

## NMC Project 2002-2005

### Strand 4: Maritime Transportation in the Petroleum Sector

Summing up

Activities and Achievements



**Brief summing up report for main activities & achievements in NMC Project - Strand 4**  
**To access the full detail off the main focus, activities, findings and achievements the**  
**different thematic reports should be read. Evaluation of Northern Maritime Corridor**  
**strand 4 project is a separate task not subject to this brief sum up report.**

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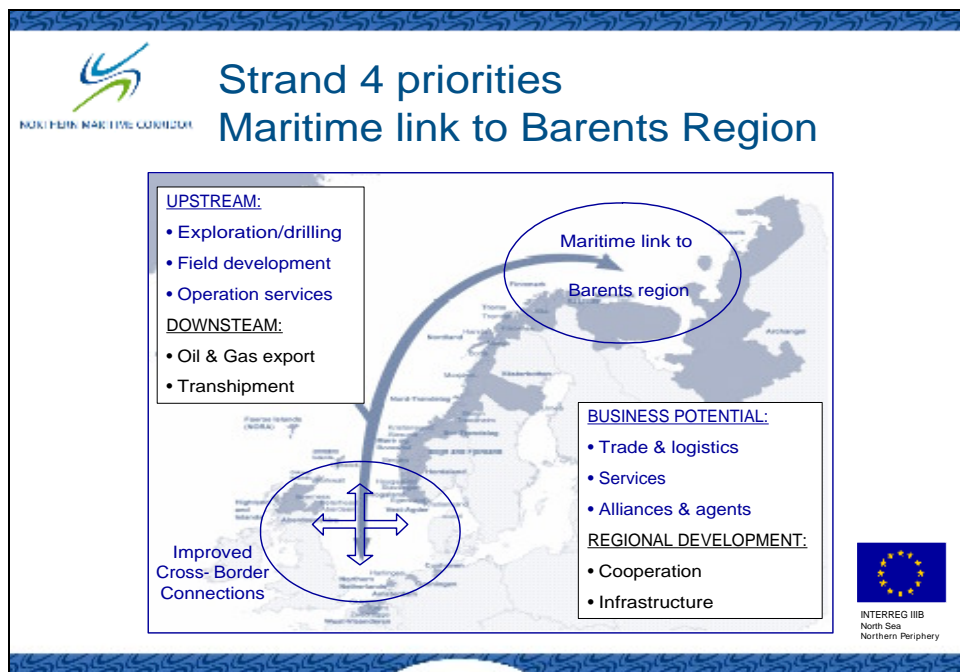
# 1. NMC Project - Strand 4 - 2002-2005<sup>1</sup>

The overall goal in the Northern maritime Corridor Project is the transfer of goods from wheel to keel. Strand 4 is one of 4 thematic strands in the Northern Maritime Corridor Project, and the focus has been on Maritime Transport in the Petroleum Sector.

All activities in strand 4 have been transnational, meaning that the members/partners are not responsible for producing predefined regional input, but rather to give advise/input for the regional level/other Strands. Since all the petroleum related transport in the project area already is transported on ships the experience in the project period is that this strand will not contribute to transferring more goods from road to sea. This fact also made the objective of producing an action plan more natural to leave to strand 2 - strand 4 has kept a good dialog and given input to the new services/routes initiated there.

The priorities in strand 4 have been to work with the requirements related to logistics for supply of components and tools/equipment for Oil & gas developments and operations of these. Also the increased transport of oil & LNG has been a prioritized activity in strand 4. The two priorities of the strand 4 work both have safety, co operational and infrastructural impacts.

The issues addressed in strand 4 have been those of interest for the petroleum industry on a transnational level. The meetings/work-shops involve oil-industry, service companies, logistic and transport companies as well as port administration, regional and national authorities. The focus has been on petroleum related transport in the North Sea area and in the Barents Sea area. The two areas have quite different situations. The North Sea represents a mature petroleum industrial scene, while the Barents Sea bears the potential to be a major petroleum province in the coming years.



