

Welcome

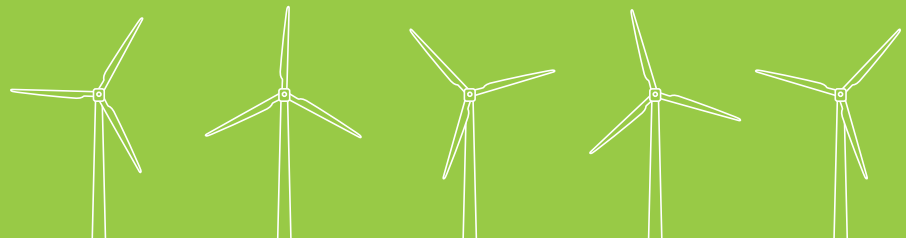
Thank you for coming to the Henvey Inlet Wind Energy
Centre Public Information Centre #1.

Henvey Inlet Wind Energy Centre



Welcome

Henvey Inlet Wind Energy Centre



We welcome you to the first Public Information Centre.
Your questions and comments are important to us.

Please be sure to sign in and complete a comment sheet.

Why Are We Here?

Good Planning Involves The Community.

This Public Information Centre ("PIC") is an important starting point for the Henvey Inlet Wind Energy Centre ("HIWEC").

The purpose of this meeting is to:

- » Introduce the HIWEC and provide an overview of the environmental assessment ("EA") process
- » Provide an opportunity to meet members of the Henvey Inlet Wind ("HIW") team and have your questions answered
- » Obtain your input for consideration in the planning and design of the HIWEC



Who We Are



Henvey Inlet Wind

In October of 2014, Nigig Power Corporation ("Nigig") entered into a joint venture partnership with Pattern Energy Group LP ("Pattern Development") to jointly develop, own and operate the 300 megawatt ("MW") HIWEC.

The HIWEC has a 20-year Power Purchase Agreement with the Independent Electricity System Operator ("IESO").

Nigig Power Corporation

Nigig was established in 2010 and is wholly owned by Henvey Inlet First Nation ("HIFN"). Ken Noble is CEO and President of the corporation, which is overseen by four board members and four advisors. Nigig secured the largest Feed-In-Tariff ("FIT") contract in Ontario and is developing the largest First Nation wind energy centre in Canada at 300 MW.

Pattern Development

Pattern Development is a leader in developing renewable energy and transmission assets. With a global footprint spanning North America, South America, the Caribbean and Japan, Pattern Development's highly-experienced team has developed, financed, and placed into operation more than 3,500 MW of wind power. Our mission is to develop facilities built for lasting success. The Pattern Development team has expertise and experience in all stages: resource analysis, site development, power marketing, finance, construction, operations, and asset management. We operate and manage wind power facilities through our affiliated public entity Pattern Energy Group Inc. ("Pattern Energy").

Henvey Inlet Wind Energy Centre



How Can You Get Involved?

We're Interested In What You Have To Say!

As you move through the information presented, we encourage you to ask questions and provide your thoughts about the HIWEC.

