

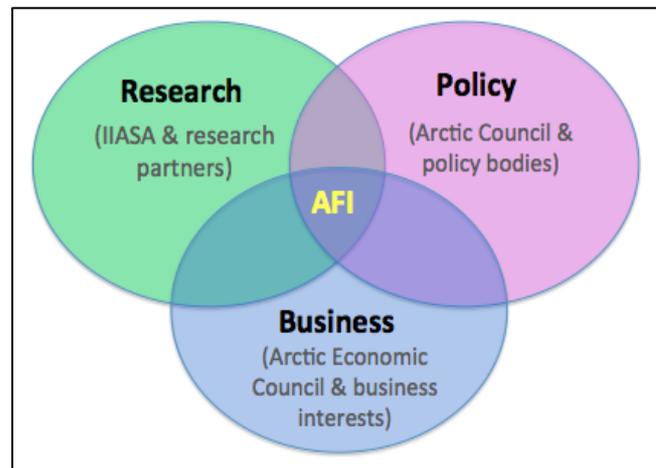
Commentary

Arctic Futures Initiative: A Holistic Approach to Arctic Futures

Anni Reissell, Hannu Halinen, Peter Lemke & Charlie Vörösmarty

In the age of globalization, the Arctic interacts with the rest of the world, and vice versa, in a complex manner—societally, economically, technologically, and environmentally. The complexity of the dynamic global system poses significant societal, research, policy and governance challenges for the Arctic. Then again, the Arctic has to be seen in a global context.

The Arctic is of increasing strategic interest, both regionally and globally, due to the opportunities as well as challenges brought about by the pronounced physical, biological as well as social and economic changes observed across this critical part of the Earth system. Much of the interest is either directly or indirectly centered on the Arctic as a key epicenter of global climate change—both in terms of the impacts on it as well as its reciprocal feedbacks on lower latitudes. Concern also arises from the huge economic potential of the Arctic, recoverable new energy



Anni Reissell is Science Coordinator at the University of Helsinki, Finland, and Guest Research Scholar at the International Institute for Applied Systems Analysis (IIASA). Ambassador Hannu Halinen is Special Advisor to the IIASA Director General and Chief Executive Officer, Co-Chair of AFI Advisory Board, and member of the Arctic Yearbook Editorial Board. Peter Lemke is professor at the University of Bremen, heads the Climate-Initiative REKLIM of the Helmholtz Association, and is Co-Chair of the AFI Advisory Board. Charles Vörösmarty is Director of the Environmental CrossRoads Initiative, Advanced Science Research Centre, City University of New York, Member of the U.S. Arctic Research Commission (USARC), and Co-Chair of the AFI Advisory Board.

resources across the region, and the possible opening and consequential expansion of important northern transportation sea routes.

In order to better adapt and plan towards a stable and prosperous Arctic, more information is needed about the potential future conditions of the region. To fulfill this need, the International Institute for Applied Systems Analysis (IIASA) is in the planning phase of a new international, collaborative, and integrative research project, the “*Arctic Futures Initiative*” (AFI), which will support decision-making in an effort to advance sustainable, and plausible futures for the Arctic in different environmental, social, economic and technological contexts. The rationale for AFI is reflected in a key conclusion from a seminar “*Policy Support from Arctic Research*” held in Helsinki, Finland in May 2013, by the Finnish Prime Minister’s Office, the Academy of Finland, and IIASA:

There is a decided need for a holistic, integrative assessment of plausible futures for the Arctic, cutting across different disciplines and individual countries’ strategic interests.

The AFI within IIASA aims to exploit IIASA’s key position as an international, non-governmental, neutral and independent research organization with a large network through its National Member Organizations. IIASA can also utilize its long history of developing systems analytic approaches while at the same time moving forward truly interdisciplinary perspectives that effectively address today’s multivariate and complex issues across local, regional and global scales.

The AFI will work collaboratively with other Arctic institutions and organizations to bring together different scientific disciplines: natural and social sciences, economics, humanities, law, communities, and all affiliated stakeholders to support an integrated and “end to end” science to decision-making framework that builds upon IIASA’s 23 National Member Organizations, including five Arctic nations and six Observer nations of the Arctic Council.

The Arctic Futures Initiative is organized to bring together the interests of the research, policy and business communities for an integrated and collaborative approach to a sustainable future in the Arctic. These communities will be involved through representative groups such as the IIASA National Member Organizations and partners (research), the Arctic Council (policy), and the Arctic Economic Council (business). AFI will also, for example, collaborate with the International Arctic Science Committee (IASC), the United States Arctic Research Commission (USARC), and several research projects, one example being the Pan-Eurasian Experiment (PEEX).

Mission: To build a knowledge base that informs decision-making in the Arctic from a comprehensive, holistic perspective, covering social, economic, technological, and environmental issues while also taking into account the connections between the Arctic and the rest of the world.

Objective: To initiate a research project and framework with various components that could contribute to a holistic integrated and sustained assessment of plausible futures of the Arctic.

Key Roles: 1) Bringing socio-economic expertise to bear with technological and environmental expertise for Arctic futures assessments; and 2) Providing a framework for a sustained assessment process and the ability to bridge the gap between one-time assessment efforts within the Arctic Council.

The overriding objective of AFI is to initiate a research project that will contribute to a sustained holistic integrated assessment of plausible futures of the Arctic, while cutting across different disciplines and individual countries’ strategic interests. The initiative will apply advanced

integrative and participatory methods developed by IIASA and its international collaborators for examining possible futures of the Arctic. This could include IIASA's research expertise such as work related to socio-economic scenario development; socio-economic vulnerability assessment of sectors and populations (such as the indigenous one); and systems analysis to support decision making and Arctic adaptation efforts.

Whether for the purposes of science, policy or business, efforts focused on the Arctic are multitude but currently remain fragmented. A holistic, integrated systems approach to the Arctic is missing, as is a consistent approach to identifying and communicating the plausible Arctic futures.

Another key role for AFI lays in its ability, as part of IIASA as a long-standing international research institution, to bridge the assessments of the Arctic Council and other relevant institutions across various chairmanships. To fully realize an integrated and sustained assessment process of Arctic futures, various activities within individual chairmanship timeframes will need to fit into a broader sustained assessment framework that AFI will be an essential part of. This type of integrated methodology and sustained framework will produce more usable, timely, and relevant information, scenarios and models for stakeholders in the Arctic that can lead to better decisions to be made for a more sustainable Arctic future.