Non-Renewable Energy in Alaska

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(NOTE: This article was written in 2010 and is no longer maintained since most of the information has been superseded by newer articles/sections of the website. Click the following links for Oil/Gas (/Issues/AlaskaOilandGas.html), Coal (/Issues/AlaskaCoal.html), or Coalbed Methane (/Issues/AlaskaOilandGas/CoalbedMethane.html))

Alaska is famous for oil, which funds much of the state government. Natural gas powers most of the state. Less well known are Alaska's vast coal (/Issues/AlaskaCoal.html) reserves - largely undeveloped. Other potential non-renewable sources include methane gas hydrates and nuclear power.

Oil

Alaska currently accounts for about 15% of US domestic oil (http://tonto.eia.doe.gov/ask/crudeoil_faqs.asp) production. The largest active oil fields are on Alaska's North Slope (e.g. Prudhoe Bay (http://en.wikipedia.org/wiki/

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Prudhoe_Bay_oil_field)) and in Cook Inlet, but there are additional undeveloped fields in the Alaska National Wildlife Refuge (ANWR), the National Petroleum Reserve of Alaska, and in the Bering Sea among others. As oil in the developed fields dwindles, controversy has raged over developing the remaining deposits, in particular regarding the issues of offshore drilling (http://www.nola.com/news/index.ssf/2009/04/appeals_court_cancels_alaska_o.html) and of drilling in ANWR (http://en.wikipedia.org/wiki/Arctic_Refuge_drilling_controversy).

The combustion of oil releases a smaller amount of greenhouse gases (http://naturalgas.org/environment/naturalgas/) than coal, as well as releasing fewer health-damaging particulates into the atmosphere. However, oil is still a polluting and non-renewable resource. Also oil development requires infrastructure like pipelines and drill pads spread over large areas, and the transport of oil sometimes results in destructive oil spills.

Natural Gas

Natural gas is abundant in certain regions of Alaska, and gas from Cook Inlet currently provides over half of the electrical power for the state. However, much of the untapped gas reserves are far away from population centers, and the gas reserves in Cook Inlet are diminishing. A proposed natural gas pipeline (http://en.wikipedia.org/wiki/Alaskan_Natural_Gas_Pipeline) from Alaska to the Lower 48 states would expand the export potential of this fossil fuel although it faces a variety of economic issues (http://

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www.adn.com/article/20090711/alaska-natural-gas-gets-new-market-competition). There is also talk of a “spur line” (http://www.anchoragepress.com/news/alaskas-natural-gas-dilemma-everyone-agrees-cook-inlet-needs-help-no-one-agrees-how-or-where) that would divert some of this gas into the Cook Inlet area. Natural gas extraction/combustion is significantly less polluting than coal or oil, but it still releases large amounts of greenhouse gases, and is a non-renewable resource.

Coal (/Issues/AlaskaCoal.html)

Alaska currently gets less than 7% of its electricity (/Issues/AlaskaCoal/AlaskaCoalPower.html) from coal, all of which comes from the Usibelli coal mine (/Issues/AlaskaCoal/UsibelliCoalMine.html). But Alaska has vast undeveloped coal reserves (/Issues/AlaskaCoal/HowMuchCoal.html), and there is increasing interest in mining more coal in the state, such as at the Chuitna prospect (/Issues/AlaskaCoal/ChuitnaCoalMine.html). To learn more about coal, and coal facilities and projects in Alaska visit the Alaska Coal (/Issues/AlaskaCoal.html) portion of our website.

Coalbed Methane

Coalbed methane (/Issues/AlaskaOilandGas/CoalbedMethane.html) refers to natural gas that is trapped within coal beds. Once viewed solely as a hazard of coal mining (/Issues/AlaskaCoal/CoalMining.html), this gas has received attention recently both for its negative impact on climate

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change when released by coal mining and for its potential as an energy source. For more information, see our article on coalbed methane (/Issues/AlaskaOilandGas/CoalbedMethane.html).

Methane Gas Hydrates

Methane gas hydrates (also known as methane clathrates (http://en.wikipedia.org/wiki/Methane_clathrate) or natural gas hydrates) are accumulations of methane in ice. Methane clathrates only form under the high pressure at the ocean floor or deep in permafrost, and have never been exploited as a commercial resource anywhere in the world. These hydrates have long been considered too dangerous or expensive to extract, but increased energy prices as well as the prospect of melting permafrost have fueled interest in this potential energy source. In Alaska, this resource is being studied (http://www.netl.doe.gov/technologies/oil-gas/futuresupply/methanehydrates/projects/DOEProjects/Alaska-41332.html) on the North Slope in collaboration with the United States Geological Survey (USGS), BP Global, and the US Department of Energy (DOE).

Nuclear

Since the decommissioning of the controversial Fort Greely nuclear reactor (http://www.akaction.net/FTGreely.pdf) in 1973, there have been no nuclear power plants in Alaska, nor are there any plans for large-scale nuclear development. However, the community of Galena on the Yukon river is currently

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working (http://www.alaskajournal.com/Alaska-Journal-of-Commerce/April-2008/Toshiba-continues-efforts-for-Galena-nuclear-power-plant/) with Toshiba to be a test site for a 10 MW "nuclear battery (http://en.wikipedia.org/wiki/Atomic_battery)" reactor that requires only minimal staffing and is expected to run for 30 years. A similar project (http://www.adn.com/news/alaska/story/838182.html) has been proposed in the Fairbanks area, working with a company called Hyperion Power Generation (http://www.hyperionpowergeneration.com/).

Further Reading

> A 2009 "Guide for Alaskan Communities to Utilize Local Energy Resources", prepared by the Alaska Energy Authority. (http://www.akenergyauthority.org/PDF%20files/AK%20Energy%20Final.pdf)

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