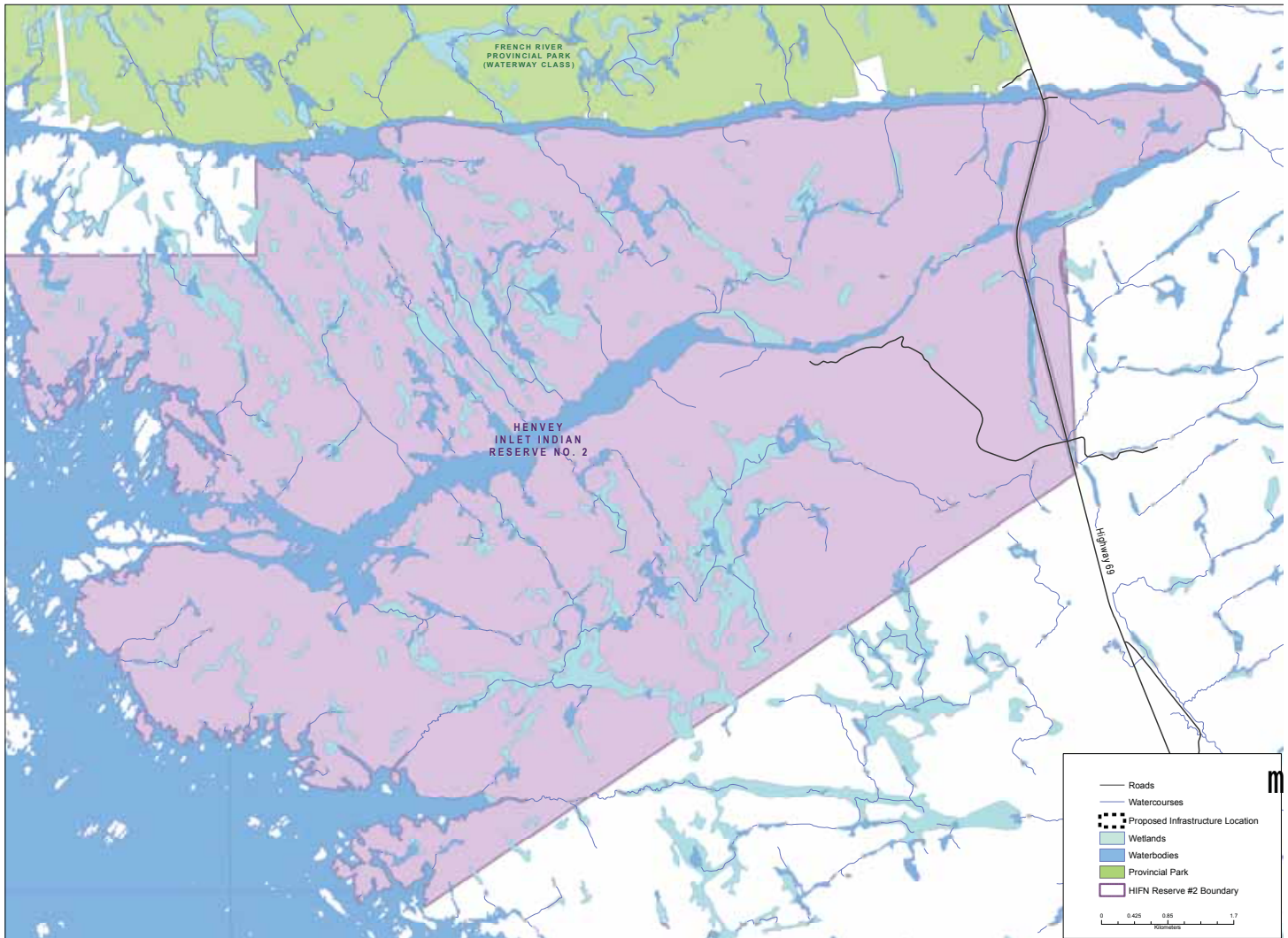
Throughout the course of the HIWEC EA Process, you can visit our website at: henveyinletwind.ca to access up-to-date information.

We also encourage you to provide feedback to the team at any point during the study process by:

- » Email: info@henveyinletwind.com
- » Phone: 705.857.5265
- » Mail: Henvey Inlet Wind Office
295 Pickering River Road
Pickering, ON P0G 1J0
- » Web: henveyinletwind.ca



Study Area and Overview



Henvey Inlet Wind Energy Centre



Planning and Early Design Stage

Design of the HIWEC

We are in the planning and early design stages and a HIWEC Description Report has been prepared.

The HIWEC is proposed to include up to 120 wind turbines with an installed power capacity of up to 300 MW.

The turbine number, model, and height will depend on various factors, including: wind resource, siting restrictions, and socio-economic or natural environment constraints.

