ENERGY STEWARDSHIP

Access to secure, reliable and affordable energy underpins the vitality of our communities. It is our responsibility to understand the evolving energy needs of our customers, and to develop efficient and effective energy solutions that support the transition to a lower-carbon energy system.

ENERGY STEWARDSHIP AT A GLANCE

CUSTOMER SATISFACTION

SECURITY & RELIABILITY

ACCESS TO ENERGY

AFFORDABILITY

1 solar-to-hydrogen hybrid energy pilot project in Western Australia

2,200t of CO_2e and 786,000 litres of diesel eliminated per year by connecting one remote community to the grid

$1.8B spent on new and refurbished generation, transmission, distribution and storage infrastructure in 2017

up to 80% reduction in energy consumption using LED and intelligent street lighting, which we are piloting in Lloydminster

1st electric vehicle fast-charging corridor unveiled in Alberta, stretching 300 kilometres, with charging stations located in Calgary, Red Deer and Edmonton

7,000kW of additional distributed generation installed in 2017

ENERGY STEWARDSHIP

> "There's no single vision for the way our energy sector will evolve, but there is one universal, indelible truth: we are in the midst of a profound transformation. No matter where you sit in the value chain, the impact of change will be felt. Ensuring that we do not lose sight of the importance of reliability, affordability, and maintaining the confidence of both our investors and customers will require unprecedented engagement and innovation across traditional institutional boundaries."
>
> *Siegfried Kiefer*
> *President & Chief Strategy Officer*

Our energy sector is in a state of transition, driven by increasingly innovative technologies, evolving customer expectations and government policy. With operations throughout the energy value chain, we are uniquely positioned to help facilitate this global transformation, and to empower our customers to play a role.

Making this transition smoothly requires long-term thinking and unprecedented collaboration among members of industry, regulators, policymakers and customers. We advocate for a holistic perspective on energy policy; one that considers not just immediate impacts, but accounts for the future of our evolving industries. Whether it's the rise of the prosumer movement, in which customers take a more active role in generating electricity themselves and selling it back to the grid, or the growth in micro grids, we must be forward looking.

As the energy landscape evolves, paving the way for unconventional partners and competitors, we've increased our focus on working collaboratively to deliver solutions that enable customers to play a part in shaping our energy future. Often, that involves entirely new operating models and partnerships to deliver solutions that are truly customer-centric.

ACCESS TO SECURE, RELIABLE AND AFFORDABLE ENERGY

The transition to a lower-emitting energy system will be complex. Striking a balance between affordability, community needs, system reliability, price stability and investor confidence is essential. We are developing a range of solutions that provide our customers with access to new technologies and secure, reliable and affordable energy.

Distributed Energy Solutions

Over the past year, we have piloted a range of distributed energy projects, combining natural gas, solar and storage technologies to enable our customers to play a more active role in managing their energy use.

Residential Solutions

Drawing upon the success of our 2016 pilot projects in Red Deer and Edmonton, we've continued to advance the development of micro-combined heat and power (mCHP) and renewable solutions for residential applications.

Our hybrid house project in Mannville, Alberta utilizes micro-combined heat and power, solar and battery storage.

Working closely with our partner, we retrofitted seven homes in Calgary and Edmonton with mCHP units and rooftop solar panels. The electricity generated by the solar panels is used by the home, and any excess electricity is sold back to the local grid through a net meter. Meanwhile, the mCHP electricity generation follows the home's demand, and heat generated is used to provide hot water.

In Mannville, Alberta, we have also retrofitted a 1,200 sq. ft. home with a variety of distributed energy technologies, capable of fully energizing the residence. Similar to our original hybrid house project, we installed a 1.5 kW mCHP unit, solar panels and onsite battery storage to allow the home to disconnect from the grid. The mCHP unit also provides the heat needed for the entire home.

In Western Australia, we continue to advance our GasSola Project, which combines rooftop solar panels, battery storage and a natural gas-fired generator to provide reliable, low-cost and flexible energy to nine homes. In 2017, we finalized installation of the hybrid energy technology at all homes in the trial, and began gathering data on energy usage. This data will help us understand the impacts of the hybrid technology mix and how natural gas can smooth the peaks and troughs of increased renewable generation into the grid.