<sup>1</sup> For general information on the total Northern Maritime Corridor Project and for detailed information on Strand 4/other Strands see [www.northernmaritimecorridor.no](http://www.northernmaritimecorridor.no).

## 2. Project Organization

The NMC-project is generally organised with a mix of regional and transnational work groups. However for the Petroleum group (strand 4) there has been no regional work group, so all activities is connected to the transnational level. This means that the strand 4 has focused the work on the petroleum sector as a whole and seen it more from a transnational perspective than a regional perspective.

The NMC project is divided into 6 different groups or strands:

1. Project Management
2. Short sea shipping (general cargo)
3. Seafood transport
- 4. Maritime transport in the petroleum sector**
5. Safety at sea
6. Local Maritime clusters

Participants Strand 4

Lead Partner North Sea Region has been Rogaland County Council chaired by Mrs. Anne Solheim and Mr. Gunnar Eiterjord.

Lead Partner Northern Periphery has been the Executive Committee for Northern Norway headed by Mr. Erik Fiva.

The Regional lead partners in the overall NMC Project has been:

### NMC North Sea

Aberdeenshire Council  
Amsterdam Port Authority  
City of Cuxhaven  
Groningen Seaports  
Hordaland County Council  
Møre og Romsdal County Council  
Provincie West-Vlaanderen  
Sogn og Fjordane County Council  
Sør-Trøndelag County Council  
Vest-Agder County Council

### NMC Northern Periphery

Barents Secretariat  
Finnmark County Council  
Highlands and Islands Enterprise  
Kommunförbundet Västerbotten  
Nord-Trøndelag County Council  
Nordland County Council  
North Atlantic Cooperation  
(NORA)  
Troms County Council

The strand managers in Strand 4 have been Mr. Inge Oliverson, Norsesea Ltd. in the North Sea Project and Mr. Bjørn Kavli from Troms County Council in the Northern Periphery Project.

The strand 4 working group members have been: Andreas Möller, Eirik Hansen, Graeme Smith/Nigel Mills, Harald Ynnesdal, Thor Robertsen/Målfrid Baik, Jim Davis, Nina Gudmundseth, Nina Handegård, Reidar Olsen/Audun Gunnarsen, Usevolod Garulin, Vladimir G. Kharlov, Sergej J. Krivolapov, Alexander M. Bakin, Viatshelav Sergeev, Wim Stubbe and Øyvind Langedal.

The members of the group have varied in size and representation during the project period. This is due to the different issues engaging somewhat different companies/authorities. But also the strand managers/members have emphasized a practical approach to the strand

objectives and this have contributed to make the working group dynamic with respect to being open for interested parties.

### **Vision and goal**

The overall Vision for strand 4 is that the NMC Project shall:

- *support the connection of coastal areas*
- *enhance regional development in the North Sea/Northern Periphery Regions*
- *by means of efficient, safe and sustainable transportation*

At the core of the Project has been to provide an arena for key actors that can take and/or influence the decisions in order to implement competitive maritime transport solutions. Key factors in the project execution have been business potentials, regional development and networking activities.

## **3. Three key factors in focus for strand 4 (including strand 2 and 5 relations)**

The chief occupation in strand 4 work is of course petroleum related maritime transport.

Strand 4 has been pursuing two main priorities:

- Improved cross border connections in the North Sea
- Maritime links to the Barents region

The North Sea area can be characterized by being a matured petroleum province and that the forecast of future petroleum production is dramatically reducing. Although, improved technology, improved frame conditions and organisational consolidations can contribute to a less dramatic reduction and that the need for improved short sea shipping in the area is still an issue. Reduced cost in feeder transport is one out of many cost components that may contribute to cost reduction and new investments.

