



# LOOKING AHEAD

2017 SUSTAINABILITY REPORT

**ATCO**



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.



Beyond working to minimize our environmental footprint and the impact associated with our operations, we look for opportunities to improve the environmental performance of our customers and the communities we are privileged to serve.



Safety is the first consideration in everything we do. We are committed to providing a safe work environment for our people, and we actively engage with municipalities, governments, first responders, and the communities we serve to promote the importance of energy safety.



We engage in an open, transparent and honest manner and create long-lasting relationships that contribute to sustainable communities and economic development. Along with our Indigenous and community partners, we are continually exploring new ways of partnering in the changing and evolving environment.



### VISION

Our core vision is to make lives easier for our customers by providing sustainable, innovative and comprehensive energy and housing solutions globally.

To Our Readers,

Our world truly is experiencing profound, unprecedented change. Technological disruption is accelerating, commerce is evolving, societal expectations are changing and environmental pressures are mounting.

For companies like ours, global in scale and fueled by the courageous imaginations of nearly 7,000 exceptional people, the confluence of these trends affords a window of tremendous opportunity. From the growing needs for rapidly-deployed modular housing solutions around the world to the modernization of our electricity and natural gas infrastructure, ATCO is uniquely positioned to deliver truly sustainable solutions – for this generation, and those to come.

Over the past year, we've broadened the horizons of our modular structures business, expanding our offering to sectors in need of flexible, scalable and affordable construction solutions, such as schools, medical facilities and affordable housing – infrastructure that underpin the social fabric of our communities.

We have intensified our exploration of innovative new energy technologies, including electric vehicle infrastructure, renewable natural gas, hydrogen, and hybrid natural gas and solar solutions. From Western Australia to Canada's remote North, these innovative projects are yielding new insights on how to best repurpose existing infrastructure and integrate distributed energy resources, while also providing valuable learnings on how to commercialize similar solutions at scale.

Beyond the energy technologies we've developed to enable our customers to reduce their impacts, we've taken strides to limit our own environmental footprint. We continue to focus on near-term opportunities to reduce emissions from our pipelines, facilities and fleet, without compromising the reliable, affordable service our customers expect.

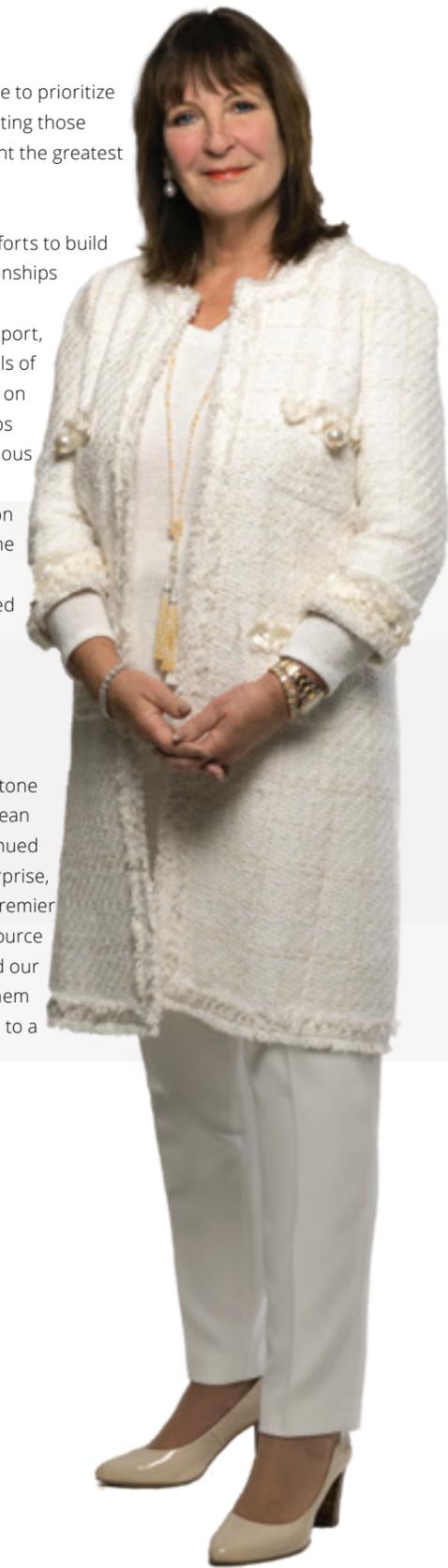
Of course, none of this would have been possible were it not for our commitment to operational excellence. Safety has long been the first consideration in everything we do, and we are steadfastly committed to providing a safe, healthy workplace for our people, and ensuring they get home to their friends and families at the end of

each day. To that end, we continue to prioritize workplace safety initiatives, targeting those facets of our business that present the greatest risk to our people.

Finally, we have redoubled our efforts to build strong, mutually beneficial relationships with Indigenous Peoples and communities. Inside this year's report, you'll find examples of new models of collaboration, which look to build on the partnerships and relationships ATCO has developed with Indigenous communities for decades. We continue to educate our people on the importance of sincere, genuine and transparent Indigenous engagement, along with a renewed focus to support employment, education, engagement and economic participation within Indigenous communities.

As ever, underpinning each milestone from the past year are the herculean efforts of our people. Their continued commitment to sustainable enterprise, and their passion for delivering premier solutions to our customers is a source of great pride for both myself and our Board of Directors. I commend them on their efforts, and look forward to a future of immense possibilities.

Nancy Southern  
Chair & Chief Executive Officer



# INTEGRATED SOLUTIONS

From reliable, sustainable energy for homes and businesses to innovative temporary and permanent structures and everything in between, we build communities, energize industries, and deliver customer-focused infrastructure solutions.



## STRUCTURES & LOGISTICS

- Relocatable Structures
- Permanent Structures
- Emergency Response
- Site Services



