

ICE-ARC project and Arctic Basecamp in Davos

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ICE-ARC project



Key facts

- 22 institutions participating
- 11 European Union countries and Russia
- Project budget: ~€12 million
- Project duration: 4 years (2014 - 2017)



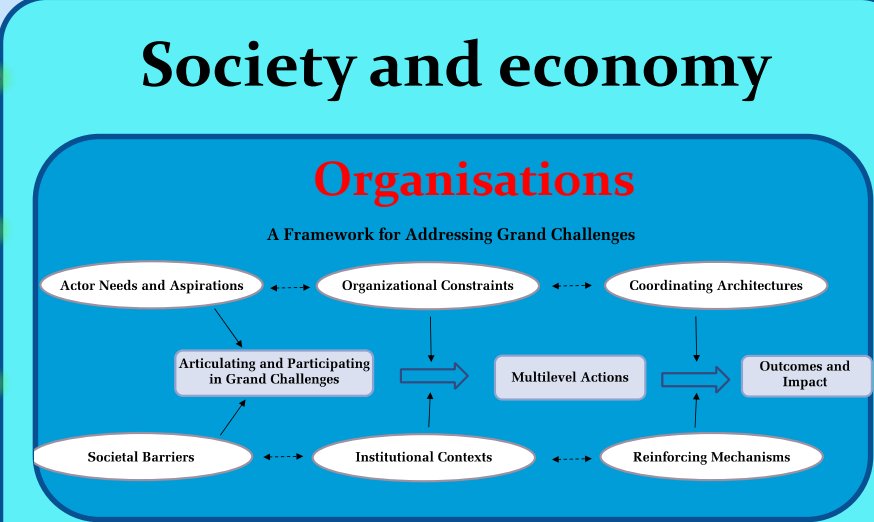
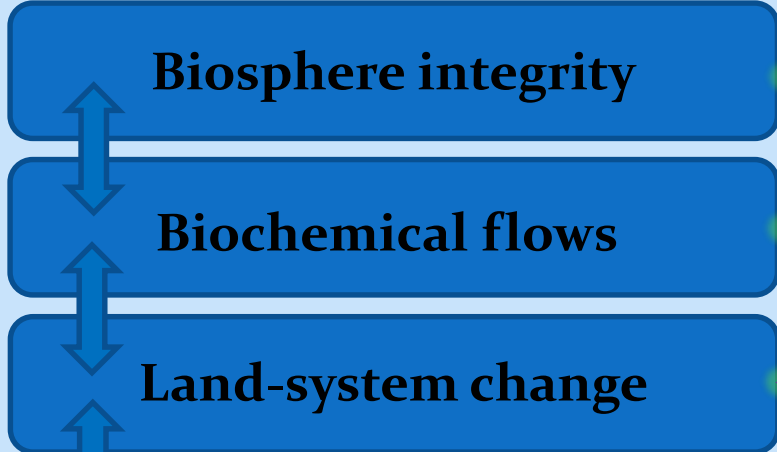
Belgium | Denmark | France | Germany | Greenland | Italy | The Netherlands | Norway | Russia | Spain | UK

ICE-ARC: Scope of the Project

- ❖ **Ice:** Improving observations in the Arctic
- ❖ **Climate:** Improving sea ice and ecosystems modelling in the Arctic
- ❖ **Economics:** Estimating global and regional economic impacts of Arctic change (*Pentland Centre lead*)
- ❖ **Society:** Understanding how Arctic change affects human communities in North-West Greenland
- ❖ **Impact:** Using cutting-edge science to inform businesses and policy-makers