In the Northern periphery/The Barents Sea region the expected findings in the northern parts of the Norwegian Sea/Barents Sea, and the proven petroleum reserves in the Barents Sea leads to anticipations that the petroleum sector is a major coming business sector.

The role of strand 4 in the broad NMC context has been to open the issues related to safety and potential new routes/short shipping services in connection with the petroleum sector both in North Sea area and the Northern/Barents Sea area.

Strand 4 has arranged work-shops and seminars that have gathered a lot of representatives for public authorities, business representatives and key actors from the petroleum sector. The arrangements have been taking place in several countries within the project area, including several arrangements in Russia (Archangelsk, Murmansk, and Moscow) with a positive feedback also from Russian participants.

### ***Business to Business potential***

Strand 4 has put emphasis on establishing an arena for business to business meetings. The business meetings have taken place in connection with International NMC Conferences,

work-shops, fact finding mission etc. There have also been facilitated specific visits offering the key players an arena solely focused on business to business talks.

In general the meetings have been between transportation infrastructure providers, e.g. ports, key actors in the petroleum industry requiring transport now or in the future, and shipping agencies. There have been both closed and open sessions and the main objective has been to contribute to open doors for business interests.

The new developments will require new infrastructure and services. There will be need for support during both development and operational phases.

Considerable business potential is expected to exist within

Trade & logistics

Services

Alliances & agents

The general view within the participants in the strand 4 is that the business to business activities have been a success in the sense that face to face relations and information on future business potentials is a mutual advantage. The interest has been good from the business sector although the northern periphery naturally is scarcely populated with firms in the petroleum sector. With the substantial perspectives in a future petroleum sector in the northern areas it is even more important for the business sector to engage in business relations and developments of new service.

## ***Regional development***

### *Cooperation – Coordination – Efficiency*

The need for the above elements in regional developments will be found in both the North Sea region and in the Barents Sea region. For the existing petroleum industrial cluster in the North Sea the main effort will be on secure the economical situation in the cluster and in the regions where the petroleum sector has its major impact on the society as a whole.

In the Barents region the situation is that the general character of the region (scarcely populated, rich on natural resources, long distances etc) together with the complex challenges connected to exploring and developing some of the offshore petroleum findings put more emphasis on the need and gain from cooperation and coordination transnational on both government and business level. Simply to secure efficiency but also to contribute to a positive development in the regions involved on a broad level.

Experience from the Snøhvit LNG plant show that there is a substantial possible spin-off effects for the local and regional level coming from establishing and constructing a huge plant in northern Norway. Trying to produce documentation on future effect from Snøhvit proved difficult as a part of the project planning phase. In the reality the regional and local business structure has been more able to compete than estimated, particularly for on site construction jobs.

For the new development in the Barents Sea region one can expect similar results if the suitable measures are made on a local, regional and transnational level.

Cross border synergies/international cooperation issues:

- National and international development – e.g. Snøhvit LNG plant - huge regional off spin
- Infrastructure efficiency- develop the necessary routes/hubs/total transportation system
- Environmental regime
- Safety & surveillance

## **Networking**

During the NMC Project period, with strand 4 arrangements in several cities and countries, a bundle of stake holders /government bodies have been given opportunity to engage in networking arenas. A general impression is that both the Russian and the North Sea industrial clusters and governments did grasp this opportunity to investigate into and establish relations for mutual gain. This activity has been given much attention from the parties and there has been a noticeable interest in the strand 4 as a networking arena.

Networking activity between different industrial clusters/key stake, and/or also between government authorities in different countries and between authorities and business interests

The focus on business to business activities, regional development and networking activities all together creates an arena for business and regional/international relations that potentially will lay the ground for business, cooperation and coordination efficiency.