## ELECTRICITY

- Electricity Generation
- Electricity Transmission
- Electricity Distribution



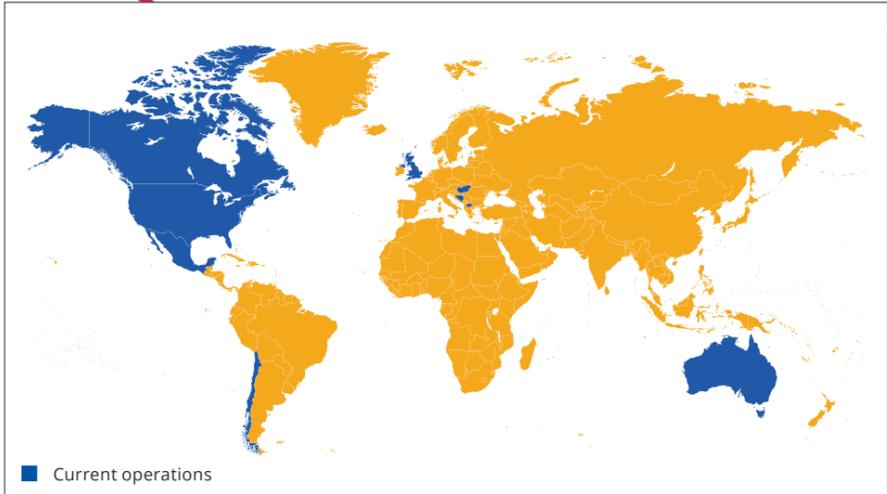
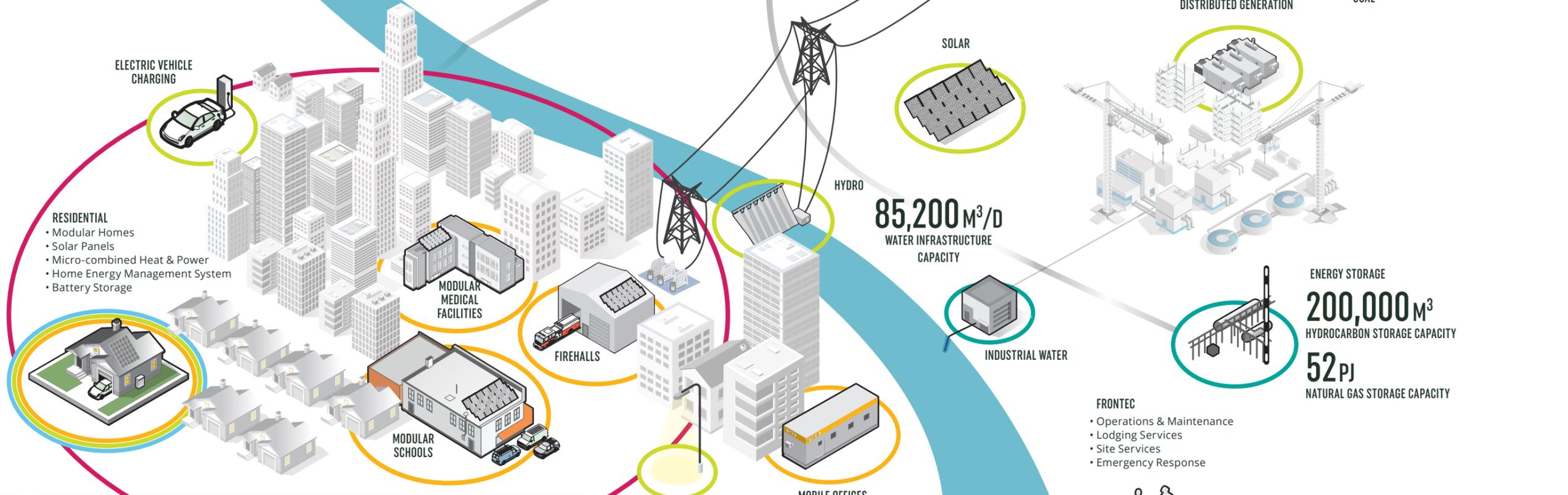
## PIPELINES & LIQUIDS

- Natural Gas Distribution
- Natural Gas Transmission
- Energy Storage
- Industrial Water



## RETAIL

- Retail Electricity and Natural Gas (Home & Business)





# 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<sub>2</sub>e 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

**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<sub>2</sub>e/year, or over

**40%**  
reduction of a typical household’s greenhouse gas (GHG) emissions

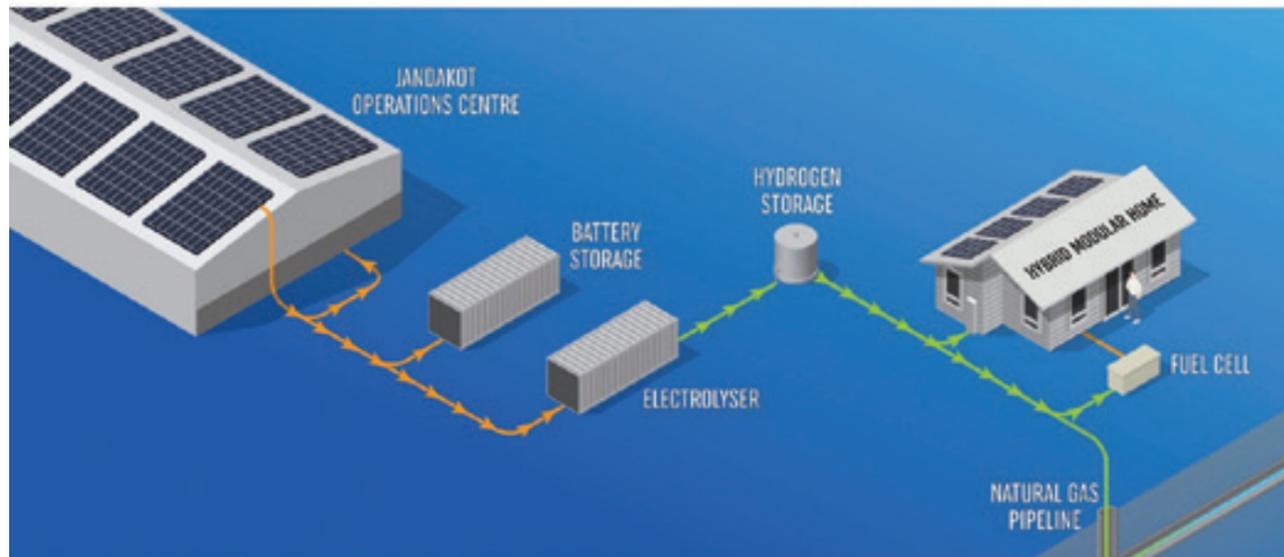
to provide reliable, low-cost and flexible energy to nine homes. In 2017, we finalized installation of the hybrid energy technology at all homes in the trial, and began gathering data on energy usage. This data will help us understand the impacts of the hybrid technology mix and how natural gas can smooth the peaks and troughs of increased renewable generation into the grid.

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

## EDGE-OF-GRID TECHNOLOGY



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<sub>2</sub>e 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 emissions.

### 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.



# ENVIRONMENTAL STEWARDSHIP

Beyond working to minimize our environmental footprint and the impact associated with our operations, we look for opportunities to improve the environmental performance of our customers and the communities we are privileged to serve.



## ENVIRONMENTAL STEWARDSHIP AT A GLANCE



CLIMATE CHANGE & ENERGY USE



ENVIRONMENTAL MANAGEMENT



CO<sub>2</sub>e/year avoided through building efficiency initiatives from our Jandakot Operations Centre in Western Australia



35MW

hydroelectric generating facility acquired in Veracruz, Mexico

10%

increase of in-line inspections on gas transmission lines year-over-year. Our goal is to inspect all transmission lines more than eight inches in diameter and five kilometres in length by 2024.

37%

or 6.3 million tonnes reduction in direct GHG emissions, and more than 36% reduction in air emissions of nitrogen oxides and sulphur dioxides compared to 2008

33%

reduction in vented and fugitive methane emissions from our Canadian natural gas transmission, distribution and storage networks since 2008

# ENVIRONMENTAL STEWARDSHIP

## CLIMATE CHANGE & ENERGY USE

To reduce both the direct and indirect GHG emissions associated with our operations, we are exploring new and more efficient ways to generate, transport and conserve energy. From diversifying our electricity generation portfolio to minimizing impacts associated with our buildings, we are working collaboratively with governments, customers, communities, industry, and our Indigenous partners to help enable a low-carbon future.

