



Institute for Advanced Sustainability Studies
IASS in Potsdam Germany

Developing a transdisciplinary project on Arctic transformations and global interactions

The IASS SMART Project: Sustainable Modes of Arctic
Resource-driven Transformations and Their Global
Interactions

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SMART Project Framing



Examine interdependence of changes in Arctic and non-Arctic regions

- Transformations in the Arctic
 - enabled by **climate change**,
 - driven by **resource extraction** and utilization, which are
 - fostered by global **consumption patterns**, and
 - in turn producing substantial **local and global impacts**
- Focus initially on
 - Barents and Kara sea regions,
 - Norwegian-German-Russian interactions, and
 - Fossil fuel extraction

Initial Objectives Of SMART



- Investigate the **scope and extent of co-evolution of environment**, economics, politics, and society between the Arctic and non-Arctic regions.
- Develop a **transdisciplinary dialogue process** engaging Arctic and non-Arctic stakeholder communities and raising awareness for interactions and mutual feedbacks.
- Illuminate **policy and legal implications**, particular for the European Union, resulting from the research done by SMART
- Identification of relevant **regional and multilateral institutions and regimes**
- Detection of **governance gaps and weaknesses**

Challenges of Transdisciplinarity



Stakeholder engagement throughout the project:

- identify stakeholder groups - those who are affected and those who influence the central issue(s)
- contact key stakeholders of each group - at multiple organizational levels, sectors, and communities
- engage stakeholders to contribute in
 - framing the research
 - collecting data
 - interpreting findings
 - communicating and using results

Integrate multiple disciplines with shared problem focus

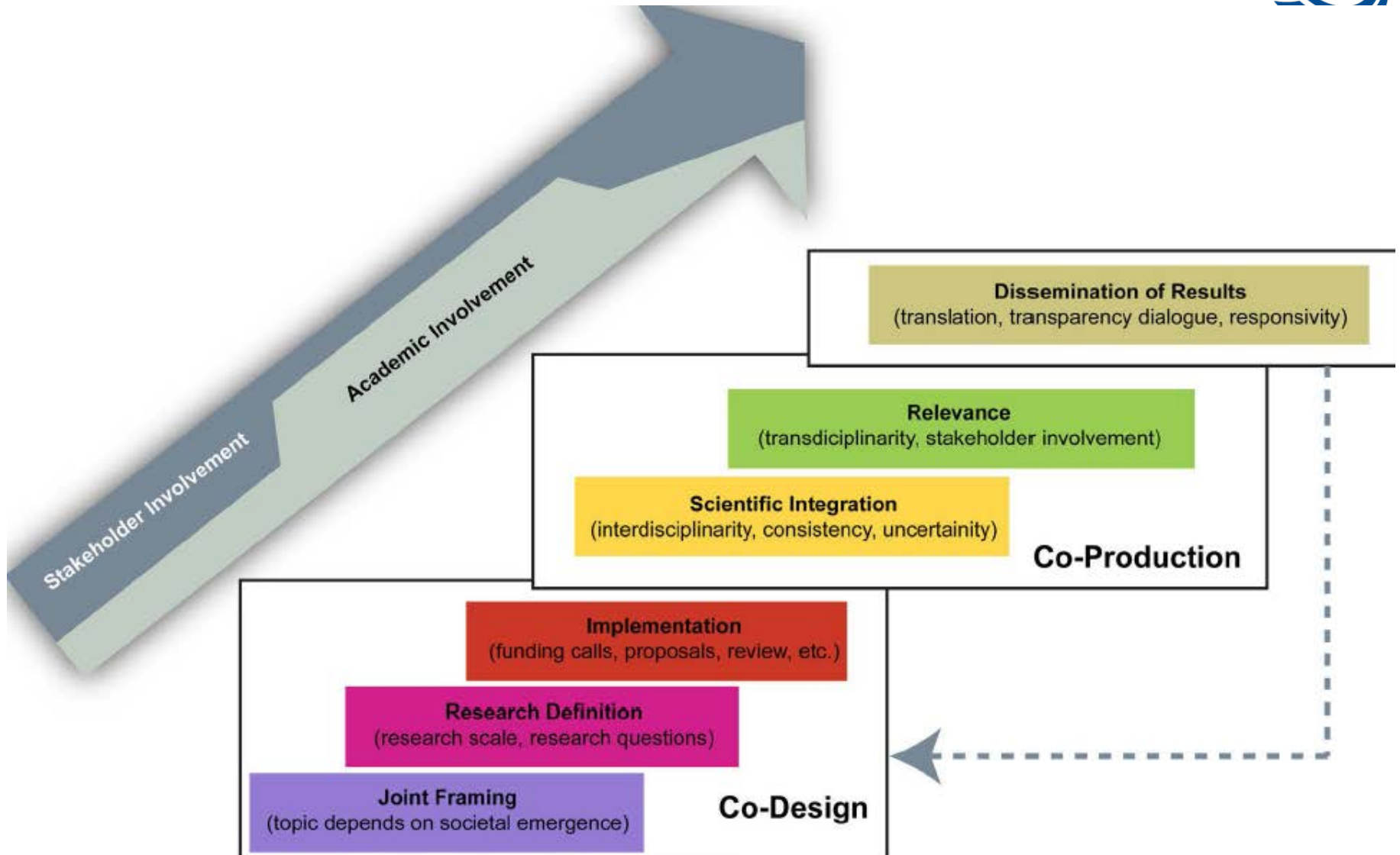
Develop shared language across domain-specific languages

