



THE ARCTIC ENERGY SUMMIT



AN INTERNATIONAL POLAR YEAR EVENT

Overview

The Arctic Energy Summit, sponsored by the Arctic Energy Office of the National Energy Technology Laboratory, U.S. Department of Energy, in cooperation with the Institute of the North and the University of Alaska Fairbanks, is an official International Polar Year project. Focusing on the Arctic as an emerging energy province, the Summit features three components:

- 1] An educational outreach component comprised of: an Arctic energy bilingual (English/Russian) website; funding of undergraduate and graduate research work in the areas of Arctic energy and power; a graduate level Arctic energy course taught through the University of Alaska system and the University of the Arctic; and the development of a web-based and interactive Arctic energy atlas that will include traditional extractive energy resources, as well as non-traditional renewable energy sources.
- 2] A technology conference component, set for Anchorage, Alaska Oct. 15-18, 2007, that will bring together some 600 to 1,000 researchers, academics, government leaders, industry representatives, and residents of the Arctic for presentations of technical papers on significant Arctic energy research, panel discussions and keynote addresses on major policy areas of concern and/or interest, as well as a poster session of new technology and an industry exposition.
- 3] The creation and recommendations of an international Arctic energy action team charged with developing a roadmap for the enhancement of extractive energy recovery in the Arctic and the deployment of economical and environmentally sensitive energy sources to rural Arctic communities.

ARCTIC ENERGY SUMMIT Education & Outreach

"... attracting and inspiring the next generation of scientists ..."

The Arctic Energy Summit organizers recognize that a major component of the International Polar Year mission is education and outreach. The Summit's educational outreach will be facilitated through www.arcticenergysummit.org, a dedicated website which will serve all aspects of the project with the goal of capturing the interest of the public and decision-makers, and attracting and developing the next generation of scientists, engineers and leaders.

The home page will delineate the Summit's three components – educational outreach, technology conference, and action team – while still emphasizing the three areas of focus: extractive energy, rural power, and sustainability including socioeconomic and environmental impacts. An electronic newsletter dealing with Arctic energy issues will be an important element of the website. The newsletter will be updated with selected articles on a weekly basis.

Other aspects of the educational components will include:

- A graduate level Arctic energy course taught through the University of Alaska system and the University of the Arctic;
- Research grants oriented toward institutions at both the graduate and undergraduate levels located in the Arctic or with Arctic programs; and
- A web-based Arctic energy atlas to support all phases of the Summit. The atlas will demonstrate the Arctic's emerging role as an energy province and detail ways in which those living in the Arctic currently get/use energy, as well as potential energy resources.

ARCTIC ENERGY Technology Conference

"... transferring needed technology and advancing science ..."

The technology conference, set for Oct. 15-18, 2007 in the William A. Egan Civic and Convention Center in Anchorage, Alaska, will provide the forum for the presentation of international, interdisciplinary technical research papers on the Arctic as an energy province.

The conference will include plenary sessions and panel discussions, as well as the presentation of technical peer-reviewed papers. Potential plenary and panel discussion topics may include: the Arctic as an emerging energy province, energy security, long term outlook for energy markets and what it means for the Arctic, risk, markets and climate change, national assessments of Arctic energy and Arctic environmental safeguards: A new paradigm?

A benchmark of 200-250 interdisciplinary technical research papers is expected. Paper topics may include, but are not limited to: Arctic energy disciplines such as fossil fuel, carbon sequestration, oil recovery, natural gas, biomass, geothermal, solar, photovoltaic, hydrogen, fuel cells, water, wind and nuclear. Papers on related topics may also be considered including: energy audits for the Arctic, environmental controls, infrastructure impacts due to climate change, environmental management, international law and energy, energy modeling, energy sustainability, rural electrification, risk assessment, and financing Arctic energy projects.

An Arctic energy industry exhibition highlighting current energy technology will also take place during the conference.

2006

October

- Launch of website
- First Call for Papers and Academic research projects
- Begin educational outreach
- Gain Arctic Council approval

2007

First Quarter

- Second and Final Call for Papers
- Review academic research projects and announce scholarship recipients

2007

Second Quarter

- Announce paper selection

2007

Third Quarter

- Final papers due

ARCTIC ENERGY Action Team

*"... leaving a legacy and creating
a path forward ..."*

An Arctic energy action team will be convened at the technology conference with the purpose of cooperatively developing an international vision and programmatic way forward on common problems related to the development and deployment of energy in the Arctic.

Potential members of the team may include energy experts from the eight Arctic nations, producers, investors, consumers, landowners and government officials; as well as experts in the fields of transportation, supply security and climate change. By engaging this variety of expertise, the action team will have the advantage of seeing the entire energy system as they review and recommend a technology approach to the development of an Arctic energy system.

The action team will be charged with exploring a single challenge from the extractive energy sector (e.g. the development of Arctic coal) and one from the rural power sector (e.g. development of an alternative transportation fuel). The group will be tasked with development of a roadmap for the enhancement of extractive energy recovery and the deployment of economical and environmentally sensitive energy sources to rural Arctic communities. It is anticipated that the action team will meet at the end of the IPY to report on their findings and suggest one or two potential demonstration projects.

ARCTIC ENERGY Themes



RURAL



EXTRACTIVE



SUSTAINABILITY

2007

October

- Technical Conference and Industry Exposition
- Formation of Arctic Energy Action Team

2008

First Quarter

- Technical Conference proceedings published

2008

- Action Team works on assigned tasks

Late 2008/Early 2009

- Action Team convenes to announce results, recommendations
- Conference proceedings published

Background

Arctic Energy and the International Polar Year 2007-2008



The Arctic is home to more than 25 per cent of the planet's known reserves of oil and natural gas. Yet much of the Arctic is a remote, sparsely populated, harsh region with fragile terrestrial and aquatic ecosystems. It, therefore, is appropriate to convene an Arctic Energy Summit during the International Polar Year (IPY), 2007-2008.

The primary thrust of the IPY is research, especially as it relates to the earth sciences, however, any discussion of the Arctic and polar regions would not be complete without consideration of the extensive natural resource development that is occurring in Alaska, Canada, the Russian Far East and Siberia, non-hydrocarbon energy sources being tapped such as geothermal output in Iceland, as well as the need for energy in the rural areas throughout the Arctic.

The Summit supports the IPY aim of exploiting the intellectual resources and science assets of Arctic nations to make major advances in polar knowledge and understanding, while leaving a legacy of new or enhanced observational systems, facilities and infrastructure. Arguably the most important legacies will be a new generation of polar scientists and engineers, as well as an exceptional level of interest and participation from polar residents, students, the general public, and decision-makers, worldwide.

