it is increasingly relevant for transport infrastructure.
EXAMPLES OF QUESTIONS

- What are the transport needs in the European Arctic?
- Which economic activities are most adversely affected by the lack of good connections?
- Is there a need for better east-west and intra-regional connections? How does one effectively address these needs?
- How could technological advancements influence transport in the European Arctic?
- What negative impacts can transport infrastructure have on the northern livelihoods and Arctic environment and how can one best mitigate these impacts?
- What is and should be the role of the EU, its policies and funding in the development of transport and logistics infrastructure in the European Arctic?
- How could international cooperation within the Barents Region (including the Northern Dimension) support the development of a better transport network and more efficient logistics?
OVERVIEW OF ISSUES

For remote, peripheral and sparsely populated regions, such as those of the European Arctic, transport connections and access to the main Nordic and European economic and cultural centres are of crucial importance. Transport affects economic and social developments, linkage of these regions to European and the global markets, access of tourists to the region, and the costs of travel for northern residents.

Europe’s northern peripheries are among the least accessible regions in Europe (measured by ground accessibility). Insularity, one-directional linkages, proportionally high dependence on air and maritime transport, the dominance of north-south connections and high costs are features of Arctic transport.

The northern peripheries of Nordic states have been recognised within the EU’s cohesion policy as “regions which suffer from severe and permanent natural or demographic handicaps” (Treaty of the Functioning of the European Union, art. 174). Limited access to advantages inherent to urban agglomerations has implications for the availability of public services and economic activity. This includes the small size of the local economy, limited local demand, high transport and logistical costs, and lack of specialised services. Transport networks and transport policies have the capacity to mitigate, address or exacerbate these constraints and limitations, and are therefore central to the discussions about the socio-economic development of the European Arctic.

Transport links are of importance for the movement of people, goods and services across, to and from the European Arctic. However, connections may have also a socio-economic and political strategic dimension.

Different industries and activities have different transport needs. The mining industry requires multi-modal bulk transport both to European markets and increasingly to global (especially Asian) markets. The EU’s 2008 Raw Materials Initiative underlines sustainable access to raw materials from European sources. The metal industries based in the European Arctic need cost-effective access to minerals (produced in the region) as well as the access to European and global markets. Sea and rail transport play a central role for the mining and metal industries. The produce of the North Norwegian seafood industry is exported via road, rail and air. Forestry, which remains a key industry in North Sweden and North and East Finland, transports timber by rail and road domestically (where larger and heavier trucks are seen as a way to cut transport costs) and the products of pulp mills are shipped internationally by sea and rail. For the tourism industry - for local residents, and for many SMEs - cost-effective flight connections to main Nordic and European airports are of central importance, alongside appropriate intra-regional transport infrastructure.

The north - south (centre - periphery) connections are central to the discussion about transport needs in the European Arctic. Some parts of the region are very well connected to socio-economic centres, including cities such as Rovaniemi, Tromsø or Reykjavik. But for more remote areas and Greenland, long distances and a sparse population mean high costs, little competition and long travel times.

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1 The European Arctic is defined here as comprised of Northern Fennoscandia (covering generally Northern Sparsely Populated Areas regions) and North Atlantic (Greenland, Iceland, Faroe Islands), with adjacent maritime areas.

2 For example, Swedish Skellefteå hosts one of the biggest copper smelters in the EU and Finnish Kokkola one of the biggest zinc smelters; Finnish Tornio has a ferrochrome smelter; Norwegian Mo i Rana hosts iron production; and in Mosjøen (Norway) aluminium is produced.

Currently, the expectations for increased shipping in the Northern Sea Route (and in the more distant future in the Central Arctic Ocean) translate to proposals aimed at linking northern regions to ports along the Arctic Ocean coasts. In principle, this would enhance access of resources extracted in the region to Asian markets. The prime example of such a project is the proposed rail link between Finnish Lapland and the Barents Sea coast, with similar ideas to improve rail connections to the northern coasts also being proposed in the northwest Russia. In the same context, various ports in the North Atlantic – from Greenland and Iceland to Norwegian Kirkenes – hope to become transhipment hubs for trans-Arctic shipping in the future.

Experts also highlight the role of intra-regional and east-west connections and links between European Arctic towns and communities. These connections are seen as crucial for creating a critical mass to achieve economies of scale, addressing human capital gaps and increasing the potential for endogenous (taking place within the European Arctic itself) entrepreneurship and innovation. Intra-regional connections are important because actors functioning in the same economic, social and physical environment can be better positioned to build the networks necessary for the emergence of a knowledge-based economy. Greenland is in a particularly challenging situation given that air transport and limited marine shipping are the only connections between the island’s main settlements. Transport costs are extremely high both for passengers and goods.

Improving logistics remains one of the key challenges for transport in the European Arctic. Some stakeholders in the region assert that the transport of goods along the east-west axis is not smooth enough to meet the needs of the private sector.