The major components of the HIWEC include:

- » Wind turbine foundations
- » Wind turbine generators
- » Pad mounted step-up transformers
- » Collector system
- » Transmission line
- » Collector substation
- » Meteorological towers
- » Access roads
- » Temporary staging areas
- » Operations and maintenance ("O&M") building



How Wind Turbines Generate Electricity

Harnessing the Wind

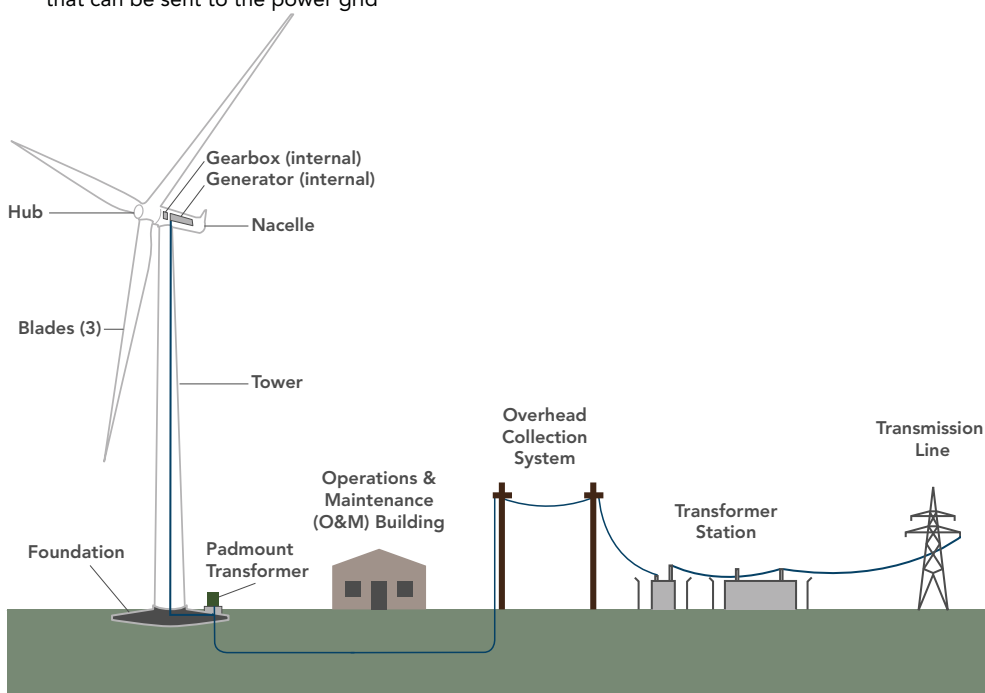
- » Wind turbines capture kinetic energy in surface winds and convert it into electrical energy using large blades mounted on tall towers
- » As wind moves over turbine blades, it causes "lift" – same effect used by airplane wings
- » Lift makes the blades rotate, which turns the shaft
- » The turning shaft creates electricity within a generator, which in turn creates electricity that can be sent to the power grid

Main Components

- » Blades which convert the wind's energy into rotational shaft energy
- » A nacelle (enclosure) containing a drive train, usually including a gearbox and generator
- » A tower to support the rotor and drive train
- » Electronic equipment such as controls, electrical cables and ground support equipment
- » Transformer which converts the electricity into a common voltage

Ancillary Components

- » O&M building to monitor day-to-day operations of the HIWEC
- » Collector system to carry electricity from the turbines to the transformer station(s)
- » Transformer station(s) to "step-up" 34.5 kilovolt ("kV") voltage of the collector system up to 500 kV transmission voltage
- » Transmission line (up to 500 kV) to carry electricity off-Reserve to the point of interconnection with the provincial transmission grid



« Diagram of a Typical Wind Farm Layout

*not to scale

Environmental and Economic Benefits

Benefits of Wind Energy

- » Compatible with mixed land use (e.g., hunting and fishing)
- » Supports the local economy as Ontario goods and labour will be used during construction and operation
- » Strengthens the economy of HIFN, helping to improve band services
- » Increases revenue for all service businesses (such as hotels and restaurants) during planning, construction and operation
- » Provides a reliable supply of domestically produced energy
- » Reduces reliance on imported fuel
- » Helps stabilize the cost of power
- » Creates “green-collar” jobs in construction, operation and manufacturing
- » Benefits the environment and helps fight climate change
- » Generates long-term, stable revenue for HIFN

Economic Benefits

The HIWEC will create many economic benefits for HIFN and surrounding region. In addition to the direct and in-direct job opportunities, additional spin off benefits will be gained from HIW's revenues. How the profits are used will be solely up to the Band, meaning both Chief and Council and the Membership collectively. The use of proceeds from the HIWEC will be determined in full consultation with the Membership.