## **4. Activities and achievements**

The main work modes have been:

- **Work-shops and work group meetings** mainly taking place during International NMC Conferences:
  - NMC Conference in Kirkenes 24-25 April 2003
  - NMC Intertrade Event in Murmansk and Arkangelsk 22-25 March 2004
  - NMC Conference in Reykjavik 21 June 2004
  - NMC Barents Sea Scenario Workshop in Stavanger August 2004
  - NMC Conference Shetland 23 Nov 2004
  - NMC Mission to Archangelsk 25-26 April 2005
  - NMC Barents Seminar 9-10 June 2005
- **Fact finding mission**
  - Moscow October 2003
- **Consultancy and reports** (see <http://www.northernmaritimecorridor.no>)
  - Cross Border Strategy Workshop
  - Description of Base-to-base Transport
  - Description of Petroleum Related Transport in the Barents Sea
  - Barents Sea Scenarios, 2004
  - Russian Mapping Session Day to day report.
  - Russian Mapping Session Objectives and Results
  - The Official Petroleum Strategy of Russia for the period till 2020

- **Promoting NMC**

The Strand Manager in the North Sea and Northern periphery have promoted NMC and strand 4 activities on several transport and oil related international conferences and seminars in particular in Russia, UK and Norway.

## **5. Main topics in the reports**

All the reports are found on the [www.northernmaritimecorridor.no](http://www.northernmaritimecorridor.no) link

### ***Cross Border Strategy Workshop, 2004:***

The North Sea is a mature oil province and activity level is decreasing. The economic situation in the petroleum industry is in focus. However in the tail end of the production there can be new opportunities. In some cases the extended production becomes more than the original forecast and that leads to the question: Are the North Sea in the tail end or are we at the beginning of a new era? More important is the question: Can we influence the direction of the development and what stimuli are in such case necessary?

Some conclusions from the work shop session are:

- In short sea shipping (SSS) economy of scale is important
- There is a tremendous growth in container traffic, so the SSS will improve anyway create an opportunity for competitive sea transport for the oil industry
- The challenge is to reduce the costs in both ends, i.e. efficient intermodality
- Consolidation of shipping services will continue
- The SSS must improve its cost base and increase the frequency; daily service important for modal shift
- The oil industry, seeking all means of costs reductions, should look into optimisation supply chain in cooperation with vendors
- The PILOT/KONKRAFT should reactivate the “Supply Chain Group”

### ***Description of Base-to-base Transport, 2003***

Material and equipments for offshore installations are often transported between two supply bases before and after transportation to/from the field. The transportation between bases is to a large extent done by truck. A number of studies and initiatives have been done to transfer these goods from wheel to keel.

The best know of these studies, due to the number of participating companies and the duration of the studies are.

- Sea based Base to Base (Sjøverts Base – Base 1998 – 1999)
- Enisys II (Unitized cargo –cassetts, containers, trailer units, mafias 1999-2001)

Conclusions and Recommendations for further Work

1. Seabased solutions require significant tonnages – more than 500.000 tons is required.
2. Alternative solutions to enable seabased base to base transport
  - a. By reorganizing the whole supply side so that the common seabased base-to-base solution also takes all break bulk volumes

- b. Cooperation with other cargo owners to enable cargo pooling and hence bigger volumes through the systems.
  - c. Analyses of alternative cargo flow to identify the potentials and verifications of the total socio-economic and national economic value of such new solutions
  - d. Convince both oil companies and public opinion that seabased solution will be critical for reaching our Kyoto targets.
  - e. Usage of the results from b, c and d to convince the Norwegian political system that frequent and fast seabased solutions along the Norwegian West Coast would be critical to ensure a sustainable regional development. A wide definition of The Norwegian West Coast is Lista (Southern point of Norway) to Nordkapp (Northern point of Norway)
3. Political decisions which will be of critical importance to enable sea based base to base solutions
- a. Equal taxation treatment concerning infrastructure cost, fees and dues. Which would put an end to the existing where sea transport pays 80 – 200 %, trucks 40% and rail 15 % as shown in figure 16.
  - b. The Norwegian political system should also look to Holland and their models for developing the barge traffic by securing financial funding for testing out and starting up new barge based solutions, which contributes to transferring goods from road to inland waterways and sea.

