Round table 3:
"Environmental challenges in Arctic"

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General introduction

Troels Jacobsen, IRIS. Information on Petromaks, an oil technology research programme under Norwegian Research Council. Co-financing with industry.
A research programme announced with deadline 12 October 2006. Including Russian scientific institutes and other pan arctic institutes.
A Postdoc programme for Russian students 100 % financed by Petromaks is possible.

Introductory task

Mark Reeds, SINTEF. Presentation of Oil in ice, Joint Industry Programme (JIP) in the Barents Sea.
Missing: 1) Development of decision support tools

- Numerical simulation (Integrate knowledge on arctic systems, consistent base for decision making)
- Icing on structures
- Oil spill Response plans. Removal, recovery efficiencies. Ecological Risks.
- Nowcast – Forecasts during spill response actions
    - Improves possibilities to optimize respons, risk control

2) Biological effects
3) Environmental technologies

4) Bioremediation

Shaw Bamber, IRIS. Environmental technology
What to measure?

- Whole organisms
- Real time physical processes (hearth beats, IRIS, Ecological Centre (puls periods), Valve gaps mesurements.
- Biosensors

Key criteria for success
Use of existing platforms, add a new work package to SINTEF JIP?
Cross fertilization of technology
telemetri
deployment
Standardisation
The basis: Reliable and meaningful biological collection methodology

Kai Sørensen, NIVA. New observation technologies for the Arctic environment
Integrate different kind of observation platforms research and commercial ships, buoys, and different sensors.
Integrate existing monitoring with modern observation technology
Real time
Specific sensors: Fluorometric detection. PAHs
SPMD . semi permeable membranes for observing pollutants.

Oleg Korneev, Sevmorgeo. Global system of observations
Suggest a complex buoy system with a number of sensors and instruments for observing the abiotic environment.
+ seismic observations for earth quakes.
Have already a developed system to deploy?

Anatoly Shavikin, MMBI. Ecological criteria and ecological control of the ecosystem state in the areas of impact for the Shtockman area.
Stages of economic activity and planning.

Engineering-Ecological Investigations

- To select quantitative estimations criteria for ecological estimations og ecosystems components
- to select integrated ecological criteria for impact of oil on ecosystem
- establish database on environmental data for the area impacted.
- evaluate and analyse the data
- annual monitoring
- develop a model of the ecosystem of the impacted area
- develop proposals for elimation of negative impacts

Suggest studying marine birds, by use of airborne platforms.

Stein Sandven NERSC and Vladimir Volkov, NIERSC.
Observations and modeling the Arctic Environment

- hydrographic data, how good datasets?
- other issues: sea ice, ice berg, sea surface temp, wind and chlorophyll, data assimilation and ice ocean forecasting
- oil spill monitoring and modeling
- long range pollution
- risk assessments
- proposal for monitoring system

Motivation: lack of observations in north

Some services connected to meteorology is in operation, and ice edge position ,

Ice ocean modeling, development and validation. Need in situ data and remote sensing
High resolution of wind observations. Not only met, also role of wind in ice drift and pollution.
Proposal for ice ocean monitoring and forecasting services.

Discussions:
Steinar Njaa, NPD
Keep in mind ongoing work Norwegian- Russian environmental Commission, and The Energy Dialog, environmental group.

Within environmental group is developed a list of projects. Njaa suggests to use the name Eco Barents, and adopt a list of projects

Troels:
Challenges

- background information
- Operational challenges Petromaks

Way forward:
Infrastructure / platforms (field experiments, network of vessels, etc)

Topics
- models
- environmental monitoring technology
- remote sensing techn
- oil spill technology
- integrate data in environmental management
- select environmental variables and standardisising

Tore Aunaas
Suggest a pilot project and a task group (Nor-Rus) to develop a proposal in dialog with Petromaks and the industry.

Sergej, ecological safety
supports Shaw Bamber: start with health indicator approach

Lionel Camus
In developing new projects, make sure to take notice of ongoing studies.
owned

Summing up
Get a more precise insight about Petromaks priorities: Link to programme is http://www.forskningsradet.no but a programme description in English is attached to this document.

A tentative way forward would be test the possibilities to get an umbrella for projects like the ECO-BAR financed by NRC.
In the meantime each participant are invited to present ideas they think can be relevant for the Petromaks programme and discuss between potential partners.
How we relate to maximize the synergy with the SINTEF JIP must be addressed with SINTEF directly.

A meeting with the industry to match a financing for the Russian participation must be done before the application deadline.
A workshop at NDP at the end of September was mentioned.

Copy of all the presentation are attached