



International Institute for Applied Systems Analysis  
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science for global insight

# ARCTIC FUTURES INITIATIVE (AFI)

## Purpose, Goals and Tools

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International Scientific Cooperation for Global Sustainability  
Arctic Changes, Arctic Visions: Informing Policies for the Arctic Future We Want

Thursday, 11 February 2016

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2 Arctic Futures Initiative, IIASA, Laxenburg AUSTRIA



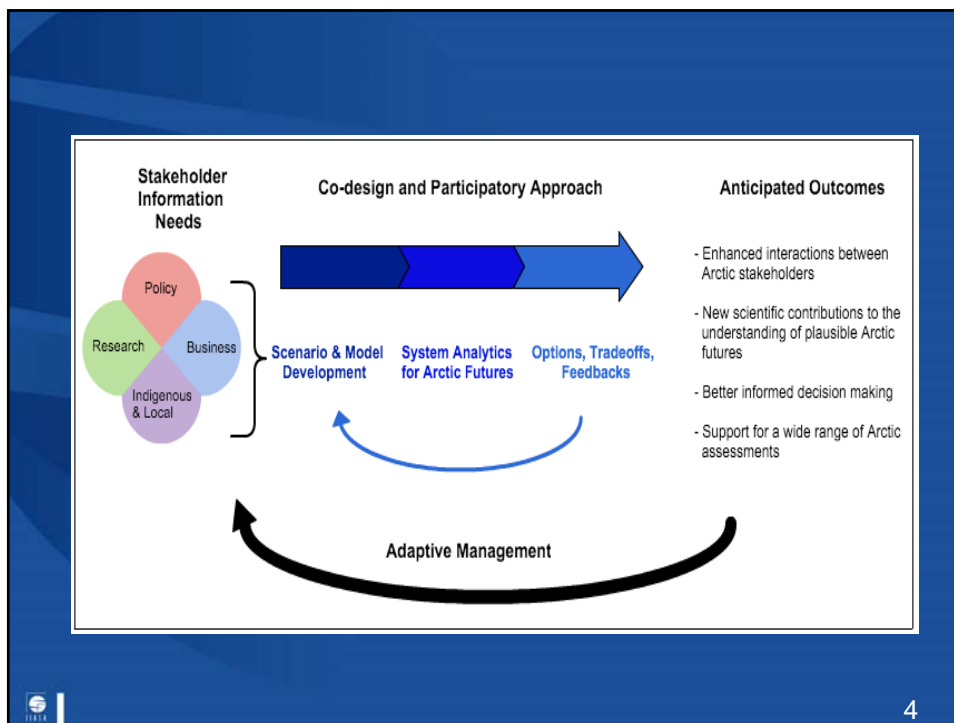
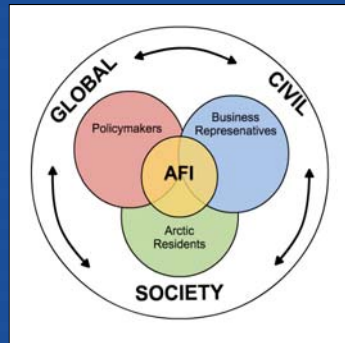
IIASA, International Institute for Applied Systems Analysis

## IIASA on the Arctic

- Analysis: promote understanding of the integrated future of the Arctic using holistic systems-level approaches
- Fair Broker: Create a collaborative environment for co-design—with stakeholders—of future pathways toward sustainable development
- Integrated Perspectives: Research, Policy, Business, Indigenous/Local Communities

# AFI Mission

“To create a collaborative science-based process by applying systems analysis to better understand plausible futures and inform decision making within and beyond a rapidly changing Arctic”



# Primary Research Goal

*To produce improved understanding of Arctic system dynamics, change, and feedbacks that simultaneously:*