Examples of Possibilities Include:

- » Expanded Band services, especially in areas of: Health, Education, Elder Services and Support, Youth Services and Support, Language Instruction and Retention and Housing
- » Reinvestment in new research and development and business development and expansion
- » Payments directly to Band Members as a “dividend”
- » Subsidized hydro bills

Annual Benefits of HIWEC



90,000



Generates enough clean energy to power 90,000 homes.



10,000,000



Injects more than \$10M annual net proceeds to HIFN.



150,000 *



Avoids 770,000 tonnes of CO₂, equivalent to taking 150,000 cars off the roads.



21,500 *



Conserves enough water to meet the needs of about 21,500 people.

* Sources: Emissions offset calculations use annual electricity production for the HIWEC compared to emission rates from the Nanticoke coal plant as indicated in the Ministry of Energy's report Coal Fired Electricity Generation in Ontario. Car comparison assumes typical passenger vehicles produce 5.1 metric tons of CO₂ per year: U.S. Environmental Protection Agency, Office of Transportation and Air Quality, “Greenhouse Gas Emissions from a Typical Passenger Vehicle,” December 2011. Water conserved compared to coal-fired generation assumes 2,048 litres/MWh, source American Wind Energy Association. People supplied figure based on Environment Canada's 2011 Municipal Water Use Report with 225 litres/day Ontario per capita water consumption.

Environmental Assessment Process



EA Process

- » Pursuant to the Framework Agreement on Management of First Nation Land and the HIFN formal Land Code, HIFN's Band Council is the decision-making authority with respect to the creation and granting of interests in lands within HIFN Reserve No. 2 ("I.R. #2")
- » These instruments also provide HIFN Band Council with the legislative, regulatory and executive authority to ensure environmental management of the Reserve
- » This authority includes responsibility for EA, permitting and environmental protection for projects on HIFN lands
- » HIFN has developed principles that address its overall requirements for EA and environmental protection
- » The HIWEC EA will be conducted in accordance with these principles, applicable HIFN laws and approved EA guidance. The EA must be acceptable to HIFN before HIFN decides whether to issue an environmental permit for the HIWEC. Key steps in the EA process are illustrated in the diagram to the right
- » If HIFN decides to issue a permit approving the HIWEC, it will use the EA to assist in developing terms and conditions of approval that may be enforced through its Environmental Protection laws, powers and responsibilities

Conduct Preliminary Desktop Analysis

Undertake Detailed Studies – Spring/ Summer 2015

Prepare Draft EA Report

Submit Final EA Report to HIFN

EA Decision by HIFN

Turbine Placement and Setbacks



- » The HIFN EA process has regard to existing federal and provincial standards for wind turbine setbacks
- » The preliminary layout for the HIWEC includes a minimum setback of 550 metres from known receptors
- » Detailed environmental studies are ongoing to assess potential impacts to environmental components

A preliminary list of environmental components being considered include:

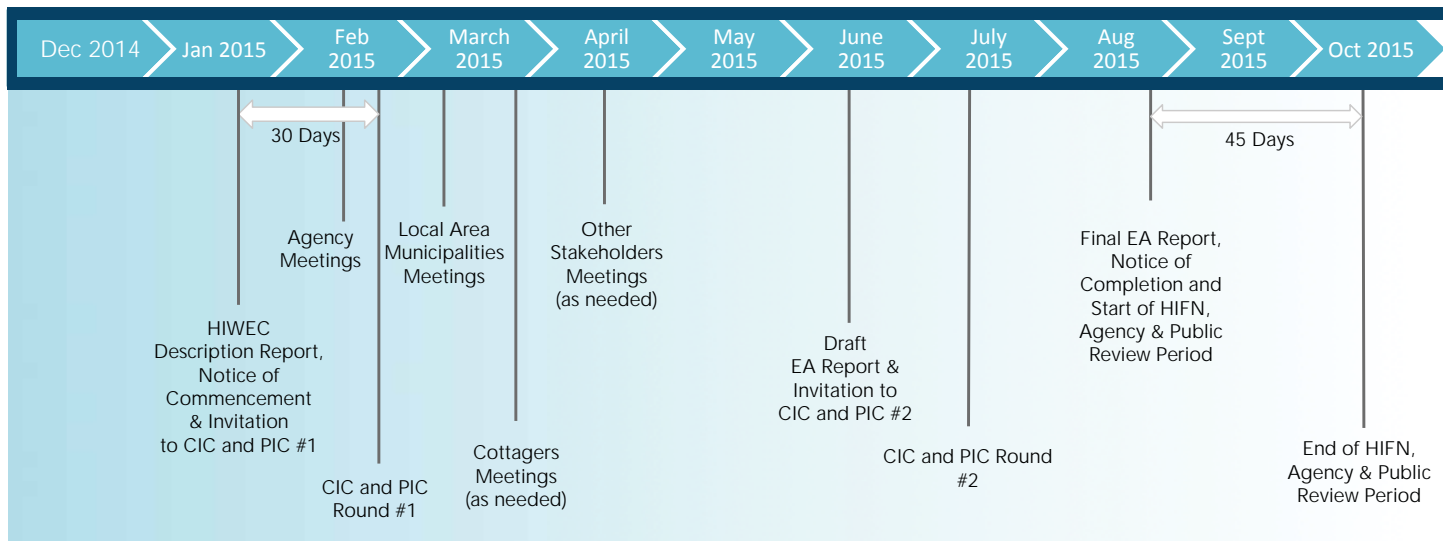
- » Terrestrial and Aquatic Environment (Natural Heritage and Waterbodies)
- » Surface Water and Groundwater
- » Topography, Geology and Soils
- » Noise
- » Air Quality
- » Current Use of Land and Resources by Anishinabek
- » Current Use of Land and Resources by Non-Anishinabek
- » Cultural Heritage and Archaeology

What is a receptor?

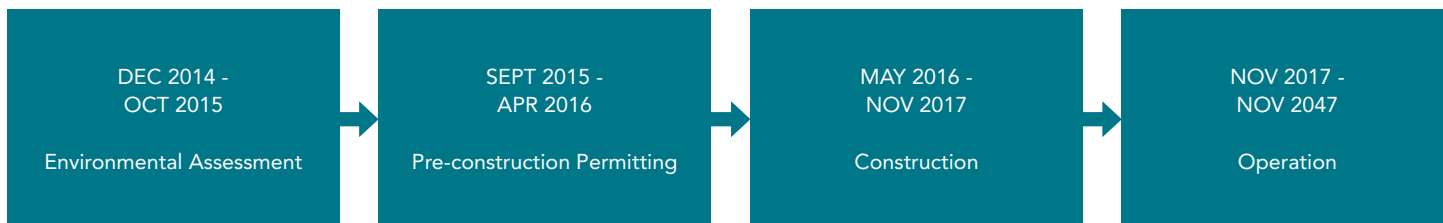
Existing buildings (e.g. homes) or vacant lots that are, or could potentially be, used for overnight accommodation or as an educational facility, health care facility, day nursery or place of worship.



Timeline



CIC = Community Information Centre
PIC = Public Information Centre



Henvey Inlet Wind Energy Centre



Construction, Operation and Decommissioning

Construction Activities

- » Delineation of work area and important natural features, and installation of erosion and runoff controls
- » Clearing and grubbing of vegetation for temporary work areas and installation of temporary facilities
- » Construction of access roads
- » Site grading as necessary
- » Delivery of construction vehicles and equipment
- » Installation of Wind Turbine Generator ("WTG") foundations and crane pads
- » Erection of WTGs
- » Installation of pad-mounted transformers and above and/or below ground electrical collector system
- » Construction of collector substations
- » Installation of meteorological towers
- » Installation of on-Reserve transmission line components
- » Construction of O&M building
- » Reclamation of temporary construction areas

Operation Activities

- » Preventative maintenance of HIWEC components
- » Meter calibrations
- » Remote operation of the WTGs
- » Maintenance of electrical collector system and any on-Reserve transmission lines
- » Access road maintenance

Decommissioning Activities

- » Disassembly and removal of HIWEC components at the discretion of HIFN
- » Reclamation of disturbed areas at the discretion of HIFN
- » Disconnection of collector substations



Providing Clean and Safe Power

Ontario doctors, nurses, and other health professionals support energy conservation combined with wind and solar power to help us move away from the use of coal for energy generation.

