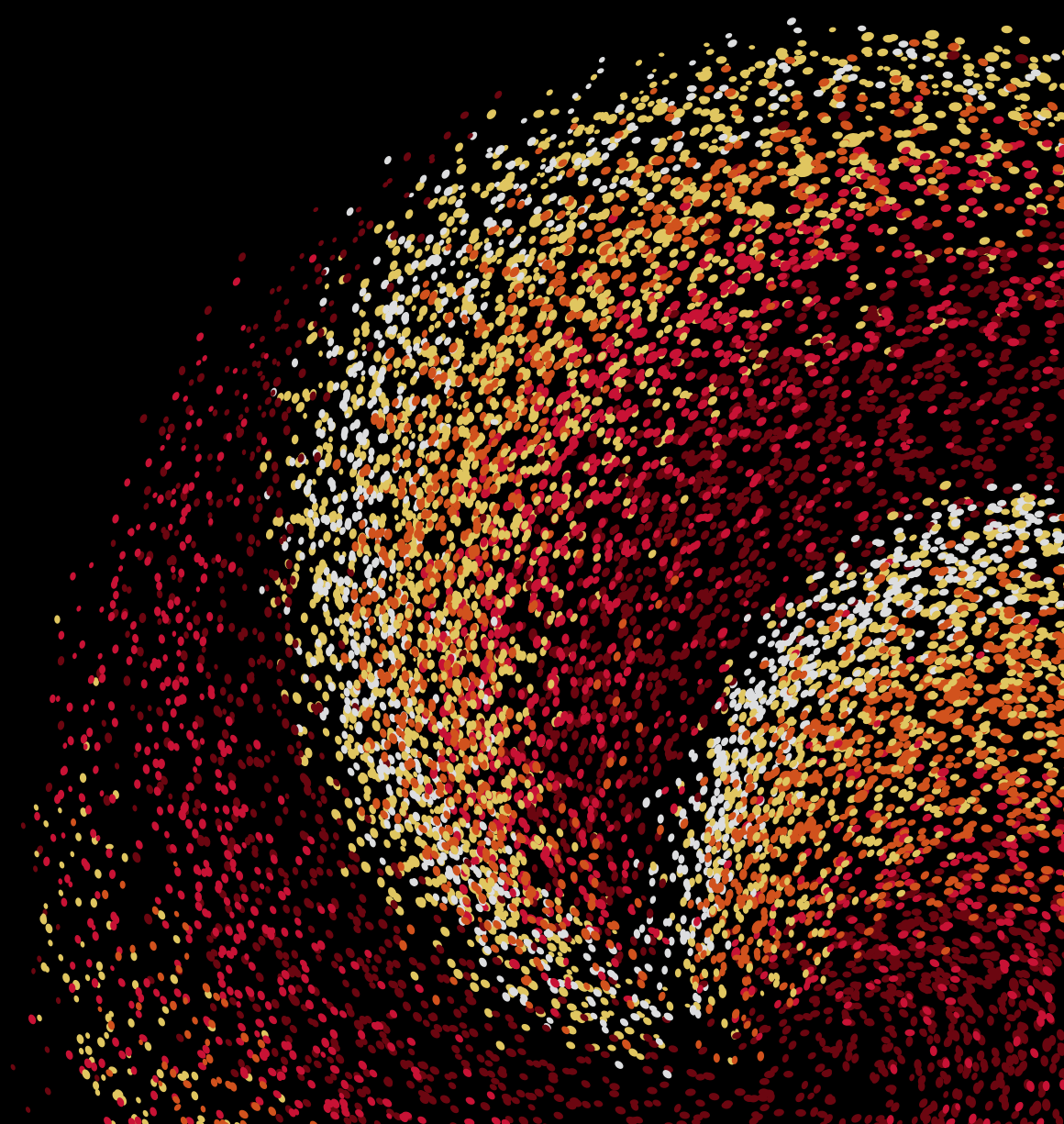


Energy

Ausenco



# At Ausenco we believe anything is possible.

In the resources and energy sectors, we dig deeper to set high global standards for leading edge engineering and project management services.