### Reducing Our Direct Impacts

The transition to a lower-emitting energy system will require a large-scale renewal of capital infrastructure. With pipelines, transmission lines and power stations built to operate for several decades, this transition requires careful long-term planning and balanced consideration of impacts to customers, communities, investors and the environment. That's why we are identifying near-term opportunities to reduce emissions while providing reliable, affordable energy to the customers we serve - whether through investing in new low-carbon projects or retrofitting our existing facilities.

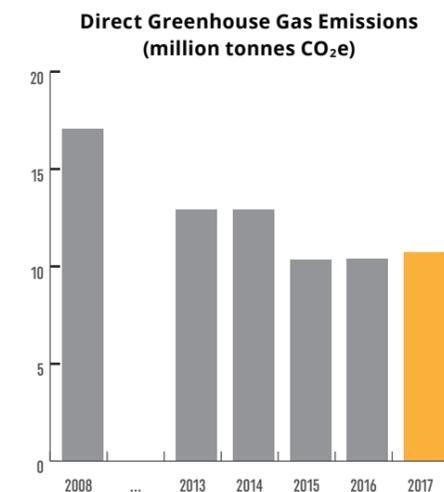
### Hydroelectric Generation

In December 2017, we announced the expansion of our renewable portfolio with the acquisition of a 35-megawatt (MW) hydroelectric facility in the state of Veracruz, Mexico. The acquisition reflects our continued focus on delivering reliable low-carbon electricity solutions to customers around the world. The Veracruz project adds to our hydroelectric portfolio, which includes our 32-MW Oldman River hydroelectric facility, which is jointly owned by ATCO and the Piikani First Nation.

In July 2017, the Oldman River facility received EcoLogo® certification. EcoLogo® is a voluntary, multi-attribute, lifecycle-based certification program that requires rigorous scientific testing and auditing to prove compliance with stringent, third-party environmental performance standards. Our Oldman River facility has been certified for reduced environmental impact electricity production, and earned approximately 130,000 Renewable Energy Certificates (RECs) in 2017. A REC is a tradable energy commodity that represents 1 MWh of energy generated from a renewable source, and can be sold to energy retailers.

# 130,000

Renewable Energy Certificates generated and certified by EcoLogo® through renewable electricity produced by our Oldman River hydroelectric facility in Alberta



*Approximately 95 per cent of our direct GHG emissions are due to our power generation operations. Since 2008, we have reduced our direct GHG emissions by 37 per cent, and have also reduced emissions of nitrogen oxide and sulphur dioxide by more than 36 per cent. In 2017, our direct GHG emissions increased slightly due to an increase in electricity production. However, we have implemented operational efficiencies to reduce other environmental impacts from our power generation operations.*

### Coal-to-Gas Conversions

Over the course of the year, we advanced plans to convert our coal-fired generating assets in Alberta to run on lower-emitting natural gas. These conversions would

enable continued operation of these important facilities, minimizing the immediate need for new infrastructure and continuing to support the province's interconnected electric system. In early 2018, we completed and fully commissioned a 50 per cent coal-to-gas co-firing project at one of our units at the Battle River Generating Station near Forestburg, Alberta.

Coal-to-gas conversions are an economical way to meet baseload power requirements, and are less than one-twentieth the cost of building a new natural gas facility. They also offer significant environmental benefits, including reducing existing GHG emissions by 40 per cent, reducing nitrogen oxides by up to 75 per cent, and eliminating emissions of sulphur oxides, particulate matter, and mercury. Perhaps most importantly, coal-to-gas conversions help limit the impacts associated with Alberta's coal phase-out to surrounding communities, many of which depend on these facilities for economic activity.

### Biomass

We continue to investigate the use of biomass and other alternative fuels. In 2017, we conducted a test at our Battle River facility to evaluate torrefied wood

biomass as a potential fuel source. The test indicated that few equipment modifications would be needed to use biomass in lower volumes, and would reduce GHG emissions by up to 20 per cent as well as lower other air pollutants. A larger test is planned for 2018 to include more detailed sampling and analysis.

### Fleet Vehicles

We own and operate a fleet of approximately 3,500 units, ranging from light-duty vehicles, such as pick-up trucks and vans, to heavy-duty vehicles. In 2017, we began implementing a telematics solution across the entire vehicle fleet. The goal of the system is to monitor and influence driving behaviour to improve fuel efficiencies by minimizing idling and hard braking. Installation is now largely complete, and we are finalizing the setup of the telematics software.

Altogether in 2017, our fleet reduced fuel consumption by approximately 1,000,000 litres - largely as a result of workload changes and general process efficiency improvements. With telematics made available to our business units, we anticipate additional fuel savings and improved driving behaviour in the future.



Our newly acquired 35-MW hydroelectric facility in the state of Veracruz, Mexico.



During construction activities associated with our Urban Pipeline Replacement Program in Alberta, we went beyond best practice during the replacement of a pipeline crossing a tributary to the Bow River. Typically, our standard practice for pipeline water crossings involves the use of horizontal drilling, which helps minimize impact to both the water body and its banks. In this case, however, the unique conditions of the soil prohibited that approach.

Ultimately, we elected to use an isolated open-cut method of pipeline installation, which requires that we divert water around the work area. We implemented the best water treatment technology available and worked actively to control erosion during installation. This multi-pronged approach ultimately enabled us to return the diverted water at a higher quality than before in a biologically sensitive area.

We took a similarly proactive approach to environmental management in construction of our Fort McMurray West 500-kV transmission line. Seventy-five per cent of the line will run through muskeg, a fragile peat bog that requires freezing temperatures to limit the environmental impact of construction activities. Recognizing these unique conditions, we have condensed transmission line construction to two winter seasons, each only three to four months long, which should substantially reduce our impact to the land.

#### Methane

Although methane accounts for less than four per cent of our total GHG emissions, we proactively manage and reduce methane emissions associated with our natural gas pipeline operations. In addition to previously implemented reduction programs, in 2017 we planned an optical gas imaging program to improve our above-ground leak detection, which further pinpoints and quantifies fugitive emissions sources. The program will involve regular reviews of our 15 compressor stations, and is expected to significantly reduce methane emissions from fugitive sources.

#### Reducing Our Indirect Impacts

We reduce our indirect emissions through the efficient use of energy and resources. For example, when constructing new facilities, we identify opportunities to minimize energy consumption. At our Jandakot Operations Centre in Western Australia, we carefully designed the facility to suit the Australian climate, including using tinted windows and gas-powered

air conditioning to minimize energy requirements. These initiatives have reduced our indirect GHG emissions by up to 100 tonnes of CO<sub>2</sub>e per year.

Our new global headquarters in Calgary, ATCO Park, is designed to LEED Gold specifications. The 241,000 sq. ft. campus was inspired by two iconic Alberta images - the Rocky Mountains and the flowing



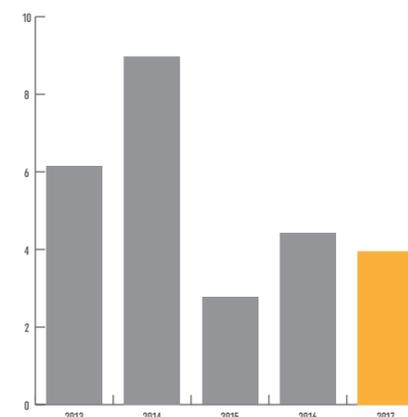
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lines of a prairie stream - and 95 per cent of materials involved in construction were locally sourced in Western Canada. The facility uses LED lighting throughout, with a controlled system that turns lights off when there are no occupants. We are in the process of evaluating the environmental performance of our new facility, and expect to confirm LEED Gold certification in late 2018.