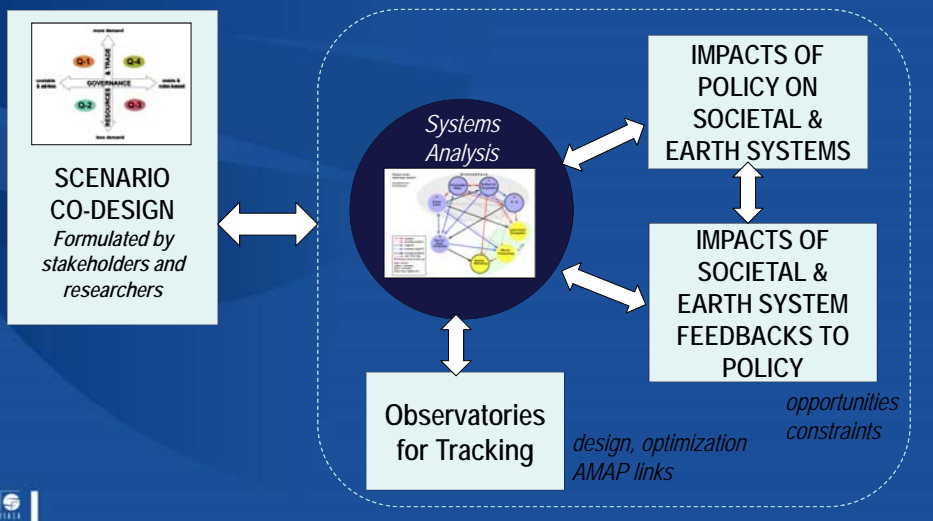
- Articulates the role of the region in the broader Earth-system
- Supports co-design of future trajectories and Arctic system states, evaluating their level of resiliency & long-term sustainability
- Assesses the impacts of specific human decisions, by analyzing the feedbacks they invoke on natural, physical, social, and economic systems.



## NOTIONAL RESEARCH FRAME: ARCTIC FUTURES

*Formulation of Policy Alternatives*

*Assessment of Policy Alternatives*



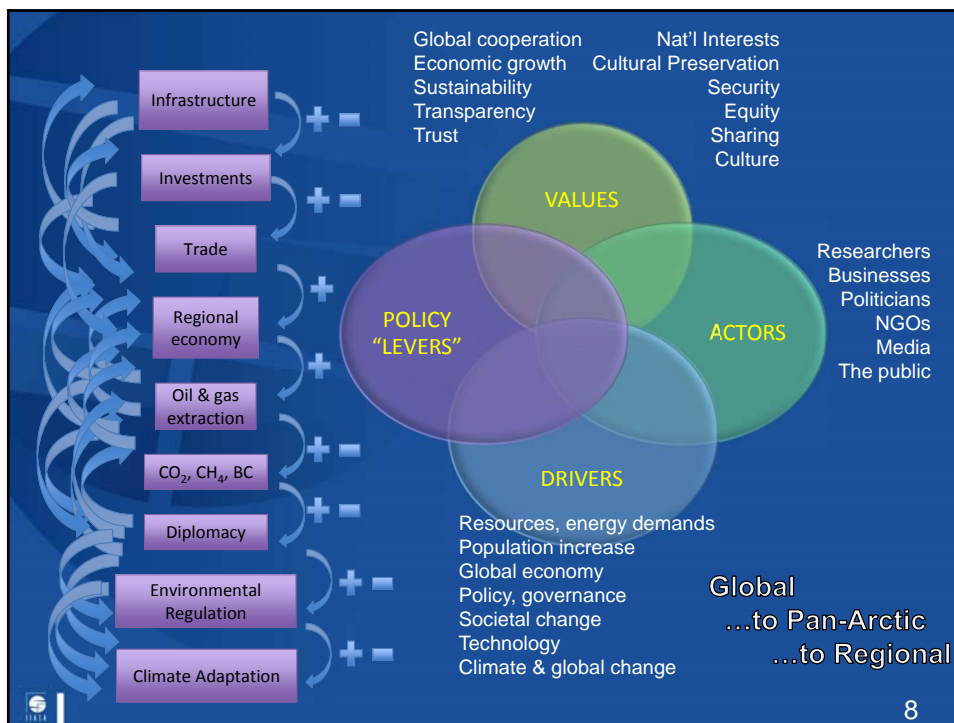
# AFI Preliminary Guiding Questions

## To Support Knowledge Generation

- *What are the plausible futures for the Arctic and pathways to those futures?*
- *How do Arctic system “surprises”, thresholds, and unintended consequences influence these futures?*

## To Support the Participatory Process

- *What kind of information do decision makers need to make decisions leading to more sustainable futures...and to avoid/deal with unanticipated system behaviors?*
- *How can the many potentially conflicting Arctic interests --including socioeconomic, environmental, and cultural-- be reconciled as the Arctic system changes rapidly?*



