



ENVIRONMENT REPORT

While reliable electricity supports Albertans' quality of life, ENMAX also recognizes that we need to make, move and market electricity in an environmentally responsible way. We believe Alberta needs energy solutions that help maintain our way of life today, while considering our environment for the future. We're working to apply new approaches to power generation that not only improve the reliability of electricity supply to our customers, and also reduce greenhouse gas (GHG) emissions and other environmental impacts. We are also looking at environmentally responsible energy solutions for other parts of our business.

We work persistently to encourage respect for the environment as a key value among employees, to promote environmental awareness in the community and to enhance our own corporate environmental practices. Air emissions, urban wetlands and soils management are our primary areas of environmental focus.

Please refer to the "GRI Report" for additional key environmental performance indicators and data.

LET'S TALK ABOUT COAL – PAST, PRESENT AND FUTURE

Coal. In Alberta, it's the elephant in the room.

Coal-fired generation has been the predominant electric energy source in Alberta – and in many parts of North America – for many years. Coal is abundant in the province, has been relatively inexpensive to exploit and the technology required for coal-fired generation is relatively simple. Alberta has a legacy of coal-fired generation and long-distance transmission lines to carry energy from the coal-fired generating units to where the energy is needed.

Coal is an important resource that will continue to be part of Alberta's energy mix for many years. However, the public and regulators are increasingly raising concerns about GHG emissions from coal-fired generation. Other concerns around coal include surface mining and reclamation, criteria air contaminants (CAC), mercury and water use.

While new technology such as carbon capture and storage is being researched and may in time open new avenues for coal use, ENMAX believes that Alberta will continue to see a decrease in coal-fired generation in the future and an increase in natural gas-fuelled generation, supplemented by wind energy and other renewable sources such as solar and geothermal.

Approximately 69 per cent of the power ENMAX provides to customers is sourced through power purchase arrangements (PPAs) ENMAX holds for specific coal-fired generation units. Under the terms of the PPAs, ENMAX as a PPA buyer, bears certain costs of complying with new regulations or changes in law aimed at reducing emissions – whether GHG, CAC, mercury or other – associated with the coal-fired generation units for which ENMAX is the PPA buyer even though the PPA owners (i.e. the owners of the generation plant) bear the immediate responsibility for compliance. ENMAX works with PPA owners to the extent possible around GHG and other emissions.

As Alberta PPAs expire, and coal-fired generation units retire in accord with the new federal GHG regulation (see following section), ENMAX believes we have a unique opportunity to re-think the way we power Alberta.

One of the key strategies ENMAX is pursuing is to grow our business while reducing the GHG emissions of our generation portfolio. We'll do this by:

- Investing in natural gas-fuelled generation
- Locating generation facilities close to demand to reduce the amount of electricity wasted by transmission losses
- Enabling consumers to be part of the energy solution by creating home-based renewable energy products.

ENMAX is already making progress on our aim to gradually decrease our reliance on coal-fired generation in favour of natural gas, as we build natural gas-fuelled facilities in the Calgary region. We also engage in demand side management through our Generate Choice® program.

We will continue to balance our generation portfolio to ensure reliable supply remains a top priority in our planning efforts. Although we believe there is tremendous opportunity to grow natural gas-fuelled generation in our province, we also recognize that, for the foreseeable future, our energy mix will include coal.

Over time, and given the current technological and economic constraints on clean coal generation, moving away from coal is consistent with the desired outcomes of federal GHG regulations and ENMAX's corporate strategy.

Mercury can bioaccumulate in the food chain, is potentially toxic to humans and wildlife and can occur naturally. The electricity sector is responsible for about 28 per cent of mercury emissions in Canada and Canadian Electricity Association member companies are making steady progress in reducing that share. As of January 1, 2012, Alberta Environment requires a minimum of 80 per cent mercury capture from existing coal-fired facilities. ENMAX Energy is working with PPA coal plant owners to monitor the effectiveness of their mercury capture programs throughout 2013.

EMISSIONS: REGULATORY UPDATE

In 2012, the federal government finalized new greenhouse gas (GHG) regulations pertaining to coal-fired generation and ENMAX is pleased that they provide certainty around the future of coal-fired generation in Canada. The government is now turning its attention to defining new regulations for Criteria Air Contaminants (CAC).

In Alberta, the provincial *Specified Gas Emitters Regulation* (SGER) has been in place since 2007 and is scheduled for review in 2013. ENMAX urges dialogue between federal and provincial jurisdictions, as well as an examination of international regulations, in order to achieve alignment between regulations. Alignment is required for business certainty and efficient operations, and to maximize the positive combined environmental outcomes.