18

hybrid home pilot projects evaluating a mix of technologies including solar, natural gas and battery storage, with the potential for each to save up to 4.8 tonnes of CO_2e/year, or over

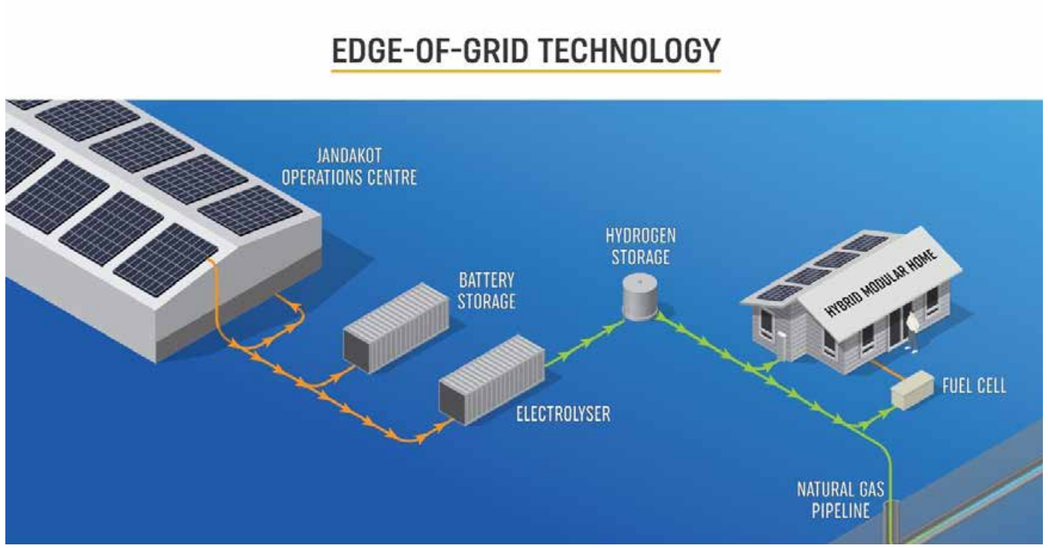
40%

reduction of a typical household's greenhouse gas (GHG) emissions

Moving forward, we are prototyping what the new smart home of the future could look like, leveraging our modular structures and energy expertise, along with all the services required for our customers' modern lifestyles.

Commercial Solutions

We have intensified our efforts to expand commercial-scale distributed energy expertise, working collaboratively alongside developers and customers alike. In Camrose, Alberta, we partnered with Clark Builders to develop a commercial-scale rooftop solar project for a University of Alberta campus. We also partnered



Our Clean Energy Innovation Hub integrates our modular structures, hydrogen production, natural gas electricity generation, solar photovoltaic, and battery storage technologies.

with Clark Builders to provide design and engineering expertise in deploying solar and cogeneration technologies at Red Deer College.

Projects like these provide valuable insights on the costs, advantages and challenges of retrofitting buildings with hybrid energy solutions, which inform our portfolio of products and services and ensure we can accommodate the evolving needs of our customers.

Finally, we have also begun development of a commercial-scale hybrid energy centre known as the Clean Energy Innovation Hub. Located at our Jandakot Operations Centre in Western Australia, this multi-tiered project:

- Integrates hydrogen production, solar and natural gas-fired electricity generation, battery storage and associated control systems to sustainably energize a commercial-scale micro-grid.
- Incorporates a modular residential home built by our modular structure division installed on site, fitted with a GasSola system, as well as the latest natural gas appliances.
- Tests an emissions-free process using solar-generated electricity to split water into oxygen and hydrogen. The hydrogen will be mixed with natural gas and transported using the existing gas distribution network. Appliances will be tested for how well they can burn the blended hydrogen and natural gas fuel.

Solutions for Remote Communities

Selecting the optimal energy solutions for Indigenous and remote communities requires a careful balance of a variety of factors, including affordability, reliability and environmental performance. No one solution fits all. Increasingly these communities, which often rely on diesel-fired electricity generation, are considering alternatives such as natural gas, renewable energy, waste heat recovery, energy storage and grid connections.

We serve 16 communities in northern Alberta, the Yukon and Northwest Territories that currently rely on diesel-fired electricity generation. Using research completed over the last year, we are investing in market-ready renewable technologies and power system interconnections to reduce both the amount of diesel used to generate power and our environmental footprint. Collectively, the proposed solutions could eliminate the use of more than 3.3 million litres of diesel each year and cut in excess of 9,300 tonnes of GHG emissions annually.

We also connected the community of Garden River in northern Alberta to the electric grid in December 2017, eliminating the community's reliance on diesel. This interconnection alone is predicted to reduce diesel consumption by approximately 786,000 litres and GHG emissions by 2,200 tonnes of CO_2e per year, in addition to reducing air pollutants.

