

## Southern Alberta: A great place for wind power development

Did you know that wind power is the fastest growing source of electricity generation in the world? It is efficient, emissions-free and infinitely renewable. **But why is an oil sands company developing wind projects?**

Suncor Energy is a Canadian pioneer in wind power. We have been involved with wind energy development for close to ten years with joint ownership in four operating projects – two in Alberta, one in Saskatchewan, and one in Ontario. A fifth project is currently under construction just south of Drumheller, AB. The four operating projects have a total generating capacity of 147 megawatts (MW) and offset carbon dioxide emissions by approximately 284,000 tonnes each year.

"We're a sustainable energy company that believes strongly in a parallel path model for energy development," says Grant Arnold, Director, Wind Project Development and Operations. "We support a mix of both conventional and alternative energy options that together will help enable our energy future."



Harvesting the wind at our Chin Chute Wind Power Project. Photo courtesy of Sean LeBlanc Photography.

### Suncor's Magrath and Chin Chute projects

As the wind blows, Southern Alberta's climate conditions make this part of the province ideal for wind development. It's why Suncor selected locations south of Calgary for two of the company's wind power projects, Magrath and Chin Chute.

#### Magrath wind power project

Commissioned in 2004, the Magrath project is located 40 kilometres southwest of Lethbridge. Magrath was Suncor's second wind energy development – the first is located near Gull Lake, SK.

The development includes 20 wind turbines that can generate up to 30 MW of electricity. This installation is projected to offset up to 88,000 tonnes of carbon dioxide annually.

Suncor's partners in the project are Acciona Wind Energy Canada Inc. and Enbridge Income Fund. The initial investment was \$48 million.

#### Chin Chute wind power project

Located 20 kilometres southwest of Taber, the Chin Chute wind power project was commissioned in 2006, at an initial investment of \$60 million.

Like Magrath, the Chin Chute development consists of 20 turbines with the capacity to generate 30 MW of electricity. However, because the Chin Chute turbines and wind resource is slightly different from Magrath, the total greenhouse gas offset from Chin Chute is projected to be up to 102,000 tonnes per year.

Acciona and Enbridge are also partners in this project.

### Clean energy has its rewards

Suncor was one of the first major energy companies to adopt a climate change action plan to better manage our greenhouse gas (GHG) emissions and to make industry-leading investments in renewable energy products.

Renewable energy, such as wind, has the benefit of producing clean electricity – producing no greenhouse gases or other



Pioneering wind generation at our first Alberta wind project, the Magrath Wind Power Project. Photo courtesy of Sean LeBlanc Photography.

air emissions such as sulphur dioxide and nitrogen oxide that lead to smog.

The energy generated from Alberta's wind projects are delivered to the province's power grid as a clean energy contribution. This is in contrast to more traditional fossil fuel sources such as coal and natural gas that currently serve as the primary source to the electricity grid.

Regulations known as the Specified Gas Emitters Regulations, require large final emitters to reduce their GHG intensities over time; while at the same time providing recognition and financial rewards (in the form of an "offset") to cleaner forms of energy such as wind and cogeneration. To meet our targets, Suncor is reducing its own emissions through energy efficiency efforts, but also through the purchase of wind offsets to help meet our regulations.

"We register an emission reduction credit for each tonne of GHG we displace from the grid. These credits are then used to offset emissions generated from our Oil Sands operations," says Karen Reiman, Renewable Energy Contracts Manager for Suncor.

#### Alberta's Climate Change Strategy

Alberta is the first jurisdiction in North America to impose comprehensive regulations requiring large facilities in various sectors to reduce their greenhouse gas emissions.

Alberta's Climate Change Strategy is a practical and comprehensive approach that addresses not only how much energy we use, but also how we can combine technology and expertise to capture emissions and produce cleaner energy for Alberta and the rest of the world. For more information about the province's Climate Change Strategy, go to [www.environment.alberta.ca/01855.html](http://www.environment.alberta.ca/01855.html).

