



Offshore Wind Energy

Wind energy is one of the world's fastest growing sources of electricity. Today, developers are looking at offshore wind which is stronger and more consistent than wind over land, and generates more energy more efficiently. Large scale offshore wind projects, such as the one proposed by NaiKun, are successfully operating in Europe today and are a key part of the global shift to increasing the use of renewable energy.

Why build offshore?

Wind speeds over water are generally stronger and more consistent than on land because there is less surface turbulence (mountains, hills, and trees). As a result, offshore wind turbines have a higher capacity factor and generate energy more efficiently. The offshore wind resource potential is also much larger than on land – consider the fact that about 70% of the earth is covered in water. Offshore projects are located at a greater distance from populated areas and are therefore considered to have less of visual impact than onshore wind turbines.

How deep and how far from shore are offshore wind projects built?

Offshore wind turbines must be built where a consistent wind resource exists and in waters 30 meters deep or less. In areas where there are long stretches of shallow water, projects may be developed several kilometers from shore. On the other hand, in areas where water becomes deep more quickly, wind turbines must be built closer to shore. Today, most offshore proposals are sited at least 3-4 kilometers from the shoreline.

Are there any offshore wind projects in North America?

To date, all existing offshore wind projects have been constructed around Europe; off the coast of Denmark, Ireland, Netherlands, Sweden and the United Kingdom. North America is slowly beginning to realize the benefits of harnessing the vast offshore wind resource. Offshore projects are currently proposed for Horseshoe Shoal off the coast of Cape Cod, Massachusetts, as well as NaiKun's project, Hecate Strait, off the north coast of British Columbia.

continued on back...

How much power does an offshore wind turbine produce?

The amount of electricity produced by each wind turbine varies depending on the model selected for a particular project. Offshore wind turbines are larger than those on land and generate between 2 and 5 MW of electricity per turbine. To put it into perspective, a 5 MW turbine can power 350,000 high efficiency (CFL) light bulbs with clean, renewable electricity.

How does electricity generated at the offshore wind site connect to our homes and businesses?

Submarine cables are used to transmit electricity from the offshore wind turbines to a transformer station on land. Here, the voltage is converted and electricity is transmitted to homes and businesses within the existing electricity transmission grid.

What navigational safety measures will be in place?

Offshore wind projects must comply with all navigation and safety rules and regulations as determined by governing agencies who have jurisdiction where the wind project is developed. In NaiKun's case, this includes Transport Canada and the Department of Fisheries and Oceans, among others.

What are the potential environmental impacts associated with offshore wind projects?

As required, new development projects are subject to an Environmental Impact Assessment (EIA) to identify and assess potential environmental, social and economic aspects associated with a project's construction, operation, or decommissioning. Research from two of the world's largest offshore wind projects, Denmark's Horn Rev and Nysted indicates that, "large offshore wind farms can be constructed and operated without significant damage to the marine environment and vulnerable species." NaiKun is currently conducting comprehensive studies at the project site. The results of the studies will be included in an Application for an Environmental Assessment Certificate which will be submitted to the Environmental Assessment Office in early 2009.

About NaiKun

NaiKun is a Vancouver-based renewable energy company focused on the development of Canada's first offshore wind project off the east coast of Haida Gwaii in British Columbia's Hecate Strait. NaiKun has partnered with First Nations and is working with local communities to develop clean, made-in-B.C. electricity to meet our growing energy needs.

For more information:

NaiKun Wind Energy Group

Suite 1705 - 1066 West Hastings Street, Vancouver, BC V6E 3X1

Telephone: 604 639 8460 • Fax: 604 685 4215

Web: www.naikun.ca • Email: info@naikun.ca

Haida Gwaii Energy Centre:

1740 Hodges Ave., Masset, Haida Gwaii • Telephone: 1 250 626 6003