That means combining ingenuity and insight to produce extraordinary results for our clients, worldwide.

As a growing company with big ideas, we welcome change. We embrace it. It gives us the opportunity to provide more for our clients, our people and the communities we serve.

With the integration of Ausenco PSI, Ausenco Sandwell and Ausenco Vector, we now have all the resources we need to drive our specialist Energy business line. Now we can provide the momentum that will help shape the future.

Working in tandem with existing energy sources, we can offer the specialist skills that will pinpoint alternative solutions when you need them.

For us, a better solution is always just around the corner. We thrive on breaking new ground that delivers breakthrough results for our clients, right across the energy sector.

We are breaking new ground through the application of innovative combustion technologies for instance. We're leading the field in North America, and soon the world, in the design of biomass power plants, designing some of the largest plants. The world's largest offshore wind farm is now well into development, thanks to the preliminary engineering and associated management services we completed.

In Canada, we've completed the engineering and

construction management services for the country's largest combined cycle, natural gas-fired power plant.

We're pioneering in other areas too. We've completed the design and construction of a thermal energy district heating plant that will, for the first time in North America, use municipal wastewater as its heat source. In Canada's Bay of Fundy, home of the highest tides in the world, we're working in a joint venture partnership to complete a detailed design for the first Canadian Liquefied Natural Gas (LNG) jetty.

In Saudi Arabia, we're providing logistics modeling services for the Yanbu Crude Oil Terminal, to improve the running cost and efficiency of vital

operations. The port is one of five along the Red Sea coast and services Saudi Aramco, the largest crude oil producer in the world. And in the highly demanding arenas of arctic and offshore engineering, Ausenco continues to make bold strides like designing the first artificial island, the first cone concept and the first deep water steel caisson.

All around the world, we set our sights for new horizons. We look to one another to adapt to and overcome the challenges our clients set us.

Ausenco combines unrivalled experience and expertise. We are a group of highly skilled individuals who come together to lead our clients and our industry across markets, geographies and boundaries.

# An inspired way of working with clients

**Ausenco provides services across the full project lifecycle, including studies, EPC, Operations and Maintenance. We constantly search for new and better ways to add value to our clients' projects by following a disciplined and inventive approach.**

## We Evaluate

We are inspired by uncharted territory. Our prefeasibility studies, feasibility studies and conceptual design services will all keep you moving in the right direction.

We look to identify opportunities, risks, options and solutions through our preliminary engineering studies and our bankable capital and operating cost estimates.

## We Innovate

We are always eager to take on unconventional or unusual projects. These give us the most opportunity to deliver groundbreaking solutions through our basic and detailed engineering services.

We draw on our own extensive in-house technical resources and, when appropriate, supplement them with contributions from experts in their field, to deliver smarter, more innovative solutions. These are the solutions clients need to stay competitive in today's expanding, efficiency-conscious world economy.

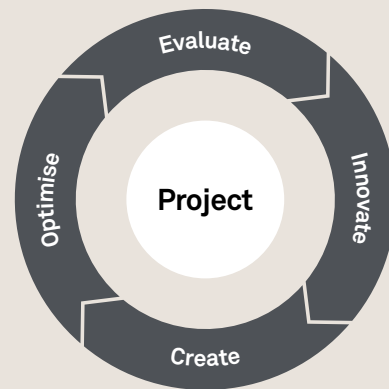
## We Create

We strive to leave a positive and lasting impression on the world around us. Our detailed approach to cost effective, high quality procurement, construction management, commissioning and start-up services help assure it.

## We Optimise

We go well beyond the traditional industry offering in operation and maintenance services. In fact on selected projects, in order to help our clients optimise their resources, we will offer subsidies, investment and even owner-operator services.

It's just another reason why we deliver year in, year out, on project after project. Yet we know that no two solutions are ever the same. For us, typical projects or standard responses simply do not exist. We thrive on constantly seeking ways to do things better.



# Our values guide the way we work

**Our core values are the cornerstone of everything we do. They enable us to discover through ingenuity and lead by example.**

## Safety in all we do

We let nothing compromise our safety performance. All around the world, we believe our valued people deserve to return home safely each and every night.