GHG emissions

Published in 2012, the new federal regulations regarding coal-fired generation are based on capital stock turnover – that is, gradual retirement of existing coal-fired generation assets. The intent of the regulations is to move away from older, higher-emitting generation assets toward newer, lower-emitting generation assets while still respecting the past good faith investments made by Alberta's electric industry in coal-fired generation. Accordingly, the regulations call for existing coal-fired generation facilities to retire or attain a GHG emissions intensity performance standard of 420 tonnes of carbon dioxide equivalent (CO₂e) per gigawatt hour once the facilities reach the end of their design service life – between 45 to 50 years from commissioning, depending on the unit. There is no option for meeting the standard through offsets or credits; facilities must physically meet the standard, most likely through retrofitting to allow for carbon capture and storage. New coal-fired facilities built from 2015 onward must comply with the standards.

ENMAX is largely supportive of the new regulations (we advocated for a maximum lifespan of 45 years for existing coal-fired facilities). We believe the regulations will promote the gradual but effective turnover of older assets, and will achieve an overall reduction in GHG emissions while continuing to maintain reliability of supply. We also believe the new regulation is fair to both consumers and investors. Additionally, we support that the onus will be placed on the market to make decisions on the replacement of generation capacity through retrofits or new construction.

Criteria Air Contaminants

Criteria air contaminants (CAC) include particulates, nitrogen oxides (NO_x), sulphur oxides (SO_x) and ammonia. While the impact of GHG emissions is felt worldwide, the impact of CACs is more local. Accordingly, discussions between industry, the provinces and federal government officials are underway in regards to establishing standards called base-level industry emission requirements (BLIERs).

ENMAX is concerned that the current proposal with respect to implementing BLIERs on existing coal-fired generation is not in the best interests of Albertans; we believe that better options that will achieve similar outcomes are available. Specifically, ENMAX is of the view that retrofitting existing coal-fired plants – scheduled to retire in accord with the new federal GHG regulation – to meet the proposed BLIERs will result in either wasted capital that could be more effectively spent on new lower emitting generation or encourage the premature retirement of existing coal-fired units to avoid the costs associated with the implementation of BLIERs. In a

coal-heavy province like Alberta, retirement of coal-fired assets earlier than contemplated under the GHG regulations could result in generation capacity shortfalls, which in turn would affect consumer prices, market stability and reliability of supply.

As an alternative, ENMAX is advocating for the federal government to adopt CAC standards already developed by the Alberta Clean Air Strategic Alliance (CASA), a multi-stakeholder partnership in Alberta with representatives from industry, government and non-government organizations. CASA uses collaboration and consensus-based decisions to develop and recommend air quality management standards. Regarding criteria air contaminants, CASA recommends:

- Within 40 years from the plant commissioning date, existing coal-fired facilities must retrofit to meet CAC standards, using best available or best economic technology available at the time
- Facilities may use offsets or credits for an additional 10 years
- At the end of 50 years, existing facilities must comply or retire.

This approach achieves substantially the same outcomes as the proposed BLIERs, if certain implementation timelines are assumed, on a reasonable implementation schedule with minimal adverse impact on consumers and energy supply.

As federal government discussions continue, we will continue to advocate for CAC regulation that strikes a balance between the protection of our environment, consumer interest and supply reliability.

EXPANDING DISTRICT ENERGY

ENMAX is a proponent of district energy as another means to build more sustainable communities.

Most commercial buildings are heated by on-site boilers which take up space and result in greenhouse gas (GHG) emissions from each building. District energy provides an alternative by providing hot water from a central location to customer buildings through a closed-loop piping system – this allows customers to reclaim space formerly taken up by boilers. The cost associated with purchasing and maintaining stand-alone boilers systems is also reduced.

ENMAX's Downtown District Energy Centre is the first of its kind in Calgary and one of the largest non-institutional district energy systems in western Canada.

The project broke ground in 2008 and began operation in 2010. New connections in 2012 include Bow Valley College and the Andrew Davison Building, and the National Music Centre is a new customer. The facility is poised to heat up to six million square feet of residential, office and commercial space in Calgary's downtown core

As people come to recognize the environmental and economic benefits of district energy, interest has grown beyond Calgary. In 2012, ENMAX became involved in a small combined heat and power project in downtown Edmonton. The Boyle Renaissance project, under development by the Métis Capital Housing Corporation, will provide community services and affordable housing; ENMAX plans to install a small natural gas fuelled combined heat and power micro-generation system which will provide power to one phase and heat and power to another. Canadian handyman celebrity Mike Holmes is consulting on sustainability and construction quality for the project.