To further improve the efficiency of our existing buildings, we are investing in a range of innovative technologies. In October, we partnered with CleanO2 Carbon Capture Technologies to install a CARBINX unit at our Whitehorn Operations Centre in Calgary, Alberta. The device will both capture carbon from combustion flue gas and reduce energy demands by recovering waste heat, resulting in a five per cent reduction in annual GHG emissions and a three per cent reduction in annual energy use.

Protection of the environment is a core value, and minimizing environmental impacts associated with our operations is the responsibility of all our people.

Volume of Reportable Hydrocarbon Spills (thousands of litres)



Hydrocarbon spill volume has decreased over the past year. The majority of hydrocarbon spills are related to our electrical business, and include third party incidents such as damage to electrical transformers due to automobile accidents and vandalism.

## ENVIRONMENTAL MANAGEMENT

We incorporate environmental considerations into the full lifecycle of every project, and regularly monitor, assess, and report our performance.

For example, for more than 20 years we have captured and recycled fly ash from our coal-fired electricity generation. Through the use of this fly ash as an input, our customers such as ready mix concrete providers, can reduce GHG emissions in addition to improving lifecycle costs and longevity of their concrete and cementing products. In 2017 alone, GHG emissions avoided by our customers by re-using this product were 175,000 tonnes, or the equivalent of removing approximately 40,000 vehicles from the road.

## Incident & Risk Management

We mitigate our environmental impacts through the systematic and responsible management of our operations. We are committed to continually improving our environmental and operational integrity programs through the regular sharing of best practices, and we report environmental risks and performance to the Audit & Risk Committee through our Stewardship Reporting processes.

One important aspect of risk management is preventing spills, and control measures are driven by best practices within each industry in which we operate. When spills occur, we assess the unique circumstances to ensure all appropriate steps are taken to minimize environmental impacts, remediate the area as required, and limit recurrence of similar incidents.

Due to the nature of the industries in which we operate, some examples of non-hydrocarbon liquids we handle include brine water and waste water. Consequently, although the volume can fluctuate year to year, there is typically a lower risk of adverse environmental impact associated with spills of these liquids.

Although the number of regulatory reportable spills remained the same, we saw a large increase in the reported spill volume of non-hydrocarbon liquids in 2017. We are continuously evaluating and improving spill prevention efforts and are working to implement a number of strategies including targeted repairs and process improvements to reduce these volumes moving forward.

2017 REPORTABLE SPILLS

	REPORTABLE SPILLS (NUMBER)	VOLUME OF REPORTABLE SPILLS (THOUSANDS OF LITRES)
Hydrocarbon	14	4
Non-hydrocarbon	7	2,059*

\* Of the non-hydrocarbon spill volume: 89 per cent was related to two incidents at one of our workforce housing facilities where treated waste water was discharged in excess of the daily limit; 11 per cent was related to a brine spill at one of our storage facilities, which was recovered via the existing ground de-watering system. The combined volume of the other four non-hydrocarbon spills was one thousand litres.

## Natural Gas Pipeline Integrity

We own and operate more than 64,000 km of natural gas pipelines, so the prudent management of this infrastructure is integral to our business. To help keep those pipelines and our communities safe, we work collaboratively with our peers to share and implement best practices. For example, the industry-led Integrity First® program established by the Canadian Energy Pipeline Association (CEPA) has identified several priority areas, including pipeline integrity, emergency management and control room management. Subject matter experts, drawn from each CEPA member, developed industry-wide guidance and self-assessment criteria designed to identify areas for improvement, as well as increase accountability and transparency throughout our industry.

In 2017, a self-assessment and independent third-party verification of transmission pipeline integrity found all areas to be continuously improving, proactive, or leading, according to the CEPA Integrity First® criteria. We also continued our aggressive in-line inspection program on transmission assets in 2017. We inspected nearly 2,300 km of line and increased in-line inspections by 10 per cent from 2016. Our target is to inspect all transmission lines more than eight inches in diameter and five kilometres in length by 2024. The success of in-line inspection and other integrity activities is evidenced by our performance - in 2017 we had less than one leak per 1,000 km of transmission pipeline.

In our natural gas distribution system, targeted programs to replace vintage steel and plastic assets within our communities continued in 2017. Significant improvements were also made to the distribution cathodic protection system to better monitor and protect steel piping systems from the threat of corrosion.



# SAFETY AT ATCO

Safety is the first consideration in everything we do. We are committed to providing a safe work environment for our people, and we actively engage with municipalities, governments, first responders, and the communities we serve to promote the importance of energy safety.

## SAFETY AT A GLANCE

# 219

total natural gas and electricity safety awareness events hosting more than 3,500 Albertans. This includes our ongoing involvement with industry partners in important Click Before You Dig and Where's the Line? campaigns.



**EMERGENCY PREPAREDNESS & PUBLIC SAFETY**



**EMPLOYEE AND CONTRACTOR HEALTH & SAFETY**

# 67%

reduction in employee lost-time injury rate since 2008. However, a slight increase over 2016 led to the development of targeted safety initiatives.

# over 500,000

exposure hours worked with zero lost-time injuries on the Fort McMurray West 500-kV Transmission Project

## EMERGENCY PREPAREDNESS & PUBLIC SAFETY

As a provider of housing, site services and energy and infrastructure solutions, public safety and emergency preparedness are vital to our operations. With our global footprint, we have a unique opportunity to educate communities on the importance of energy safety and to mobilize our complementary capabilities to respond to emergencies and disasters, wherever and whenever they occur.

Our incident and emergency response efforts are managed by Crisis Management Teams within our business units and overseen by, and escalated to, our enterprise-wide Crisis Management Committee when required. This comprehensive approach to incident management enables us to coordinate efforts and resources across business units and geographies. In times of crisis, our Frontec division also has a long history of rapidly mobilizing holistic disaster relief solutions in life support services, energy and structures for customers and communities around the world.

### Emergency Preparedness & Response

When incidents occur within the service territories of our natural gas and electric utilities, it is our job to work quickly to restore essential services and support first responders. It's also part of our job to ensure that we debrief, challenge, and continuously improve how we respond when minutes matter.

In October, a violent snowstorm in east-central Alberta knocked out power to more than 5,000 of our customers. We responded rapidly, deploying two helicopters and teams from across the province. Over the course of four days, our Crisis Management Team coordinated the efforts of more than 120 of our people, working around the clock to repair power lines and poles and to safely restore electricity to our customers.