## The client is our focus

We develop trusting relationships with our business partners and clients. Helping them build better businesses and deliver outstanding results means we can do the same.

## Our people are our strength

We prize the abilities, diversity and creativity of our people. The way that we care for our people, as well as develop and encourage their talents, is a key part of our culture – and we do all we can to grow their skills.

## Respect the community and environment

Wherever we operate in the world, we respect the diverse communities and environments. We understand that our actions leave a lasting impression, and we want to make sure it's a good one for future generations.

## We seek ingenious solutions

We encourage our people to be lifetime learners. This nurtures the ingenuity, flexibility and creativity that we need to find solutions and manage change.

## We are open, honest and collaborative

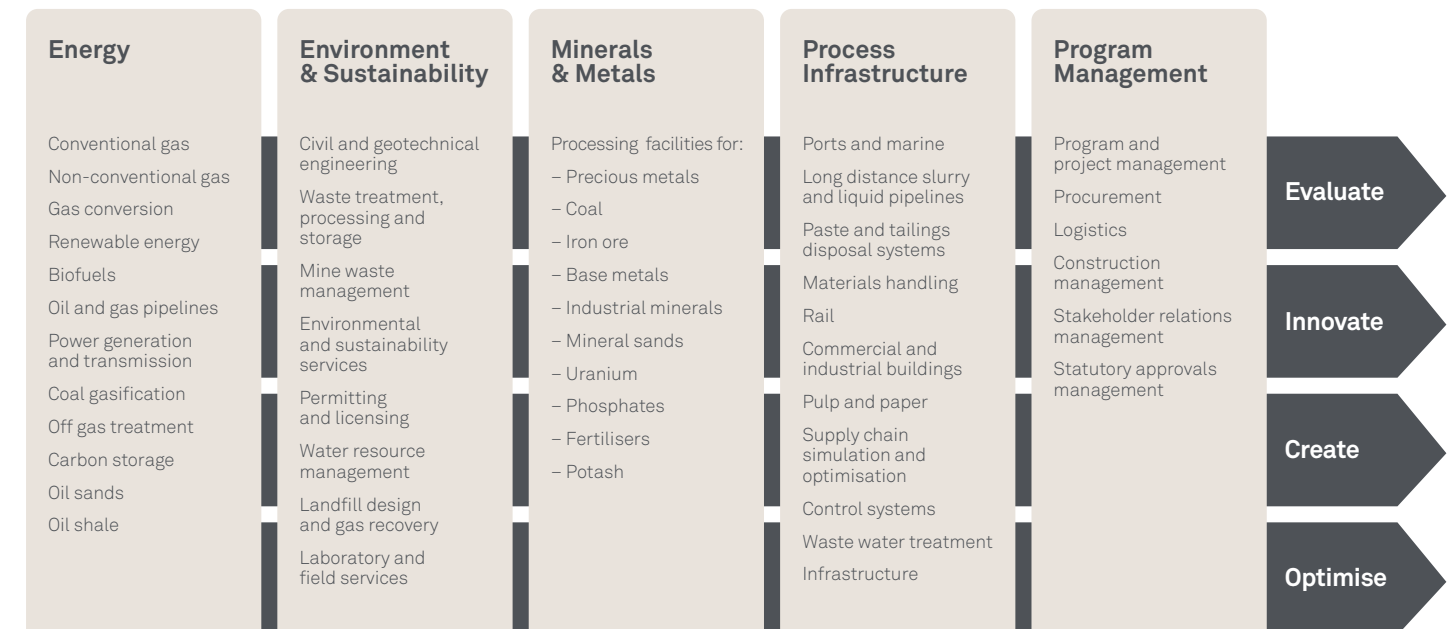
We respect the diversity and differences of all our people and various stakeholders, and we support this with straightforward and open communications at all times.

# Our client solutions offering

**We have designed our mix of services to match our clients' needs and the realities of project lifecycles.**

As a result of the integration of Ausenco, Ascentis, PSI, Sandwell and Vector, we have created areas of specialist expertise in Energy, Environment & Sustainability, Minerals & Metals, Process Infrastructure, and Program Management.