IASS SMART Project Members



1. Jeff Ardron - marine ecology and policy
2. Ilan Chabay - transdisciplinary and integrative research processes
3. Inger Dyrnes - stakeholder engagement, Norwegian focus
4. Armin Haas - environmental economics, EuRuCAS contact
5. Kate Houghton - international law, particularly maritime
6. Kathrin Keil - political science, strong Arctic expertise
7. Axel Lauer - natural science, modeling of SLCPs, global climate change
8. Birgit Lode - international law, particularly of the atmosphere
9. Achim Maas - political science, SIWA cluster coordinator
10. Andrea Mues - natural science modeling of SLCPs
11. Harald Stelzer - environmental philosophy and ethics
12. Sebastian Unger - oceans governance, CGS cluster coordinator
13. Vilena Vilayeva - stakeholder engagement, Russian focus, EuRuCAS
14. Thilo Wiertz - social, political geography

Future Earth Transdisciplinarity





KLSC Knowledge, Learning
and Societal Change

**A core alliance (2012-2022) of the
International Human Dimensions
Programme in Global Environmental
Change - IHDP**

Collaborations



Partner with EuRuCAS European Commission Arctic network

Collaborate with key institutions, for example:

- NIERSC and Nansen Centers
- Alfred Wegener Institute, Bremerhaven and Potsdam
- Russian, Norwegian, German government ministries
- Institute of World Economy and International Relations, Russian Academies of Sciences, Moscow
- Research Institute for Humanity and Nature, Kyoto

Knowledge, Models, Narratives



1. Open human information and knowledge systems (HIKS) are built upon inclusive **co-production of contextually-specific and societally-useful knowledge** from diverse knowledge holders
2. **Ethical and cultural values are part of HIKS** and influence attitudes and practices of sustainability or unsustainability
3. **Scaling up occurs by adding nodes and including their functional attributes** to expand networks of discrete, idiosyncratic communities of culture and practice
4. **Models and the scenarios developed with them are essential analytical tools** for making decisions under complexity, uncertainty, and ambiguity
5. **Narratives are crucial affective and communicative complements** to analytical use of knowledge and models
6. **Co-production of knowledge systems enhances mutual learning and trust** among diverse stakeholders for more effective decision making at multiple levels of society