### Wintering Hills wind power project advances

In June, we announced the construction of an 88 MW wind farm near Drumheller.

To develop the Wintering Hills wind power project, Suncor signed a joint venture agreement with Teck Resources Limited and under the terms of the agreement will own a 70 per cent interest and operate the project. Teck will own the remaining 30 per cent.

"We're excited about the opportunity to grow our current renewables portfolio," says Jim Provias, Vice President, Renewable Energy. "Wintering Hills is Suncor's biggest wind power project to date and another example of our ongoing commitment to increasing renewable energy options in Canada."

When constructed, Wintering Hills is slated to have 55 General Electric 1.6 MW turbines located on privately owned land. At peak operation, the project is expected to generate enough clean electricity to power approximately 35,000 Alberta homes, displacing the equivalent of approximately 200,000 tonnes of carbon dioxide per year.

Before any ground is broken on a wind project, a tremendous amount of preparation is required. Project sites are evaluated for economics, electricity prices are analyzed over the lifetime of the project and capital costs estimated. The four key components to developing a successful project are sufficient wind resource, local transmission capacity, comprehensive environmental assessments and local stakeholder support.

"Stakeholder relationships are important to Suncor," says Grant Arnold, Director, Wind Project Development and Operations. "When we develop a wind project, we work closely with landowners and communities. Our intent is to develop relationships that will last for the long term."

With approvals in hand, the first step in the construction is to build roads to provide access to the foundations of each wind turbine. To construct the roads, lay the cables and clear each turbine site, great care is taken to strip and preserve the topsoil. Once the topsoil is stripped, a hole is excavated and concrete is poured to create the foundation for each turbine. Trenches are also dug during this time to accommodate underground electrical cables. The cables will collect electricity from each turbine and meet at a central substation, where voltage is increased to meet the requirements of the local transmission line.

Construction on the Wintering Hills project began in July and is expected to be completed by the end of 2011.



Assembling the rebar as part of the concrete foundation for a wind turbine. The foundation will eventually reside below the ground.

# Suncor, guests celebrate surface reclamation of Wapisiw Lookout

On a sunny September afternoon, Suncor and hundreds of guests celebrated the surface reclamation of Alberta's first oil sands tailings pond into a natural area called Wapisiw Lookout.

"We invested a great deal of time and resources to complete the surface reclamation of Wapisiw Lookout, and we're extremely proud of our employees and contractors who worked tirelessly to make this achievement possible," said Rick George, Suncor president and chief executive officer, at a ceremony to mark the milestone.

The 220-hectare site is located at Suncor's oil sands mining operations, north of Fort McMurray. Known as Pond 1, it was the company's first storage pond for oil sands tailings when commercial production began in 1967.

Suncor has renamed the area Wapisiw Lookout to pay tribute to the history of the region, and to honour its Aboriginal peoples.

"I'm really proud of this work that we've done here and I'm hoping this will set the stage, this will set the standard in terms of reclamation for the oil sands industry and that what we leave behind for future generations is something that the community can use for traditional purposes and something we can use to support a sustainable way for our communities," said Chief Jim Boucher, Fort MacKay First Nation.

In time, the company expects the land will become a productive forest and



Top left: Fort MacKay First Nation Elder Flora Grandjambe performs a blessing during ceremony at Wapisiw Lookout.

Top right: Rick George, Suncor president and chief executive officer, and the Hon. Ed Stelmach, Premier of Alberta, plant trees during the ceremony.

Right: One of the 630,000 shrubs and trees planted in 2010.



wetland. Over the next two decades, Suncor will maintain and closely monitor progress on the site, including the growth of 630,000 shrubs and trees planted in 2010. Ongoing soil, water and vegetation assessments will help ensure the site is on course for return to a sustainable landscape and self-sustaining ecosystem.

Pond 1 was in operation for 40 years before being decommissioned in December 2006 and turned over for reclamation the following month.