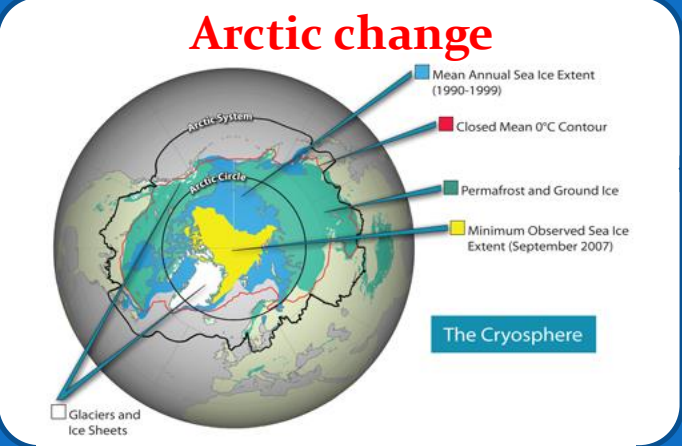


Earth's system constraints



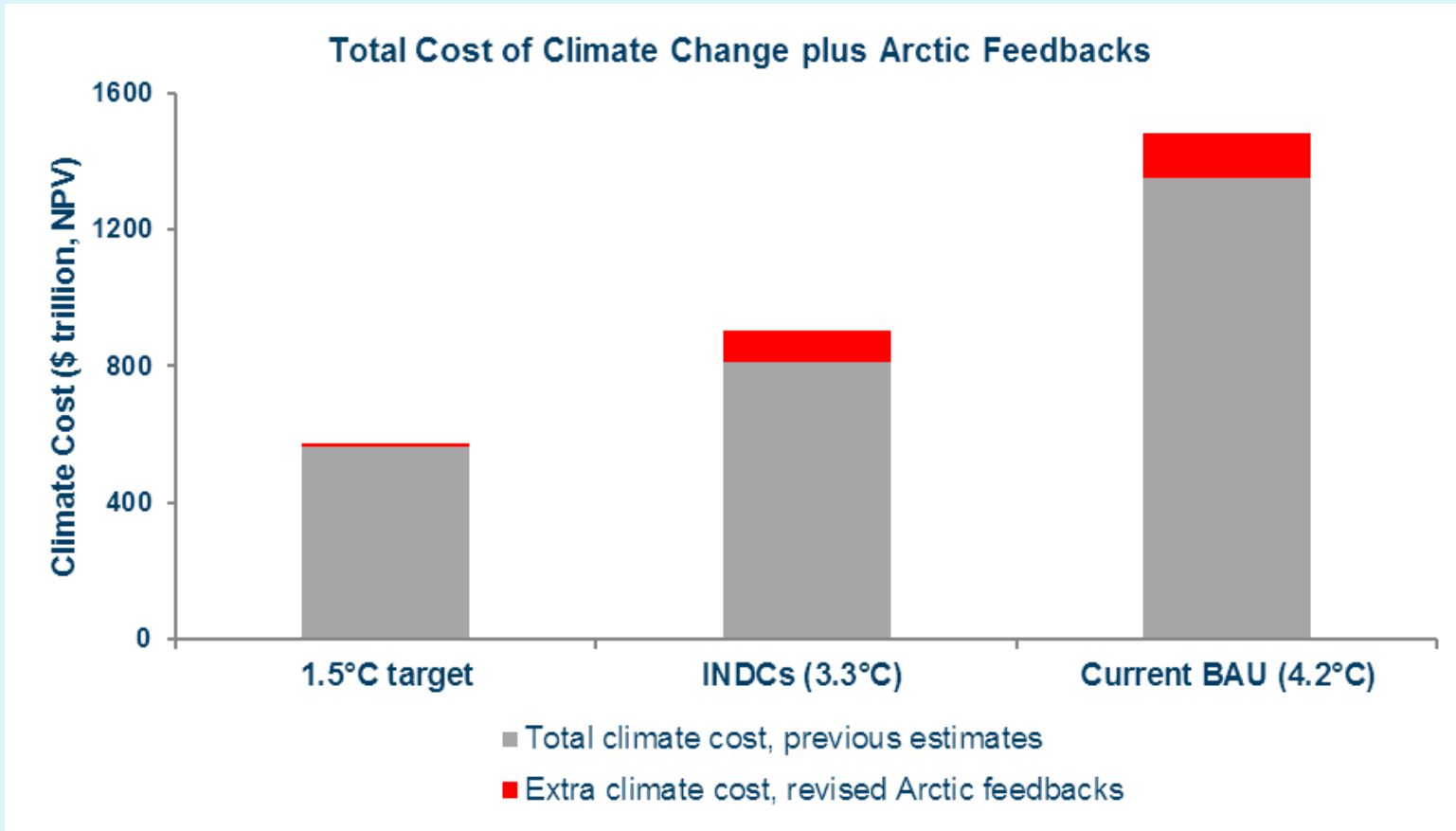
Arctic change as a *barometer* of climate risks