To complement our emergency response efforts, we are improving access to outage information for our customers. In May 2017, our electricity distribution division launched a new, online outage





Safety is the first consideration in everything we do, and it's the responsibility of everyone on the work site - whether it's a powerline, pipeline, a lodge, a power plant, or the office.

notification map to keep customers and our teams informed about interruptions within our service territory. This system was developed using insights from the catastrophic 2016 Fort McMurray wildfires. The new province-wide map includes information about all outages - planned and unplanned. Updates to status and estimated restoration time occur every 15 minutes, based on data availability and confirmation by one of our powerline technicians.

### Frontec's Global Solutions

Not every disaster is close to home. Since its creation in 1986, our Frontec division has partnered with the Canadian Armed Forces, NATO and non-government organizations to provide quality camp and infrastructure services in some of the world's most challenging, remote and disaster-stricken environments.

In September 2017, a powerful Category 4 hurricane - Hurricane Maria - hit Puerto Rico with devastating force. With local infrastructure in disarray, we deployed a team of our people from across the company to support response efforts. We partnered with a large pharmaceutical company to provide services, sanitation facilities and accommodations to enable their people to remain on the island in the wake of the storm.

These combined services were vital in ensuring the continuity of our partner's operations, while also offering a sense of normalcy for workers. During our response, the safety of our people on the ground was a top priority. Our team exemplified the spirit of operational excellence upon which our company was founded - working nearly 28,000 exposure hours with zero recordable injuries.

### Public Safety

We take a proactive approach to public safety. Through our safety campaigns, we work to raise awareness of the importance of safe digging near natural gas pipelines and the risks associated with overhead power lines and carbon monoxide (CO) in homes.

For example, within our natural gas and electricity distribution divisions in Alberta, our teams worked closely with numerous community partners on a variety of safety events. These included nearly 90 public safety events on the importance of carbon monoxide safety with the Office of the Fire Commissioner, 92 events promoting the importance of power line awareness and 37 events designed to educate people on the dangers associated with hit natural gas lines. The events were well received, with more than 3,500 people attending from across Alberta.

## EMPLOYEE AND CONTRACTOR HEALTH & SAFETY

All of our employees and contractors have the right to a safe and healthy workplace. And, as we continue to expand our global footprint, we remain committed to ensuring our operations are safe and that our people are appropriately trained to deliver integrated solutions safely.

### Operational Excellence and Safety

Our deeply embedded focus on operational excellence is at the core of who we are. As we further integrate our modular housing, logistics, energy and infrastructure products and services, we continue to share best practices on our safety management programs and processes.

As each of our lines of business faces unique safety risks, we work to ensure procedures align with best practices specific to the industries in which we operate - ranging from manufacturing to power line maintenance.

Three of the most common incidents across the company can be categorized as resulting from slips, trips and falls, hand injuries and musculoskeletal disorders. The following are examples of actions taken in 2017 to minimize injuries in these areas:

**Slips, Trips and Falls:** Our WinterWorks initiative raised awareness of the specific risks associated with working in winter conditions. We also developed programs designed to highlight the importance of appropriate footwear.

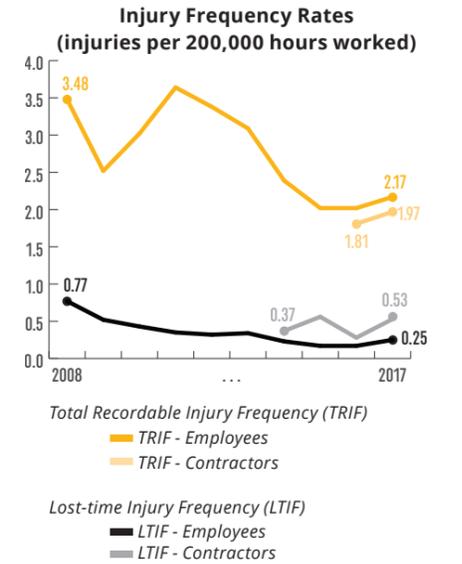
**Hand Injuries:** In our manufacturing operations, root cause analysis indicated that a change in procurement to provide three distinct styles of hand protection, each suited to a different task, could significantly reduce hand injuries. As a result of this initiative, hand puncture injuries - which have a significant impact on injury rates in our manufacturing teams - have decreased by 20 per cent.

**Musculoskeletal Disorders:** Injuries that affect the body's movement or musculoskeletal system, such as muscles and tendons, can occur when performing repetitive tasks in both industrial and office settings. A committee of employees, formed in 2017, investigates the causes of these injuries and helps prevent them with process design changes.

### Mental Health

In recognition of the tremendous importance of mental health, we began rolling out an internal awareness program focused on removing the stigma associated with mental health challenges. The Not Myself Today® campaign is a public engagement campaign created by Partners for Mental Health.

More than 100 of our people stepped up to champion the movement, providing various educational materials to employees across Alberta on topics such as emotional intelligence, mental health resolution and workplace bullying. Initially implemented within our Pipelines & Liquids Global Business Unit in 2017, our Corporate Office, Electricity Global Business Unit, and retail division are implementing the program through 2018.



Our safety performance shows improvements when compared to our 2008 baseline. However, 2017 saw higher rates of injury to our employees and contractors than in 2016. These increases are being monitored and targeted corrective actions taken.



We take a proactive approach to public safety, participating in a broad range of emergency preparedness activities, engaging our partners, customers, communities and employees.



# COMMUNITY & INDIGENOUS RELATIONS

We engage in an open, transparent and honest manner and create long-lasting relationships that contribute to sustainable communities and economic development. Along with our Indigenous and community partners, we are continually exploring new ways of partnering in the changing and evolving environment.

## COMMUNITY & INDIGENOUS RELATIONS AT A GLANCE



ENGAGEMENT



PARTNERSHIPS



INFRASTRUCTURE



EDUCATION

# \$7.58M

community investments made by ATCO through gifts-in-kind, sponsorships, donations and our matching contribution to the employee-led ATCO Employees Participating in Communities (ATCO EPIC) program. Altogether, these investments supported more than 280 communities and 2,000 organizations in 2017.

# more than 3,000

public engagement meetings were conducted as part of our Fort McMurray West 500-kV Transmission Project

# 40+

new and existing joint-venture partnerships, MOUs, and other relationships with Indigenous communities

# \$2.6B

revenue generated in conjunction with Indigenous joint ventures and partnerships since 2012



# 577

additional Canadian employees completed our online Indigenous Awareness Training in 2017, continuing the training program which launched in 2016

# 6

renewable generation or water management MOUs signed with Indigenous Communities in 2017

# 50+

scholarships provided to students in more than 25 Indigenous communities

# 2

Relationship Agreements signed in 2017, with more in development



# COMMUNITY & INDIGENOUS RELATIONS

## COMMUNITY ENGAGEMENT

With more than two million customers in hundreds of communities around the world, we recognize that no two communities are alike. That's why we work to understand and meet the unique needs and interests of the communities we serve, and to engage with those that may be affected by our operations - from Indigenous Peoples and community groups to landowners, governments and regulators.

### Comprehensive Community Engagement

Our comprehensive and transparent approach to engagement is critical in planning and developing energy transmission infrastructure, which may span hundreds of kilometres and traverse dozens of communities. Over the course of 2017, we continued to advance three such projects - our Fort McMurray West 500-kilovolt (kV) Transmission Project, Jasper Interconnection Project and our Urban Pipeline Replacement (UPR) Program.