### ***Description of Petroleum Related Transport in the Barents Sea, 2003***

The report covers the petroleum related transport of the Barents Sea and give an descriptive account of the activity. In Norway, marine transportation of petroleum products is marginal due to production on Snøhvit LNG plan starting up not until 2006. Russian shipments of oil are speeding up, both in terms of frequency and in volume. In the report, the potential for the offshore oilfields, the onshore developments and prospects for furthering port terminal infrastructures allow for analytic reasoning around the level of future petroleum related transport activity. The reasoning further provides a background for trends and focal points, set to inform the next stage of the Northern Maritime corridor project:

- Cooperation – on a national and international level involving business and public authorities. This is of great importance in order to develop successful lines of communication and to create a joint understanding of the vitality of combining forces. The international dimensions is challenging - How can one actively promote both local comparative advantages to attract investment and trade from national and international companies? Close collaboration and active cooperation within the different international petroleum clusters/stake holders/public authorities should therefore be focused on, intensified and expanded upon.
- Port infrastructure – identify the port infrastructures and the relevant service available and on that basis unveil the need for further port development in the overall logistic service in order to cope with the challenges lying ahead. This is necessary to enhance maritime transport both in construction and operational phase
- Terminal/transportation system from the producing fields in the Barents Sea. The location of the terminal is of great importance. The outcome will guide much of the overall activity of the sea transport and thereby have a significant influence on the surveillance and management system for sea transport in order to protect the environment.

- Norway-Russia business to business relations - The petroleum resources in the Barents Sea are unquestionably a vital part of the international business establishments in the area. Russian companies establishing themselves in Norway and vice versa are regarded as having a great potential for success in the times ahead. These establishments are perhaps some of the best kind of cooperative endeavours that the NMC can facilitate. Especially in terms of the service industry and the supply sector.
- Disputed Area - A close watch of the ongoing dialogue between Norway and Russia is needed. A solution to the border dispute contains unforeseeable effects, both in terms of the challenges and opportunities for both countries. One of the opportunities to the NMC project is to find out how to work in concert with the cooperative dialogue between the Norwegian and Russian governments. Especially with respect to the common rules and regulations for the disputed area also to include the major elements within the demands for supply, service, infrastructure, surveillance and waste management, i.e. all of the focal points.

### ***Russian Mapping Session Day to day report., 2003***

This report covers the Day to day activity from the Russian mapping session taking place in Moscow in October 2003. This includes list of participants, speaks made, key notes, discussions, meeting with stakeholders, and summing up from the Strand 4 delegates.

### ***Russian Mapping Session Objectives and Results, 2003***

This report cover the main objectives and results from the Strand 4 Russian mapping session taking place in Moscow in October 2003.

The mapping session had 3 main objectives:

- Map and describe the current situation – outline scenarios.
- Identify stakeholders in the logistic chain – oil companies, industry, public authorities
- Assess potentials for regional co-operation and maritime transport

### ***Barents Sea Scenarios, 2004***

The NMC-project initiated the scenario work summed up in this essay. The main goal of the scenarios is to bring forward some pictures of what activities and what scale, with consequences on NMC-issues like transportation and regional development, that the petroleum sector in the Barents Sea could possible represent in the near future. The scenarios are mainly documented in a power point presentation available on the NMC internet page, [www.northernmaritimecorridor.no](http://www.northernmaritimecorridor.no).

Before elaborating on the scenarios some basic assumptions are made on the following topics:

- Present situation
- Geopolitical Market window for Crude Oil
- Market Window for LNG
- Russia – Norway relations
- Preconditions – cooperation and competition

The following scenarios are used and developed in the essay in order to describe possible future situations, and by doing that identifying some implications relevant for Strand 4 – Petroleum Transport in the NMC Area. The production volumes that are given in the report

are focused on LNG since that product constitutes a main resource factor in the different scenarios. The investment amounts are estimates made of the consultant group based on known numbers of investments in LNG – facilities connected to Snøhvit.