The report “Growth from the North” 4 emphasised the need for the Northern Fennoscandian regions to take advantage of opportunities arising in neighbouring areas. Good transport connections underpin such opportunities. Intra-regional connections could also be important for the development of pan-European Arctic tourism programmes. For instance, the EU-funded project “Visit Arctic Europe”5 identified a lack of viable intra-regional connections as one of the key challenges in creating tourist activities spanning across Northern Fennoscandia. Better intra-regional connections could also support material and waste flows – central to circular economy – across the Nordic regions.

However, initiatives to facilitate Arctic-to-Arctic (east-west) transport connections have so far had limited success, including a number of attempts to establish economically sustainable east-west air links. For instance, the Northern Ostrobothnia, Norrbotten and Troms regions have taken initiative by proposing and providing long-term financing for an “Arctic Airlink” between Oulu, Luleå and Tromsø. So far, this route has had limited popularity. Nonetheless, sparse population makes planning for pan-regional connectivity a major challenge, requiring a joint strategy and long-term efforts.

Apart from transport infrastructure, the development of energy networks is also of great importance. Nowadays, the focus is to a great extent on smart grids, which improve energy efficiency, limit power loss and better integrate small and community energy producers (often at the same time consuming and producing renewable energy) with main national and European grids. In remote areas,

5 http://visitarcticeurope.com/
the capacity to efficiently respond to grid failures is of particular relevance.

While transport and energy infrastructure is seen as bringing benefits to socio-economic development, these investments have impacts on environment and local livelihoods. The Arctic environment can be subject to habitat fragmentation, and implications for biodiversity are likely. Transport infrastructure can affect water bodies important for fisheries or can influence reindeer herding. Impacts of infrastructure need to be considered in the context of cumulative impacts from a variety of activities taking place and planned within a given area. Moreover, improved transport connections can trigger industrial developments, which have further impacts on the environment and livelihoods. Such a long-term effect needs to be taken into account in decision-making. Strategic impact assessments are one of the available governance tools that are applied in this context.

In remote regions, communication technologies provide crucial opportunities for people and services, including education, entertainment, health, administration, as well as social and political life or identity building. While coverage and digital competence appear to be strong in the European Arctic, the costs, quality and capacity of the networks may pose significant limitations in locations such as Greenland. For northern companies, ICT allows access to global niche markets, but digital connectivity may also promote greater integration of local markets. Notably, digital connectivity is increasingly important for transport infrastructure in terms of enabling such developments as smart roads, automated driving and IT solutions in logistics.

The 2016 Joint Communication states that “the northern parts of Finland, Sweden and Norway belong to the trans-European Network for Transport (TEN-T)”, which “facilitates investments in order to optimise network benefits” focusing on “cross-border sections and the removal of bottlenecks, and pushes forward sustainable transport modes.” Nonetheless, in the TEN-T framework the emphasis is on the linkages between key EU socio-economic centres with the of more remote regions taking a second stage. The TEN-T core network in the Northern Fennoscandia includes only the “Bothnian corridor” and the corridor to Narvik in Norway. Luleå, Kemi, Oulu, Narvik and Hammerfest are TEN-T ports.

Various projects within EU-funded cohesion and regional co-operation programmes are directed towards developing transport connections and mitigating the adverse effects of remoteness (through concrete investments, transport subsidies for ports in the Gulf of Bothnia, feasibility studies and support for innovations in transport). EU transport policy also promotes inter-modality.

Stakeholders from the private sector and local administration claim that various EU actions directed at lowering greenhouse gas emissions and air pollution, although beneficial generally and commendable at the European level, may have a proportionally higher impact on transport costs in the northern periphery as compared to other parts of Europe. One example is the directive limiting the sulphur content in marine fuels (Directive 2012/33/EU), as some companies argue that the legislation – adopted due to earlier amendments in international standards within the MARPOL convention – leads to higher transport costs in the Baltic Sea, adversely affecting businesses in the parts of Northern Fennoscandia.
CHALLENGES AND OPPORTUNITIES FOR ACTION

**Mitigation of the insularity of the European Arctic**

The main challenge for transport in the European Arctic remains connecting the area with main population centres and markets. What are the best ways to mitigate the insularity of Europe’s northernmost regions? What could be (in practice) the role of the EU in addressing this challenge?

**Economic sustainability of east-west and intra-regional connections**

While calls for a better east-west transport network in the European Arctic have been voiced for at least two decades, the implementation of projects enhancing such land and air connections have proven difficult. This is particularly the case for the corridors between the Nordic states and regions in northwest Russia. What are the actual needs for Arctic-to-Arctic, east-west connections? What are the opportunities and what are potential sources of financing for these networks?

**Impacts of infrastructure investments on the environment and traditional livelihoods**

Transport infrastructure may also have negative implications for local livelihoods and the environment. A case in point are concerns, especially among Sámi reindeer herders, regarding the impacts of the proposed railway linking Finnish Lapland with the Arctic Ocean coast. In any case, new transport infrastructure needs to be assessed in light of cumulative impacts of numerous developments on the environment and on different land use activities.