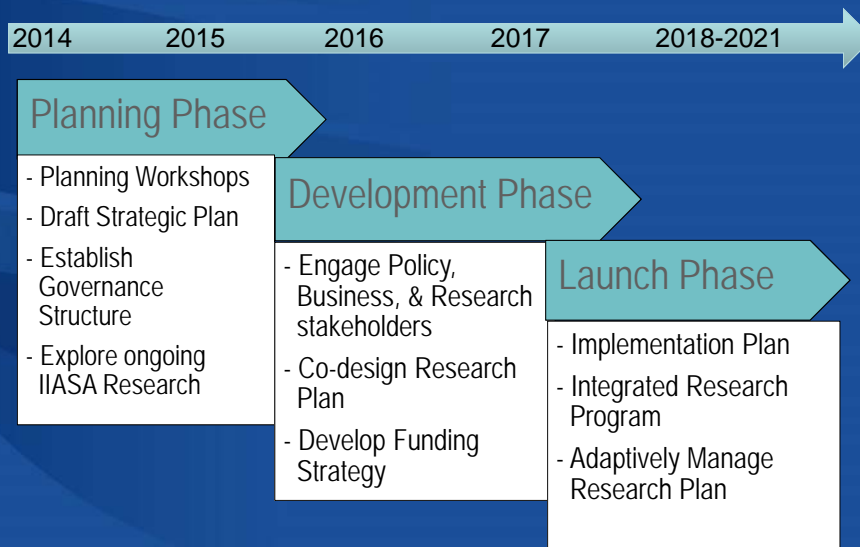
## Collaboration with Communities

- Arctic Council
  - Senior Arctic Officials
  - Working Groups
    - AMAP, SDWG, CAFF, ACAP, PAME (EPPR)
  - Indigenous peoples
  - Projects: AACA, ARA
- Arctic Economic Council, Businesses
- International Arctic Science Committee
- WWF
- Programs/projects: Future Earth, PEEEX, Alaska North Slope, Arctic Options, Pan-Arctic Options



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## AFI Timeline



## FURTHER INFORMATION

IIASA

[www.iiasa.ac.at](http://www.iiasa.ac.at)

Arctic Futures Initiative

[www.iiasa.ac.at/web/home/research/arctic-futures.html](http://www.iiasa.ac.at/web/home/research/arctic-futures.html)

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Questions

....Comments

..... Discussion



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## AFI Core Group

### CO-CHAIRS:

Ambassador Hannu Halinen, Co-Chair of AFI Advisory Group, Special Advisor to the IIASA Director General and Chief Executive Officer (Finland)

Dr. Peter Lemke, Co-Chair of AFI Advisory Group (Germany)

Dr. Charles Vörösmarty, Co-Chair of AFI Advisory Group (USA)

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 Dr. Tom Armstrong, President of Madison River Group, Special Advisor to Arctic Monitoring and Assessment Programme (AMAP) Exec. of Adaptation Action for a Changing Arctic (AACAA) (USA)

Professor Dr. Paul Berkman, Professor of Practice in Science Diplomacy, Fletcher School of Law and Diplomacy, Tufts University (USA)

Ms. Samantha Brooks, American University and Madison River Group (USA)

Dr. Mia Landauer, Guest Research Scholar, Risk Policy and Vulnerability Program (RPV), IIASA

Dr. Volker Rachold, Executive Secretary, Arctic Science Committee (IASC) Secretariat (Germany)

Dr. Anni Reissell, Guest Research Scholar, IIASA

Dr. Alexander Shestakov, Director, WWF Global Arctic Programme (Canada)

Mr. Tero Vauraste, CEO and President of Arctia Shipping, Vice-Chair of Arctic Economic Council (Finland)



## Arctic Futures Initiative: Its Niche

*AFI seeks to add value to current Arctic research efforts, by providing:*

- A systems perspective, methods, and tools for analysis of multi-scalar, multi-dimensional, trans-disciplinary issues in the Arctic
- A collaborative environment for developing decision relevant and co-designed research with Arctic stakeholder communities
- A transparent process and participatory framework that entrains research, policy, business and indigenous/local stakeholder interests



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## AFI Strategic Principles

- 1) Co-design and prioritize an integrated science agenda by engaging the research, policy, business and indigenous/local communities together
- 2) Systematically formulate a range of plausible development pathways with stakeholders in the context of a rapidly changing Arctic
- 3) Assess the consequences of future pathway decisions on social, economic, and environmental systems across the Arctic and broader Earth system
- 4) Sustain the AFI science based process using adaptive management practices to improve and refine decision support



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