Arctic feedbacks: sea ice, permafrost, ice sheets



Source: Whiteman and Yumashev, Journal of Management Studies, forthcoming

Focus: Additional climate cost of Arctic feedbacks

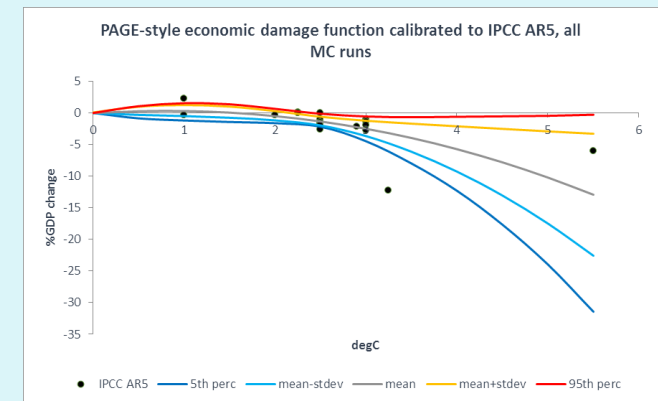
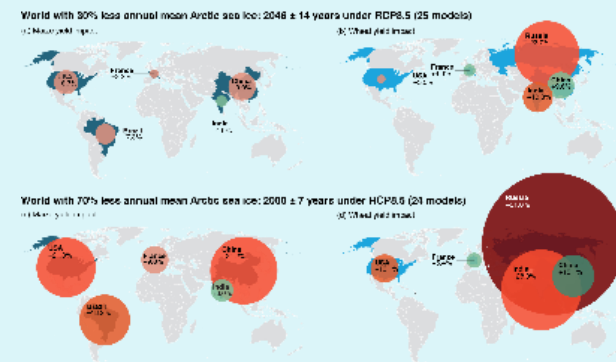
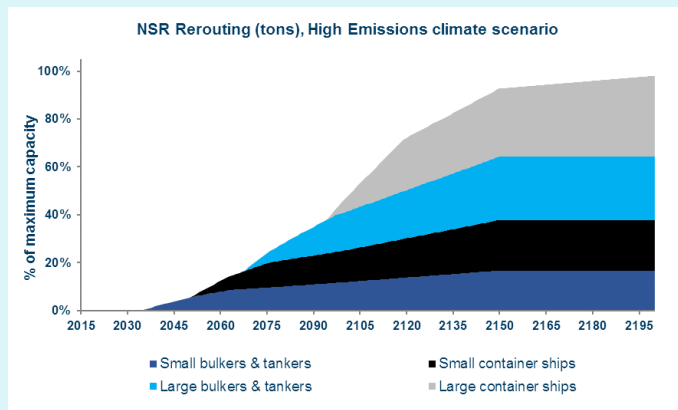


- Source: **PAGE-ICE** model (PAGE used in Stern Review)
- Increase in climate cost due to Arctic feedbacks: around **10%** (\$130 trillion) for Current BaU projections
- **<2%** (\$10 trillion) for 1.5°C target scenario

Source: Yumashev et al., “Climate policy implications of nonlinear decline of Arctic land permafrost and sea ice”, under formal peer review at Nature Communications

Selected other storylines

- ❑ Climatic implications and economic benefits of growing transit shipping along the Northern Sea Route (Yumashev et al., 2017)
- ❑ Correlations between sea ice decline and global crop yields' losses
- ❑ Economic consequences of climate change in Alaska



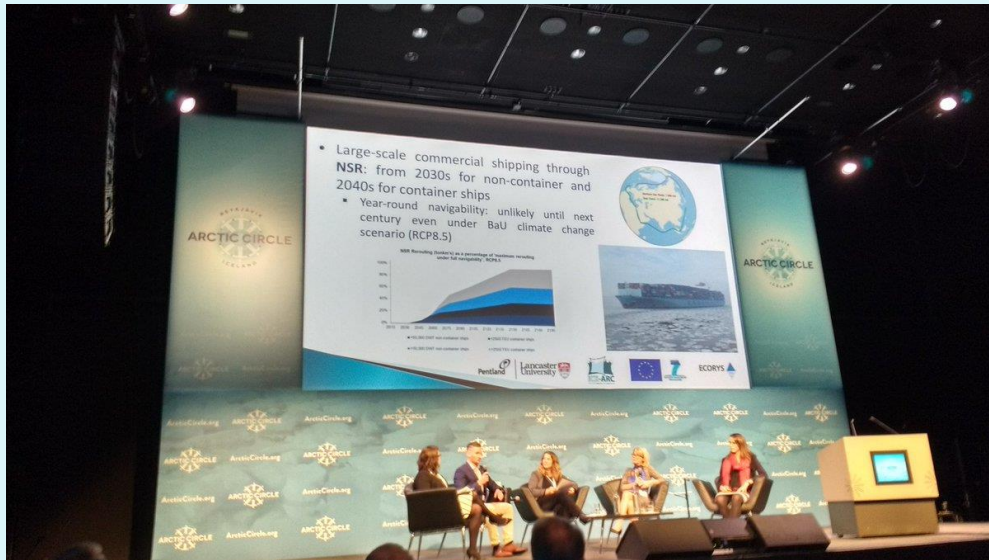
Innovative Science Outreach Methods



Extras: 3 Industry, Policy & Science roundtable events; 7 blogs on the Arctic for the WEF Global Agenda Council, BBC Breakfast interview, Arctic Club Dinner...



Arctic Circle Keynote, Plenary, Roundtable and Breakout events



Arctic Basecamp in Davos



- Side event at the WEF Annual Meeting in Davos (17-20 January 2017)
- A Basecamp format to showcase the latest advances in Arctic science, featuring prominent scientists, political leaders and business leaders



Arctic Basecamp in Davos



- Keynotes: **Al Gore** and **Christiana Figueres**
- Business: Peter Bakker, Tero Vauraste, Peter White and others
- Science: Konrad Steffen, Johan Rockström, Julienne Stroeve, Jan-Gunnar Winther and others
- Policy: Paavo Lipponen, Stefan Flückiger, Vidar Helgesen, Erik Solheim, David Miller



Beyond ICE-ARC...

Davos 2018 (Jan)

G-7 (June)

Climate Action Summit (Sept)

COP (Nov/Dec)