In February 2017, the Alberta Utilities Commission approved the route for our 500-km Fort McMurray West 500-kV Transmission Project, which will run from west of Edmonton to Fort McMurray. The public engagement process for the project was extensive. In total, more than 3,000 face-to-face meetings were conducted. During route planning, environmental specialists were consulted to ensure that wildlife, soils, vegetation, wetlands, and historical resources were also considered, and the final route incorporated feedback received during the engagement process. Construction of the project began in the summer of 2017 and will conclude when the line goes into service in 2019.

We also continued consultation efforts associated with our Jasper Interconnection Project, which will connect Jasper National Park's isolated electrical distribution network to the Alberta grid. We conducted two open houses, more than 75 individual consultation sessions and engaged with a broad spectrum of interested parties, including members of the Jasper Chamber of Commerce, Jasper Town Council, the Jasper Environmental Association, Parks Canada and the public.



*We held open houses for three new projects as part of our UPR Program in 2017.*

Finally, we continued community engagement efforts on our UPR Program in Alberta, which involves a series of individual pipeline construction projects. Altogether, the project will see 276 km of older natural gas pipelines removed from high-pressure operation, replaced by 130 km of new high-pressure transmission pipeline.

The public consultation process for the program has been extensive, with individual open houses and stakeholder communications for each new project. In 2017, we held open houses for three new projects, notifying more than 50,000 area residents. Detailed construction planning and environmental protection plans are developed as part of each project to help minimize impacts to roadways, communities and environmentally sensitive areas.

### Grassroots Employee Giving

Our people play a central role in our community investment efforts around the world. Our employee-led ATCO EPIC (Employees Participating in Communities) program rallies the spirit of our people all over the world, combining fundraising events, volunteerism and individual donations. We enhance our employees' generosity by matching those donations made to human health and wellness charities.

In 2017, ATCO and its people pledged more than \$3.4 million for hundreds of community charities, taking the program's cumulative fundraising total to more than \$38 million since its inception in 2006. Within our Mexican operations, our people came together to launch the inaugural ATCO EPIC campaign in Mexico. Together, they raised enough money to build two new homes for families impacted by the devastating earthquake in Mexico City.

## INDIGENOUS RELATIONS

In 2017, we worked to create an in-depth strategy to consolidate our approach to Indigenous engagement across our company. The strategy is based upon four pillars:

- access to jobs, education and training for Indigenous Peoples;
- internal and external education;
- meaningful engagement; and
- economic participation.

We recognize there are many evolving factors shaping relations between Indigenous communities, businesses and governments across Canada and globally, and we remain steadfast in our commitment to build and sustain long-lasting relationships with Indigenous communities where we operate.

“ Our goal is to develop mutually beneficial solutions that create prosperity for Indigenous Peoples and ATCO. We are focused on promoting reconciliation with Indigenous Peoples for a better Canada by treating all in the manner in which each of us wants to be treated.”

*Nancy Southern  
Chair & Chief Executive Officer*

## DIFFERENTIATED METHODS OF ENGAGEMENT

### Relationship Agreements

In 2017, we committed to strengthening our relationships with Indigenous communities with the introduction of Relationship Agreements. These agreements are built on a shared commitment to long term, community-focused relationships, rather than being specific to an individual project or initiative.

These relationships are fostered by regular meetings between two ATCO representatives and two Indigenous community members, which allow us to learn, understand and work together to develop solutions for community needs.

In 2017, we signed two of these Relationship Agreements which are intended to complement the more than 40 specific joint-venture partnerships, memorandums of understanding (MOUs) and other relationships we share with Indigenous communities.

### Economic Participation

Partnerships have long been part of our history. Those that stand the test of time involve respect, trust, understanding and transparency. We conduct all our business in this spirit, striving to maintain positive

relationships that contribute to sustainable economic and social development in the communities where we do business.

In 2017, one of our partnerships celebrated 30 years of mutual respect and sharing value through enterprise. This partnership between Denendeh Investments Incorporated (DII), which represents 27 Dene First Nations across the region, and Northland Utilities, provides electricity generation, transmission and distribution services to customers throughout the Northwest Territories.

## NEW INFRASTRUCTURE SOLUTIONS

### Indigenous Engagement in Infrastructure Development

We recognize and respect the deep connections that Indigenous Peoples have with the environment. Throughout the year, we focused on building upon our relationships with Indigenous communities through thoughtful and transparent engagement on a range of projects.

For example, throughout our Jasper Interconnection Project, we have worked closely with 23 Indigenous organizations through Parks Canada's Indigenous Forum. We also held 88 engagement meetings, six Elders mapping sessions, 24 site visits, one fly-over and committed to participation in three traditional ceremonies.

**\$85M**

Indigenous contracts awarded with the Fort McMurray West 500-kV Transmission Project

This comprehensive approach to Indigenous engagement is consistent with our efforts related to the development of the Fort

McMurray West 500-kV Transmission Project, through which we engaged 27 Indigenous communities. Our firm commitment to Indigenous involvement continues through the implementation of our Indigenous contracting strategy. We have awarded \$85 million worth of contracts to Indigenous communities and their contractors engaged on the project. These contracts are helping to create jobs, opportunities for skills training and local economic development in Indigenous communities.

### Partnerships for Clean Energy, Clean Water

Our engagement with Indigenous communities goes beyond consultation. Across our operations, we are also working to jointly develop solutions that address pressing community needs - specifically clean energy and clean water.

Throughout Alberta and Canada's North, communities are exploring ways to reduce the use of diesel-generated power and cut GHG emissions and air pollutants. To support these important efforts, in 2017 we entered into three MOUs with First Nations that will enable Indigenous communities to own and operate renewable energy technologies, while we own and operate the energy storage and control systems.

Elsewhere within our operations, we have engaged Indigenous communities to apply our expertise in water management to help ensure safe and clean water is available to those who need it. We are working with three communities on feasibility studies to jointly build, operate and maintain the water infrastructure necessary to meet their immediate water needs, while also supporting the growth of their communities in the long term.

### Modular Solutions

In 2017, we partnered with the Ermineskin Cree Nation to build a modular school to support the growing number of students at the Ehpewapahk Alternative School

in Maskwacis, Alberta. The state-of-the-art facility includes four classrooms, study rooms, a library, a fitness centre, a commercial kitchen, a staff lounge, offices and open areas for students to socialize. The school was also fitted with the latest technology, including smart boards and a solar-ready building.

We also partnered with the Fisher River Cree Nation to build a new motel and gaming centre, an important part of the nation's long-term plan to stimulate economic activity and employment. We used prefabricated modular technology in design and construction, which helped cut construction time in half and delivered a product built specifically for northern Manitoba's harsh winter climate. More than 90 per cent of the workforce for the project were local tradespeople from the Fisher River Cree Nation Community.

We helped the Kasohkewew Child Wellness Society (KCWS) celebrate their 20th Anniversary with the completion and grand opening of a new facility in the Samson Cree Nation. We designed and built the 17,500 sq. ft. facility to include a cultural room and a visiting room with a separate entrance so families can visit their children outside of regular business hours. The front entrance displays a colourful medicine wheel artistically laid into the floor as a tribute to the Samson Cree Nation's traditions and culture.