One unified organisation working together across every step of the project lifecycle.



# Our specialist services

At Ausenco, we offer specialist areas of expertise across a wide range of disciplines and sectors.

Our depth of experience plays a critical role in meeting the needs of clients who want top flight engineering and project management services, plus an ability to spark ingenious solutions, for their power generation, alternative energy production and energy transport projects.



## Power generation

We work harder and apply insight and experience to create new solutions and opportunities in both the traditional and non-traditional power markets. This commitment to excellence ranges across every facet of project execution – from performing the role of Owner’s Engineer to full EPC execution into Operations and Maintenance. We offer an unrivalled depth and breadth of industry experience.

We are positioned to lead in the renewable power generation market with experience in biomass and landfill gas-based power generation as well as gas and coal-fired projects. This has given us a head start into many other renewable markets including wind, solar, geothermal, marine and providing supplemental services for nuclear-based power generation. We are also now taking production to the consumer through our transmission and distribution offering.

Incorporating our experience and knowledge base from designing systems within hazardous industrial environments, we bring a comprehensive perspective when addressing the challenges of integrating cogeneration facilities into industrial facilities in a safe and environmentally friendly fashion.

Our resumé of cogeneration project experience includes all the detailed design and field service work associated with the construction of Canada’s largest cogeneration plants firing biomass, urban waste and natural gas.

Long, hard hours spent on many cold climate installations leave us well placed to handle your full design services for solid fuel fired plants in trying remote locations, such as the Arctic.



## Alternative energy production

We can harness all the resources you need for a more successful alternative energy production solution.

So whatever it is you require: from converting coal and gas to liquid fuels, to transforming unconventional gas into power or LNG, to more efficient ways to extract biofuels from renewable or waste feedstocks, we can supply the answers and partnerships you need.

A combination of international experience, technical know how and support service all help to make us your single point of reference and knowledge.

We have extensive experience in one of the world’s most dynamic coal seam gas markets. It’s only natural we know more about energy because we spend our lives living and working with it.



## Energy transport – fuels and power

Typically the source of power and fuel production is not located near the demand. Bringing the two together is a particular strength of Ausenco.

To consolidate the many disparate components of an energy program into one place, we combine GIS capability, high voltage electricity experience, linear project design concepts, terminal design experience and a background in permitting and community relations.

We are recognised world leaders in long distance slurry pipelines and hydro transportation systems. We also provide expertise with associated SCADA systems and telecommunications. We perform or manage the permitting, ROW, routing, construction inspection, and all other components necessary for a complete pipeline project. We are also expert in developing the stand-alone, self-sustaining systems required for remote locations.

In the related arena of exploration and production of oil and natural gas, our experience includes drilling and production platforms, artificial ice islands, and submerged oil storage.

We have completed more than 70 projects in Canada, Alaska, Russia and China in the last five years alone. In addition, we are associated with a number of firsts in Arctic and offshore engineering, including the first artificial island, first cone concept and first deep water steel caisson.

We excel in logistical planning services around terminals building in operational parameters such as tidal constraints, weather impacts and demurrage. The focus always is to develop optimal designs and operating systems and transit schedules that reduce costs and increase revenues.

When you combine our world leader status in slurry pipelines, with our extensive terminal, logistics planning and technical expertise, it’s no wonder we create solutions for the world’s most demanding energy transport projects.

The first Community Energy Centre in North America to utilise municipal wastewater and heat pump technology as the primary heat source.

# Showcasing environmental development

The City of Vancouver engaged Ausenco to bring to life their vision to develop the Southeast False Creek area as a sustainable community incorporating the principles of energy-efficient design. The first phase of this exciting development was showcased to the world at the Athlete's Village during the 2010 Winter Olympic Games.

The Community Energy Centre, where hot water is generated primarily from waste heat in the main city sewers, lies at the heart of the project.

The total facility consists of a new self-cleaning municipal sewage pump station, raw wastewater screening, sewage/refrigerant heat pump, gas fired boilers, HVAC, electrical, instrumentation and control systems, and an emergency generator.

All the equipment is housed in an architecturally designed structure that incorporates urban artwork, public open spaces and public education elements.