I. Scenario Norway - Snøhvit Expansion (limited discoveries made)

This leads to:

Snøhvit – a 2nd LNG trains built, LNG production approx. 10-12 mrd m<sup>3</sup>

Gas power plant built

Construction period will last until 2012-15 and operation period approx. Until 2040-50.

II. Scenario Norway - Finnmark East (large discoveries made)

This leads to:

Snøhvit/ Melkøya in operation to full capacity (LNG only)

LNG production approx. 10-20 mrd m<sup>3</sup>

New LNG/ GTL-plant built in the Varanger fjord

Crude Oil terminal and processing facilities established

III. Scenario North West Russian - Base Case

In this scenario we will see:

Major increase of export capacity for crude oil

Shuttle transport to floating and possible onshore terminals

A Murmansk Pipeline?

IV. Scenario North West Russian – Offshore (realization of offshore projects)

Pechora Sea adjacent to Prirazlomnoye field

Kara Sea / Yamal

Shtokman field, depends on solving the

Technological Challenges

Commercial Challenges

Timing- wWill the resources be available in time for the market window gap?

Various fields in the Barents Sea

V. Scenario Russian/Norwegian Barents Sea (agreement on the Disputed Area)

This leads to:

Large scale activities in the Barents Sea

Russian LNG plant in the Pechenga Fjord

Norwegian LNG plant in the Varanger Fjord

The scenarios are discussed further in the essay.

### ***The Official Petroleum Strategy of Russia for the period till 2020***

The purpose of this report was to sum up the official strategy of Russia for development of oil and gas sector in North-West Russia in the period till 2020. The main sources of information used to prepare the report were the Energy Strategy of Russia till 2020, the Program of Licensing and Implementation of the Geological Study, Exploration and Development of the Hydrocarbon Resources on the Continental Shelf of the Northern and Far-Eastern Seas in

2002-2005 (approved in 2002), reports on elaboration of the State Strategy for the Study and Development of the Russian Continental Shelf Oil and Gas Potential, as well as meetings with the relevant authorities and oil and gas companies.

The report gives an overview of:

The authorities and bodies that manage Russian Petroleum Strategy

The Energy Strategy of Russia-2003: main guidelines:

- The hydrocarbon resource base - status

- Oil output

- Oil refining industry

- Gas output

- External Energy Policy

- Transport infrastructure of oil complex

North West Russia

- Strategy

- Fields onshore and offshore

Legislation

- Production Sharing Agreement

- Licensing

Investment – financing

Environmental aspects

## **6. Follow up work from strand 4**

The strand 4 work has functioned as an arena for continuous contact and dialog between authorities from different NMC countries, petroleum industry stake holders and also between the two groups. All in the interest of petroleum related maritime transport.

The important follow up is viewed to be more of the same recipe. To continue to engage in international business to business meetings will strengthen the possibility both to realize a cost effective transportation system in the North Sea region, and to cooperate in developing a cost-efficient, safe and environmentally good transport and logistic system for the Barents Sea region. This activity could be valuable in the future business developments.

Regional development - the major focus onward should be put on maintaining the good relations build up during the NMC project period. The relations can work as a tool for exchanging the experience from mature petroleum industry regions with the business potential in the less mature Barents Sea region. The Snøhvit LNG plant experience should inspire for further goal oriented efforts on securing a regional/local benefit from the petroleum industry.

The need for competitive transport infrastructure will continue both in the North Sea region and in the Barents Sea region, and also the need for continuous development of competence on different industrial areas to. This development should be closely followed from the authorities and the business sector in the regions who take an interest in the petroleum industry and the maritime transport related to it.