## INDIGENOUS EDUCATION AND AWARENESS

### Indigenous Scholarships

We strive to break down employment barriers and create a lasting legacy through programs that encourage mentorship, education and employment in Indigenous communities.

In 2017, we grew our Indigenous Education Awards Program, which offers students from First Nations and Métis communities the opportunity to apply for scholarships, bursaries and awards for demonstrating leadership capabilities and pursuing higher education. Formerly only available to students near our operations, we expanded the awards to Indigenous students across Alberta, with plans to expand across Canada in 2018. Altogether, 29 Indigenous students from a variety of fields were chosen to receive awards in 2017, including engineering, education and economics.

Other programs include our Structures & Logistics Scholarship Program, which awarded \$1,000 scholarships to eight Indigenous students in British Columbia for demonstrating a commitment to education, leadership and community involvement. Our operations in Australia contributed to Leadership Western Australia's Aboriginal Women's Leadership Initiative, Yorga Djenna Bidi, a leadership program especially for

Aboriginal women. And, as part of our long-standing academic partnerships, 15 Indigenous scholarships and bursaries were awarded to students enrolled with Aurora College, NAIT, the University of Alberta, Grande Prairie Regional College, the University of Lethbridge and the Aboriginal Veterans Society of Alberta.

### Supporting Indigenous Awareness

Building partnerships that stand the test of time requires understanding from both parties, which is why we work to ensure our people recognize and understand the unique culture and history of Indigenous Peoples.

In 2017, in addition to online Indigenous awareness training for all Canadian employees, we launched targeted Executive Corporate Indigenous Training and employee lunch and learns to continue the dialogue.

We also continue to support the University of Calgary with a four-day Indigenous Relations Training Program, which provides participants with a better understanding of the issues facing Canada's Indigenous population and how to effectively build relationships with communities. The program includes eight interactive learning modules and is available to students, alumni, charities, and professionals. In 2017, 21 of our people participated in this external program.



Indigenous youth tour through our facilities in Alberta.

# SUSTAINABILITY AT ATCO

As a global provider of essential energy and infrastructure solutions, we have a unique opportunity to work with our customers to solve challenges in a way that benefits the communities in which we operate, the environment and the economy. Our success depends on our ability to deliver cost effective solutions for our customers while taking a holistic, long-term approach to sustainability.

## OUR APPROACH

The foundations of a sustainable company include strong governance, a dedicated leadership team and a rigorous management approach. These cornerstones, along with ATCO's core values—integrity, transparency, entrepreneurship, accountability, collaboration, perseverance, and caring—help us deliver on our commitment to sustainability.

## ATCO and the UN Sustainable Development Goals

Since their release in 2015, the United Nations' Sustainable Development Goals (SDGs) have rallied support across the globe from governments, companies, non-profits and individuals. ATCO supports these efforts towards building an inclusive, sustainable and resilient future.

While ATCO contributes to all 17 of the SDGs, as a provider of energy and other essential services, we have the ability to make significant contributions to the following four SDGs in particular:

- Affordable and clean energy (Goal 7)
- Decent work and economic growth (Goal 8)
- Sustainable cities and communities (Goal 11)
- Climate action (Goal 13)

For example, developing micro-grid solutions, providing energy access for off-grid communities, increasing renewable generation and promoting energy savings contribute to the SDGs, in addition to generating shared value for communities and our business. Read about some of these activities in our Energy Stewardship section on page 6.

## Governance

The two main committees of ATCO's Board of Directors are the Corporate Governance, Nomination, Compensation and Succession Committee (GOCOM), and the Audit & Risk Committee.

The Audit & Risk Committee has the greatest oversight of our sustainability practices. The committee reviews risks that could materially affect our ability to achieve our strategic objectives, and is responsible for ensuring that management addresses those risks by implementing appropriate mitigation measures.

The senior executive of each operating division chairs a Risk Management Committee that reports to the Audit & Risk Committee. In addition, each division prepares a Stewardship Report, which is presented to the Audit & Risk Committee on a bi-annual basis, and includes topics such as safety, environment and Code of Ethics compliance.

## Management

The sustainability function at ATCO reports directly to the President & Chief Strategy Officer and is managed collaboratively across numerous groups, including Human Resources, Indigenous Relations, Health & Safety, Environment, Marketing & Communications, Business Development, Internal Audit and Risk Management, among others. These groups monitor best practices, develop and implement policies and standards and support our various divisions.

The daily management of sustainability commitments and implementation of programs is guided by divisional leadership. More specific descriptions of our management approach to material topics are included on our website. The programs include topic-specific policies, responsibilities, training, monitoring and other management considerations.

## Reporting on our Material Topics

Our sustainability reporting is focused on Energy Stewardship, Environmental Stewardship, Safety, and Indigenous & Community Relations. These topics were identified during our 2016 materiality assessment process as being highly relevant to both the company and parties most commonly interested in our sustainability performance, including Indigenous leaders, customers, community members, non-governmental organizations, suppliers, investors, our employees and regulators and the topics continue to be relevant today.

Our 2017 sustainability report provides both qualitative and quantitative performance updates on these four material topics.

## About this Report

- Our most recent previous Sustainability Report was released in June 2017.
- This material references the GRI Standards, 2016.
- Our Performance Summary includes data for the three years ending December 31, 2017, unless otherwise noted, for ATCO, our subsidiaries and joint ventures. Exceptions are explicitly noted with the relevant information. For brevity, data from 2009 through 2014 is not included in the performance summary, however this historical data is available on our website.
- Data for 2008, our baseline year for many reporting indicators, is included where available. Certain indicators that have been included in our sustainability reporting more recently may not have data available for 2008; however, graphs will show available trending.
- Qualitative information about programs and initiatives is generally confined to 2017 activities.

- Environmental data reported includes 100 per cent of the emissions and water use for the facilities that ATCO owns and operates, and facilities with partnership ownership where ATCO is identified as the operating entity in the contract, regardless of percentage of financial ownership. For select environmental indicators, we provide reporting on an ownership basis in our GRI Content Index, available on our website. The treatment of joint ventures may be addressed differently in ATCO's 2017 Annual Report with respect to financial performance.
- We report full environmental data for power plants operating under power purchase arrangements (PPA) – Sheerness and Battle River.
- Unless noted, indicators do not cover contractors or temporary employees.
- Financial data is in Canadian dollars and environmental data is in metric units.
- The terms ATCO, ATCO Group, the ATCO Group of Companies, our, we, the company and the corporation, refer to ATCO Ltd. as a whole, including its subsidiary company Canadian Utilities Limited.