This was a sensitive and complex project requiring extensive public consultation with a wide range of stakeholders. In addition, due to the facility's high visibility, the project required a multi-disciplinary approach. Over the project's duration, we consulted with experts in engineering, architecture, public art, landscaping and sustainability to ensure the solution was both environmentally and aesthetically appealing.

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**Project**  
Southeast False Creek  
Community Energy Centre –  
Neighbourhood Energy Utility

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**Location**  
Vancouver,  
British Columbia, Canada

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**Client**  
City of Vancouver

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**Service**  
Alternative energy production

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**Timeframe**  
2007-2010

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Located 90km off mainland British Columbia, the NaiKun Offshore Wind Farm and its 110 wind turbines will create one of the largest wind farm developments in the world.

**The first of its kind in North America, it will generate 396MW of clean, renewable energy and provide power to 130,000 homes in the first phase of development. Subsequent phases will ensure the wind farm produces enough power for 600,000 homes, with each turbine creating enough energy in just 24 hours to power the average house for five years.**

Preliminary tasks have benefited from our knowledge of specialised offshore equipment and construction techniques. We applied our specialist port and marine engineering skills to complete preliminary engineering and management services. This included procurement planning and developing cost estimates for full project implementation and detailed design, and deployment of an offshore meteorological station.

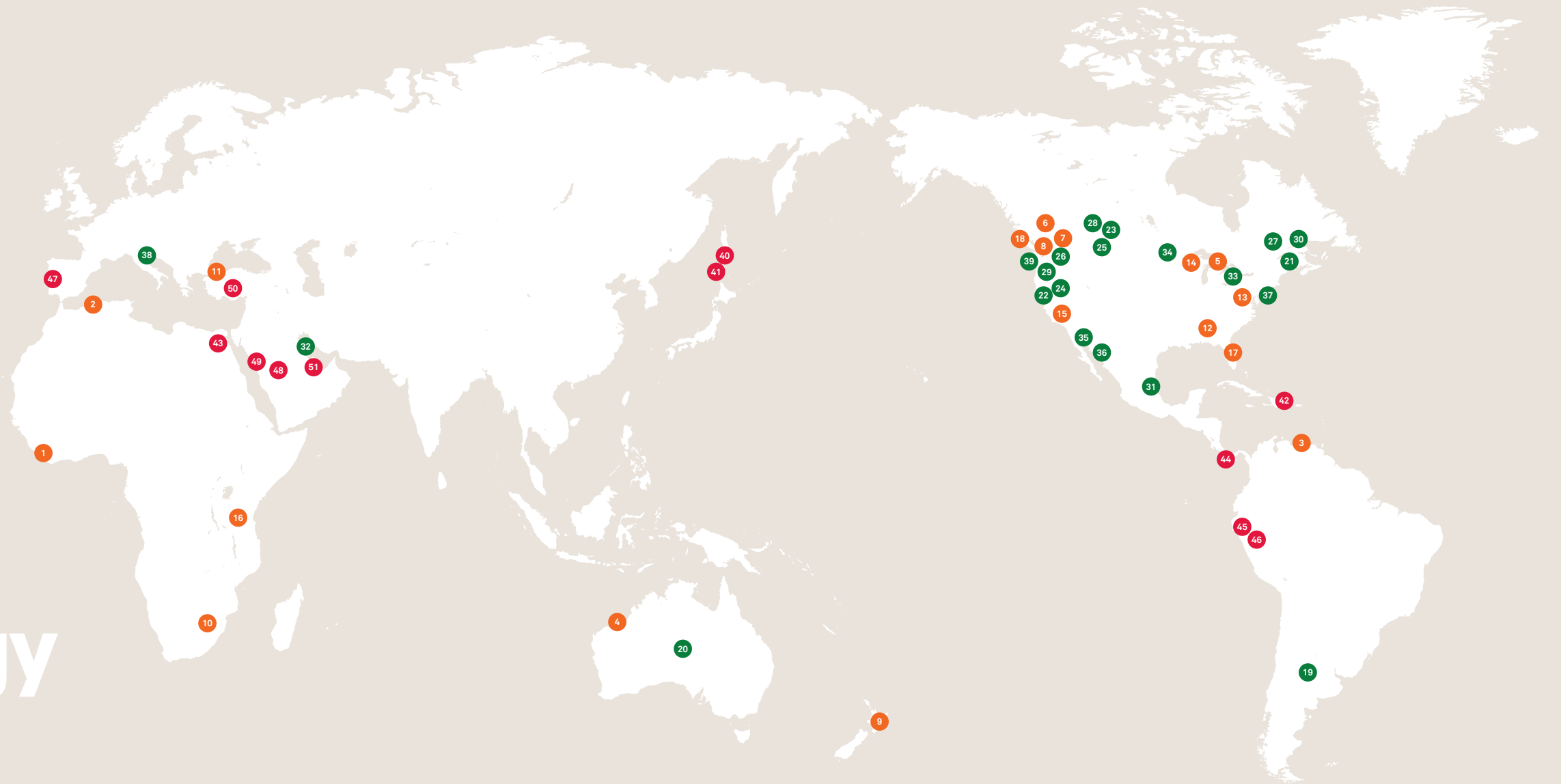
All in all, this project will displace more than 450,000 tonnes of greenhouse gases, and our efforts and innovations will go a long way to helping British Columbia reach their target of self-sufficiency by 2016.

