Futures of Arctic Marine Transportation 2030

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Prediction is very difficult, especially of the future.

— Niels Bohr
Futures for the Arctic

- Based on Arctic Council’s Arctic Marine Shipping Assessment (AMSA) Workshop
- Analyzed workshop notes for Key Factors
- Researched possible Future Projections
- Included two Wild Cards
- Robustness Analysis (see Poster)
Four Scenarios

• Status Quo, slow shift in energy use
  – Robust (Consistent and Plausible)

• Rapid development, no conflict
  – Consistent, not very plausible

• No climate change, technology driven development
  – Plausible

• High tension in the Arctic region
  – Average scores
Recurring Patterns

- Negative socioeconomic impact of climate change (3/4)
- Unpredictably oscillating oil price (3/4)
- Japan and China as players in the Arctic (3/4)
- Interference of economic development with indigenous life style (4/4)
- Fossil fuels as main energy source (3/4)
Uncertain Factors

- Legal Framework
  - International (Dis-) Agreement on use of Arctic Region
  - Regulation
  - Enforcement
  - Disaster response
- Intensity of climate change
- Global Economic Growth
- Safety of other shipping routes
Take-home Message

• Stakeholders can organize and influence
  – Policy
  – Science and Technology
• Cooperate with other stakeholders
• Read the scenarios and make your own at http://seaice.scenlab.com
Thank you!

- Lawson W. Brigham (US Arctic Research Commission)
- Martin Truffer, W. F. Weeks, Karlheinz Steinmüller
- Erik Gauger, evolve:IT