"We're so proud to be involved with this project, as it's designed to provide a quality living environment that helps to meet sustainability and energy reduction targets and can serve as a model for future affordable housing projects."

– Leanne Pottinger, Generation Communications Manager, ENMAX Corporation

GREENHOUSE GAS EMISSIONS: REDUCTIONS AND OFFSETS

Greenhouse gas emissions from ENMAX's generating facilities are currently subject to the provincial Specified Gas Emitters Regulation (SGER), which requires all emitters with annual GHG emissions of 100,000 tonnes or more to reduce their emissions intensity by 12 per cent below an established baseline. Compliance may be achieved by:

- Physically reducing emissions
- Obtaining Alberta-based GHG offsets generated from the non-regulated sector (GHG offsets are reduction credits purchased by companies to compensate for or offset the emissions they generate)
- Making payments into the Alberta Climate Change and Emissions Management Corporation (CCEMC) Fund, at a rate of \$15 per tonne.

In 2012, ENMAX Energy's total compliance obligation for our generation portfolio, comprising power purchase arrangements (PPA) with Keephills and Battle River coal-fired generating facilities and our own natural gas-fuelled facilities under the SGER was approximately 1.17 million tonnes of GHG, the majority of which is due to the coal-fired generation PPAs. In the long term, we intend to move away from coal-fired generation PPAs and toward natural gas-fuelled generation, which is more efficient and produces fewer emissions than comparably sized coal-fired units.

ENMAX Energy purchases tillage offsets, from companies such as Viterra Inc., which aggregates GHG offsets from Alberta farmers who practice no-till or reduced-till farming methods. ENMAX Energy also purchases Emission Performance Credits from third parties, and generates offsets from its own wind farms to meet its compliance obligation.

Through purchased and generated compliance instruments like offsets and Emission Performance Credits, ENMAX Energy countered 666,399 tonnes of emissions in 2012. In aggregate, since 2007, our organization has offset approximately 5 million tonnes of GHG emissions.

AREA FOR ACTION: EMISSIONS

ENMAX's commitment to reduce the GHG emissions footprint of our generation portfolio began in 2005 by setting a target of 10% reduction in our generation portfolio intensity by 2020. In 2012 we achieved a 10 per cent reduction in emissions intensity across the portfolio (which includes PPAs) from 2005 levels largely as a result of scheduled outages at coal facilities as well as a change in methodology by a third party for GHG emissions' intensity calculations.

Our target aligns with The City's goal in its 2020 Sustainability Direction for a sustainable environment.

SHEPARD ENERGY CENTRE UPDATE

When completed in 2015, the Shepard Energy Centre in southeast Calgary will be Alberta's largest natural gas-fuelled generation facility and a major component in our long-term strategy to be less reliant on coal-fired generation. Using combined-cycle turbine technology, Shepard will add 800 MW of electricity to the provincial power grid – enough to meet half of Calgary's current electricity requirements.

Shepard is the backbone of our long-term plan to deliver value to our Shareholder and the citizens of Calgary. We expect this facility to provide financial returns over the long term, but its value also comes from environmental, economic and social benefits. These include:

- Lower-emissions relative to conventional coal-fired generation
- More efficiency than comparably sized coal-fired generation
- Responsible water use
- Increased reliability

The project has an exemplary safety record. Though there were up to 600 workers on site at the peak of activity in the summer of 2012, no lost time incidents and a TRIF of 0.89 were recorded for 1.3 million hours worked.



Capital Power partnership

In December 2012, ENMAX and Capital Power jointly announced that Capital Power had agreed to purchase a 50 per cent interest in the Shepard Energy Centre, entering into a joint-venture agreement with ENMAX to construct and operate the facility. This agreement allows ENMAX to share the risk and reward of such a large-scale capital project.

This is a great story for Alberta. Our two organizations are both established participants in Alberta's electricity market and Shepard will help us ensure a future supply of electricity in our province.



WIND POWER

The blades of the 35 turbines at ENMAX's Kettles Hill wind farm were busy in the winter of 2011-2012, quickly spinning ENMAX into the top spot for a Vestas Productivity Award. The award, which indicates how well a company manages its ability to generate electricity, is a symbol of ENMAX's commitment to renewable energy sources of electricity.

Our wind portfolio which includes Taber and McBride Lake Wind Farms, in addition to Kettles Hill, has an installed capacity of 218 megawatts – over 10% of ENMAX's entire portfolio.