For more information on these and other partnerships with Indigenous communities, see page 26.

Access to Electric Vehicle Charging Infrastructure

Ensuring our customers have access to charging infrastructure is important in encouraging adoption of new and emerging electric vehicle (EV) technologies.

In November 2017, we announced the deployment of three EV fast-charging stations in Calgary, Red Deer and Edmonton - the first corridor of its kind in Alberta. The project was developed in partnership with FLO, Canadian Tire and Natural Resources Canada.

Our people provided their local expertise in connecting the cutting-edge charging stations to the grid, while our retail energy business provides the cost-effective, reliable electricity required to give customers energy access as they commute between the province's three largest cities.

In 2018, we are also partnering with the City of Edmonton to pilot curbside EV charging services for the public, and are actively exploring the use of EVs in northern communities.

Beyond the immediate benefits to our customers, these projects provide us with valuable data on EV usage and adoption. Equipped with this data, we can continue to evolve our products and services as this important sector continues to grow.

Enabling Energy Efficiency

There is an enormous role for energy efficiency in minimizing the cost to customers associated with evolving our grid. Simply put, helping our customers conserve energy is the easiest way to reduce GHG emissions and avoid unnecessary expense.

Municipalities around the world are increasingly looking to harness light-emitting diode (LED) street lights to reduce energy use and maintenance costs. In October we partnered with the City of Lloydminster to simultaneously install LED street lights and an intelligent street light system, which provides remote monitoring and "light on demand" that dims street lights during off-peak hours, and automatically brightens them when pedestrians, cyclists or cars are detected. This combination of technologies can reduce street light energy consumption by up to 80 per cent, while also reducing maintenance costs and lowering GHG emmisions.

Renewable Opportunities for Existing Natural Gas Infrastructure

As governments and businesses seek opportunities to reduce emissions associated with energy use, finding ways to leverage existing infrastructure can help

Electric vehicle charging infrastructure will help empower our customers to take advantage of new and emerging technologies.

85%

potential reduction in GHG emissions from renewable natural gas (RNG) produced from sustainably managed forest residue compared with conventional natural gas. We are hosting an RNG demonstration plant in Alberta, connected to our pipeline infrastructure.

95%

of our regulated natural gas and electricity distribution customers in Canada agreed that we provide good service based on research conducted by a third party on our behalf. Within our energy retail operations, 76% of customers who interacted with our call centre were "very satisfied" with their experience, compared to an industry average of 71%.

preserve both affordability and reliability. The use of renewable natural gas (RNG) presents us with one such opportunity.

Renewable natural gas, or biomethane, is a gas with high methane concentration that is obtained from biomass such as food waste, sewage or other organic waste. Blending RNG with natural gas in our existing pipeline distribution infrastructure could be a cost-effective complement to more conventional forms of renewable energy.

In March 2017, we announced our support for RNG in Canada by partnering with G4 Insights, the Government of Canada, Alberta Innovates, FPInnovations and members of the Canadian Gas Association, to generate RNG from forest residue. The conversion of the waste wood to fuel can reduce GHG emissions by as much as 85 per cent compared to traditionally produced natural gas.

Through the partnership, we will host an RNG demonstration plant and test it under normal operating conditions using a range of biomass types. The demonstration unit will process 30 kilograms a day of forestry biomass and produce between three and five gigajoules of RNG daily. Once testing is complete, the demonstration unit will be connected to our existing natural gas infrastructure, injecting small amounts of RNG into our pipelines - a first for the technology in Canada.

The project is expected to be operational in July 2018.

CUSTOMER SATISFACTION

With diverse operations around the world, our people are actively working and living in hundreds of communities, supporting more than two million customers. Because of the interconnected nature of our operations, the satisfaction of a customer in one part of our business impacts perception of our company overall.

Our goal is to have our customers recommend our products or services to a friend or colleague.

The basis for customer satisfaction within our company varies substantially between each line of business. For example, within our structures division, ensuring customers are satisfied requires delivering on time, on budget and with an exceptional safety performance. Within our retail energy business, we are often assessed on having readily-available, responsive, knowledgeable and friendly customer service.

Increasingly, we rely on a range of new technologies designed to streamline the customer experience, including aerial gas meter reading, online portals for service requests within our regulated utilities, and improved sales software to document needs and requirements of our customers. We are also proactively engaging customers throughout our business to better understand their energy and lifestyle preferences, as we shape our portfolio of products for the future.

Our smart LED lighting solutions, like the one developed in Lloydminster, are helping our municipal customers conserve energy and reduce costs.