# PERFORMANCE SUMMARY

Indicator <sup>1,2,3</sup>	Units	2017	2016	2015	...	2008
<b>ENVIRONMENT</b>						
<b>Air Emissions<sup>4</sup></b>						
Direct greenhouse gases	kilotonnes CO <sub>2</sub> e	10,713	10,378	10,353		17,049
Indirect greenhouse gases	kilotonnes CO <sub>2</sub> e	189	174	207		-
Sulphur dioxide	tonnes	40,150	42,111	42,144		63,182
Nitrogen oxides	tonnes	16,051	17,019	18,006		26,566
Particulate matter (PM2.5)	tonnes	439	438	500		510
Carbon monoxide	tonnes	2,523	2,205	2,523		3,768
Volatile organic compounds	tonnes	216	274	252		168
Mercury	kilograms	31	37	46		157
Ozone depleting substances	kilograms	74	101	95		77
Water Use <sup>5</sup>	million m <sup>3</sup>	22.4	18.5	18.9		22.1
<b>Spills<sup>6,7</sup></b>						
Hydrocarbon - number	number	14	14	12		-
Hydrocarbon - volume	thousand litres	3.9	4.4	1.7		-
Non-hydrocarbon - number	number	7	7	2		-
Non-hydrocarbon - volume	thousand litres	2,059.4	34.4	0		-
Hazardous waste <sup>8</sup>	tonnes	1,651	857	406		-
Environmental fines and penalties	\$ thousand	0	0	0		0
<b>SOCIAL</b>						
<b>Health &amp; Safety<sup>9</sup></b>						
Lost-time injury rate (employees)	cases/200,000 hours worked	0.25	0.17	0.12		0.77
Lost-time injury rate (contractors)	cases/200,000 hours worked	0.53	0.28	0.56		-
Recordable injury rate (employees)	cases/200,000 hours worked	2.17	2.02	2.11		3.50
Recordable injury rate (contractors)	cases/200,000 hours worked	1.97	1.81	-		-
Fatalities (employees)	number	0	0	0		0
Fatalities (contractors)	number	0	0	0		0
Employees <sup>10</sup>	number	6,752	6,751	7,546		7,781
Voluntary Turnover Rate	per cent	7.2	8.3	8.9		12.8
Employees in Employee Unions or Associations <sup>10</sup>	per cent	50	51	52		54
<b>Diversity<sup>10</sup></b>						
Women in workforce	per cent	31	32	32		29
Women in senior management	per cent	17	17	20		14
Women on Board of Directors	per cent	30	30	27		9
<b>Human Rights and Ethics Incidents<sup>11</sup></b>						
Discrimination incidents	number	0	0	0		-
Indigenous rights incidents	number	0	0	0		-
Corruption Incidents <sup>11</sup>	number	0	0	0		-
Customer Privacy Breaches <sup>11</sup>	number	1	0	0		40
Number of Regulatory Non-compliance Incidents <sup>12</sup>	number	4	3	0		-
Fines and Penalties for Regulatory Non-compliance	\$ thousand	10.8	0.9	0		-
<b>ECONOMIC</b>						
Economic Value Generated <sup>13</sup>	\$ million	4,541	4,045	4,131		3,266
<b>Economic Value Distributed</b>						
Suppliers	\$ million	1,865	1,263	1,592		1,127
Employees <sup>14</sup>	\$ million	514	581	696		466
Lenders	\$ million	414	394	370		239
Shareholders	\$ million	348	318	277		166
Governments <sup>15</sup>	\$ million	433	369	369		365
Communities <sup>16</sup>	\$ million	8	7	8		5
Economic Value Retained <sup>17</sup>	\$ million	959	1,113	819		897
Financial Assistance Received from Governments <sup>18</sup>	\$ million	2.07	0.73	0.72		-
Coverage of Defined Benefit Pension Plan Obligations	per cent	92	93	94		99

**We strive to continually improve our tracking and measurement systems, and may adjust indicator definitions and performance data to reflect current best practice. In most cases, we use standard industry and regulatory calculation methodologies and definitions that may be updated periodically to improve accuracy.**

1. This summary table reports data for the whole ATCO Group of Companies, which should not be misconstrued as ATCO Ltd. (ACO.X, ACO.Y) or Canadian Utilities Limited (CU, CU.X). Although we do not report sustainability metrics separately for these entities, we have provided a factor to estimate the portion of the ATCO Group of Companies represented by ATCO Ltd. and Canadian Utilities Limited in the GRI Content Index.
2. Data is reported on an operatorship basis, which does not align with financial reporting. For our significant environmental indicators, we have provided an additional breakdown based on equity share and ownership in our GRI Content Index.
3. This report includes performance data on indicators that were not included in all previous reports. Data for the new indicators is not provided for previous years, and is denoted with a "-" symbol.
4. Emissions figures include amounts that are required to be reported under federal, provincial, regional or other regulations, or under facility permits. We use standard industry calculation methodologies and emission factors, which sometimes change to improve accuracy.
5. Water use = water diverted minus water returned. The increase in water use is mainly related to the development of four salt caverns for hydrocarbon storage.
6. Includes spills that meet the size thresholds for regulatory reporting in the jurisdiction in which they occurred. Volume spilled is often estimated due to variables such as duration, location and when the spill was identified.
7. Non-hydrocarbon spills are often comprised of high volumes of saline water or water containing small quantities of other substances.
8. Increase in hazardous waste volumes is mainly attributable to the decommissioning and demolition of three natural gas processing facilities.
9. In cases where we direct the work of joint venture (JV) employees, we include their data in safety statistics. We estimate that contractor safety statistics account for more than 90 per cent of our contractors.
10. Includes our temporary workforce but does not include JV employees.
11. We track and address concerns through a number of channels, including our internationally accessible ATCO Integrity Line. Only incidents that have been substantiated by an external authority have been included.
12. Non-environmental regulatory non-compliance incidents include two incidents regarding power generation response time requirements in Alberta, and two incidents related to the operation of our natural gas distribution system in Australia.
13. Economic value generated includes revenues, gains on asset dispositions, and interest income.
14. Payments to employees include the expensed cost of wages and benefits.
15. Payments to governments substantially increased and include income, property, and franchise taxes.
16. Distributions to communities include donations, in-kind contributions, and sponsorships.
17. Economic value retained is economic value generated minus economic value distributed. This is not a financial reporting indicator and should not be confused with retained earnings.
18. Financial assistance received from governments includes tax relief/credits, investment grants, R&D grants, financial awards, and favourable financing terms from domestic and foreign governments. The increase is predominantly related to R&D grants for emission reductions initiatives.

# BEYOND THIS REPORT

This is a summary report on sustainability providing a brief overview of 2017 initiatives in addition to performance updates for key metrics.

For more on our approach to our key material topics, please visit [ATCO.com/Our-Commitment/Sustainability/](http://ATCO.com/Our-Commitment/Sustainability/)



ENERGY  
STEWARDSHIP



ENVIRONMENTAL  
STEWARDSHIP



SAFETY



COMMUNITY  
& INDIGENOUS  
RELATIONS

For more information on our key policies, please visit our website at [ATCO.com/About-Us/How-We-Do-Business/](http://ATCO.com/About-Us/How-We-Do-Business/)



How We Do Business -  
Living the ATCO Values

For more information on corporate governance and other disclosures, please visit our website at [ATCO.com/Investors/Investor-Documents-Filings](http://ATCO.com/Investors/Investor-Documents-Filings)



GRI Content Index



Investor Documents  
and Regulatory Filings

We welcome any questions or comments you might have regarding this report or our performance. For more information, contact us at [Sustainability@ATCO.com](mailto:Sustainability@ATCO.com)





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