Other guests at the September ceremony included: the Honourable Ed Stelmach Premier of Alberta; Members of the Alberta cabinet; Guy Boutilier, Member of the Legislative Assembly for Fort McMurray-Wood Buffalo; Her Worship Mayor Melissa Blake from the Regional Municipality of Wood Buffalo; and members of Fort MacKay First Nation.

For more information on Wapisiw Lookout, including a video, photos, live webcam and the event webcast, visit [www.suncor.com/wapisiw](http://www.suncor.com/wapisiw)

## Milestone inspires Fort MacKay artist

Fred McDonald, a member of the Fort MacKay First Nation and chief executive officer of the Fort MacKay Group of Companies, unveiled a piece of art he created specifically to mark the occasion – called Time Present is Time Past.

"When I thought about the Wapisiw Lookout and what this represents, then I began to wonder about what a person would see when they stood there and had a look around," McDonald explained.

"And, it came to me that if you looked across the Athabasca River you could see one of our traditional seasonal hunting camping areas; a place that my family and many others would gather berries, catch fish and hunt animals.

Then I thought about the connection Aboriginal Peoples had with the natural environment and the animals that lived there. This painting represents the past in two phases, one is the spiritual connection with our environment and the other is our historical involvement with the land."



Fred McDonald (far right) unveils "Time Present is Time Past" as the Hon. Ed Stelmach (far left) and Rick George look on.

## Telling the Suncor story; having a good story to tell

The oil sands industry is gaining a reputation – some of it accurate, some of it not. That's why Suncor is focused on earning a reputation based on facts.

And we're doing that by sharing our story with stakeholders while focusing on our performance so we have a better story to share.

"Our continuing commitment to operational excellence, including our ability to meet our sustainability targets (reductions in water use, improved energy efficiency, lower air emissions and dramatically increased land reclamation by 2015), is fundamental to having a good Suncor story to tell," says Eric Axford, senior vice president, Operations Support.

Another example of the connection between telling the Suncor story and performance is our efforts to inform governments. Suncor's government relations team works to ensure this crucial audience – including elected officials and government workers at local, provincial, federal and international levels – understands our business in the oil sands.

"A key message we stress with government audiences is that we are committed to continuous improvement," says Brent Stuart, director of Government Relations. "It's

extremely important that governments are aware of our business objectives and that we continue to demonstrate our sustainability efforts, so they can reconcile those with the agendas they have as government officials in managing the public interest."

Partnering with industry through the Oil Sands Leadership Initiative provides another opportunity for Suncor to continue to improve our operations and tell our story.

Working with four other progressive-minded oil sands companies – ConocoPhillips Canada, Nexen Inc., Statoil Canada and Total E&P Canada Ltd. – this network is focused on developing leading edge innovations that will drive improved performance in sustainability.

These companies have come together to work as a collective, looking for new ways to improve performance, such as regional solutions to water consumption.

Suncor also reaches out to stakeholders with OSQAR (Oil Sands Question and Response). This online newsletter provides context on questions raised about oil sands development, including specifics on how environmental impacts are managed.

OSQAR helps readers – who range from academics to representatives from environmental non-government organizations – gain a better understanding of the industries complexities so they can speak more knowledgeably about it.

Having a good story to tell is less about "PR" and more about demonstrating results and doing better by our environment: things like tailings reduction operations, improving our water use and pushing forward on energy efficiency. These are the facts we want to share with stakeholders.

For more details about the progress we're making, check out the 2010 Sustainability Report available online at [suncor.com/sustainability](http://suncor.com/sustainability).



### Get in the know with these sustainability stats:

**\$1.2 billion**

actual and planned investments in new tailings technology

**1,182 hectares**

(2,920 acres) of land reclaimed to date

**13%** decrease in Suncor-wide greenhouse gas emission intensity from 2008 value

**\$750 million**

actual and planned investments in renewable energy

**147 megawatts**

of combined generating capacity at Suncor's four wind farms

**1 million tonnes**

of CO<sub>2</sub> avoided per year through combined renewable energy portfolio when ethanol plant expansion is completed (scheduled for 2011)

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