<b>Project</b>	NaiKun Wind Farm, Metmast
<b>Location</b>	Hecate Strait, British Columbia, Canada
<b>Client</b>	NaiKun Wind Development Inc.
<b>Service</b>	Power generation
<b>Timeframe</b>	2007-2013

# Pioneering wind power project

**Key**

- Power generation
- Alternative energy production
- Energy transport – fuels and power



# Our key Energy experience

- Project**  
Location  
Client
- 1 Steam Turbine Generator Plant**  
Liberia, Africa  
Arcelor-Mittal
- 2 1,200MW Combined Cycle Power Plant**  
Hadjret En Nouss, Algeria  
Shariket Kahraba Hadjret En Nouss Skh SPA
- 3 Installation of a combustion turbine with future HRSG**  
Aruba  
Coastal Power Production Co.
- 4 420MW CCGT Power Plant for 73Mtpa iron ore mine**  
Cape Preston, Australia  
CP Mining
- 5 1,005MW Combined Cycle Power Plant**  
Sarnia, Ontario, Canada  
Mitsui-Calpine Partnership
- 6 Hydro Power engineering**  
British Columbia, Canada  
Carmichael Power

- 7 Hydro Power engineering**  
British Columbia, Canada  
BC Hydro Stations
- 8 60MW Biomass Fired Power Plant**  
British Columbia, Canada  
EPCOR
- 9 Evaporators, recovery boilers and kiln/recaustising audit**  
Kawerau, New Zealand  
Fletcher Challenge
- 10 Assessment of operational problems of new 440 t/d pulverised coal and hog fuel fired boiler**  
Ngodwana, East Transvaal  
Republic of South Africa & Sappi Limited
- 11 Cogeneration Power Plant**  
Cayçuma, Turkey  
Oyka Kagit Ambalaj
- 12 35MW Combined Fuel Power Plant**  
Counce, Tennessee, USA  
Tennessee River Pulp and Paper Company

- 13 Cogeneration Project/CFB Boiler**  
Spring Grove, Pennsylvania, USA  
P.H. Glatfelter Company
- 14 Combined Locks Energy Centre, LM6000 Cogeneration Facility**  
Green Bay, Wisconsin, USA  
WPS Power Development Inc.
- 15 ROR Hydropower engineering**  
California, USA  
Northern Utilities
- 16 North Mara Gold Project**  
Tanzania, Africa  
Afrika Mashariki Gold Mines Limited
- 17 SCR Storage and Supply System**  
Bartow, Florida, USA  
Florida Power Corporation
- 18 NaiKun Wind Farm**  
Hecate Strait, British Columbia, Canada  
NaiKun Wind Development Inc.
- 19 Biomass Fired Cogeneration Plant**  
Argentina  
Papel Misionero S.A.I.F.C.