**New transport technologies and the greening of transport**

New technologies such as smart roads and automated driving present particular challenges in sparsely populated and remote areas. For instance, winter weather conditions in the European Arctic can be a challenge for the operation of automated vehicles. There is also a need for good network coverage. Long distances and relatively low demand means that establishing infrastructure for electric vehicles could prove more difficult compared with highly urbanised areas elsewhere in Europe. The question is also how logistics in the European Arctic can be done in an ever more environmentally sustainable manner.

**Climate change**

European Arctic transport is not affected by the impacts of melting permafrost or coastal erosion to the same extent seen in other parts of the Arctic. However, changing weather patterns may have implications for Europe’s northernmost regions. Potential impacts include an increased risk of flooding, decreased ability to rely on winter ice and snow roads (of importance for example for forestry and mining) or greater maintenance costs owing to increased weather variability in autumn, winter and spring.
JOINT COMMUNICATION 2016 POLICY RESPONSES

The 2016 Joint Communication identified three priority areas:

- Climate Change and Safeguarding the Arctic Environment;
- Sustainable Development in and around the Arctic;
- International Cooperation on Arctic Issues.

Research, science and innovation play a key role across the EU’s Arctic-relevant policies and actions.

The Joint Communication acknowledges that “compared with other parts of Europe, the European part of the Arctic has a sparse population spread over a wide area and is characterised by a lack of transport links, such as road, rail or east-west flight connections.” It also states that as “the EU does not currently have a complete north-south traffic connection, it could explore the merits of strengthening links to the Arctic through trans-European networks, for example from Finland to Norway, providing access to the Arctic Ocean.” Policy responses include:

- The Investment Plan for Europe is operational, and could potentially be used to support infrastructure projects in the European part of the Arctic, including Greenland. The European Investment Bank (EIB) could [...] help to finance projects to improve transport connections over land, sea and air. The EIB could invest in cross-border projects between Sweden, Finland, the Kingdom of Denmark, Norway and Iceland.
- The preparation of these [infrastructural] projects could also be facilitated by involving the European Investment Advisory Hub and Project Portal.
- Creating an optimal, sustainable mix between the different transport modes - for both long and short distance, passenger and freight traffic - should be done in cooperation between the EU institutions, Member States, third countries and industry. In order to obtain the optimal use of the network, a coordinated financing strategy should also be considered.

EXAMPLES OF RELEVANT EU POLICIES AND ACTIONS

- Trans-European Networks for Transport (TEN-T) 7
  - Core network corridors (none of the nine main corridors extends to the Barents region, but part of the core network extends to the Gulf of Bothnia), the Motorways of the Sea concept, including environmental performance of shipping, alternative clean fuels (sulphur and nitrogen oxides emissions, GHG cuts, energy efficiency, waste, waste water, ballast water management), maritime transport integration/door-to-door logistics, investing in port infrastructure, etc.
  - EU comprehensive network includes a number of connections in the European Arctic
- Trans-European Networks for Energy 8
  - Including, e.g.: Baltic Energy Market Interconnection Plan in electricity 9
- EU transport policy in general promotes limiting dependency of EU transport on oil (including for road vehicles), cutting GHG

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emissions, supporting multi-modal transport, etc.
  - In the EU’s Roadmap to a low-carbon economy by 2020 (COM(2011) 112 final), transport is a key sector to reach that goal.\(^\text{10}\)
  - The EU’s 2010 “Green” vehicles strategy (COM(2010)186)
  - Roadmap to a single European transport area - Towards a competitive and resource-efficient transport system (COM(2011) 144 final)
- Various EU funding mechanisms support infrastructural developments in northern Europe, including cohesion funding and especially the Connecting Europe Facility\(^\text{11}\). Northern Dimension Partnership on Transport and Logistics, neighbourhood programmes such as Kolarctic ENI or interregional programmes (Interreg North, Northern Periphery and Arctic Programme) are sources of support for feasibility studies and transport analyses.
- The European Fund for Strategic Investments was designed to support strategic transport and energy infrastructure across the EU. Other EIB loan facilities may be used for transport. European Investment Advisory Hub\(^\text{12}\) and Project Portal are in operation.
- Horizon 2020 programme with its support for research and innovation on smart, green and integrated transport.
- Various EU environmental regulations may have implications for transport and energy network projects (primarily in Sweden and Finland and to some degree also in EEA countries), including Natura 2000 network (Habitats and Birds directives, 2/43/EEC and 2009/147/EC), Water Framework Directive (Directive 2000/60/EC), Sulphur Directive on sulphur emissions from marine fuels (Directive 2012/33/EU), car emissions standards, etc.
- Since the 1990s, Single European Sky (I and II) legislative packages were implemented to facilitate the smooth operation of European air traffic.


\(^{11}\) https://ec.europa.eu/inea/en/connecting-europe-facility

\(^{12}\) http://eiah.eib.org

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