More than 80 countries around the world are using commercial wind power today, and wind energy is broadly understood to be one of the safest and most environmentally-friendly forms of electricity generation.

With more than 318,000 MW of installed wind energy capacity and 225,000 wind turbines operating around the world, hundreds of thousands of people live near and work at operating wind projects.

The balance of scientific evidence and human experience to date clearly concludes that wind turbines do not adversely impact human health. These conclusions are supported by a body of work by medical and scientific experts.

"According to the scientific evidence, there isn't any direct causal link between wind turbine noise and adverse health effects."

– Dr. Arlene King, Chief Medical Officer of Health, Province of Ontario

"Opposition to wind farms on the basis of potential adverse health consequences is not justified by the evidence."

– Dr. David Colby, Medical Officer of Health, Chatham-Kent

Source: Canada Association of Physicians for the Environment, Registered Nurses' Association of Ontario, the Lung Association, the Asthma Society of Canada, and Ontario College of Family Physicians. Global Wind Energy Council, Global Statistics 2013.



Henvey Inlet Wind Energy Centre



Environmental Studies

Completed To Date

Numerous natural environment studies have been conducted over the past several years to document existing conditions, to provide relevant information for the detailed design of HIWEC and to identify potential environmental effects. The following studies have been completed:

- » Vegetation ecosite classification
- » Wetland delineation/ecosite classification
- » Rare flora surveys
- » Spring raptor migration surveys
- » Spring passerine migration surveys
- » Spring waterfowl migration surveys
- » Breeding bird surveys (point counts, area searches, call play-back (owls, Least bittern), crepuscular breeding birds (whip-poor-will))
- » Spring raptor and colonial nesting bird surveys
- » Amphibian and reptile surveys (frogs, salamanders, turtles, lizards, and snakes) – general surveys and focussed species at risk surveys
- » Bat surveys
- » Fall passerine migration surveys
- » Fall waterfowl migration surveys
- » Fall raptor migration surveys
- » Aquatic habitat, fisheries and fish habitat assessments
- » Mammal and furbearer surveys



Studies To Be Completed

Past field studies have been compiled and an analysis is underway to identify additional studies that will need to be undertaken in spring/summer of 2015 to meet the HIFN EA Guidance requirements. The findings of all the relevant studies will be compiled in the final EA Report.

[illegible]

A parallel public consultation program is underway for the off-Reserve transmission with PICs scheduled in Britt and Parry Sound on March 3rd and 4th, 2015.

- » Approximate Length: 20 kilometres ("km")
- » Travels east from the HIFN I.R. #2
- » Connects to the existing HONI 500 kV line

- » Approximate Length: 90 km
- » Travels South from HIFN I.R. #2, generally parallel to Highway 69 before diverting southeast from Highway 69 to follow the existing 500 kV Hydro One Networks Inc. ("HONI") corridor
- » Connects to the existing Parry Sound Transformer Station southeast of Parry Sound

Thank You For Attending The First HIWEC PIC!

Next Steps for the HIWEC

- » Summarize and respond to feedback received at this PIC
- » Develop the layout for the HIWEC
- » Conduct field studies
- » Prepare draft EA reports
- » Hold a second PIC in the Summer of 2015

We value your feedback and want to hear what you think!

Please drop off your completed comment form before you leave or send it to us before March 31, 2015:

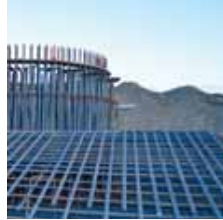
info@henveyinletwind.com
705.857.5265
Henvey Inlet Wind Office
295 Pickerel River Road
Pickерel, ON P0G 1J0

To learn more about the HIWEC or to provide feedback, please visit our website at: henveyinletwind.ca

Henvey Inlet Wind Energy Centre



From Design to Operation



Henvey Inlet Wind Energy Centre