- 20 Sugar to ethanol permitting and planning**  
Australia  
Confidential Corporation
- 21 26MW Biomass Cogeneration Plant**  
Bromptonville, Quebec, Canada  
Kruger Inc.
- 22 Hartland Landfill Bio-Gas Utilisation Project**  
Saanich, British Columbia, Canada  
Maxim Power Corp. and Capital Regional District
- 23 Remote Site Wind Turbine Demonstration – Wind Farm Feasibility**  
Alberta, NWT, Labrador, Canada  
Greenwind Power Corp.
- 24 Vancouver Landfill Cogeneration Facility**  
Delta, British Columbia, Canada  
Maxim Power Corp.
- 25 Biomass power generation**  
Alberta, NWT, Labrador, Canada  
Weyerhaeuser

- 26 Digester gas-fired Cogeneration**  
British Columbia, Canada  
Metro Vancouver
- 27 Landfill Gas Cogeneration**  
Quebec, Canada  
City of Toronto
- 28 Manure Gas power generator**  
Canada  
Confidential Corporation
- 29 Wind farm**  
British Columbia, Canada  
Katabatic Energy
- 30 Biomass cogeneration**  
Quebec, Canada  
Dalkia
- 31 43MW Waste-to-Energy Power Generation Facility**  
Tultitlan, Mexico  
Green Planet Energy Corp.
- 32 LNG facilities – engineering**  
Qatar  
Qatargas Operating Company
- 33 20MW Biomass/Gas Cogeneration Facility**  
Coshocton, Ohio, USA  
Stone Container Corporation

- 34 Biomass Power Plant – Fuel Handling**  
Benson, Minnesota, USA  
Fibrominn LLC
- 35 Cameleon LNG terminal**  
San Diego, USA  
Semptra Energy
- 36 Geothermal Power Plant Improvements**  
California, USA  
Coso
- 37 Biomass Fired Power Plant**  
New York, USA  
Constellation Energy
- 38 LNG Tank Bracing Design, Arctic LNG Terminal**  
Porto Levante, Italy  
Aker Marine/Exxon Mobil
- 39 Southeast False Creek Community Energy Centre – Neighbourhood Energy Utility**  
Vancouver, British Columbia, Canada  
City of Vancouver

- 40 Sakhalin Energy Export Oil Terminal**  
Aniva Bay, Russia  
Sakhalin Energy/Nippon Steel
- 41 Offshore Oil Production Platform**  
Russia  
Marathon/Shell/Mitsui
- 42 Falconbridge Pipeline Integrity Audit**  
Dominican Republic  
Xstrata
- 43 Pipeline Repair and Pigging**  
Egypt  
Confidential Corporation
- 44 Hydrocarbon offloading pipelines**  
Punta Rincon, Panama  
Mina de Cobre, Panama
- 45 Antamina Copper Zinc Export Terminal EPC project and 12MW Power Station**  
Peurto Huarney, Peru  
Bechtel International

- 46 Camisea Pipeline Project – Schedule Evaluation**  
Peru  
Gulf Interstate Engineering Company on behalf of the owner, Transportadora de Gas del Peru S.A. (TGP)
- 47 Natural Gas Project**  
Portugal  
Pipeline Engineering GmbH on behalf of Transgas
- 48 Port of Ras Tanura**  
Saudi Arabia  
Saudi Aramco
- 49 Yanbu Crude Oil Terminal**  
Yanbu, Saudi Arabia  
Saudi Aramco
- 50 Baku Tbilisi Ceyhan (BTC) – Turkish Facilities**  
Turkey  
Pipeline Engineering GmbH on behalf of the BTC partners
- 51 Abu Dhabi Maqta – Al Ain Gas Pipeline**  
Abu Dhabi, United Arab Emirates  
Abu Dhabi National Oil Company

All over the world, we are wherever our clients need us to be.

From the sea ice off the coast of Russia to the jungles of Southeast Asia, and even as far as the peaks of the Andes, we find ourselves working under some of the most challenging conditions on earth. We apply our ingenuity to tackle problems and engineer innovative solutions.

**We discover through ingenuity, we lead by example.**

**We are Ausenco**

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