



LEADING FOR THE FUTURE

EPCOR'S 2020 ESG REPORT

Environment, Social and Governance Reporting

Published: August 16 2021

EPCOR

LAND ACKNOWLEDGEMENT

As a company that operates across Turtle Island, also known as North America, EPCOR recognizes that its work takes place on the traditional territories of Indigenous Peoples. We respectfully acknowledge the significance of the lands and waters our utilities are situated on and by, including the diverse histories, languages, and cultures of the many First Nations, Métis, and Inuit Peoples, whose presence reaches back to time immemorial.

Several of our Canadian operations reside on territory that is covered under Treaties, which were entered into by First Nations peoples and the Crown. In particular, our headquarters in Edmonton, and both of the city's water treatment plants, are located on the banks of the North Saskatchewan River, found in the heart of Treaty 6 territory – the traditional lands of the Blackfoot, the Cree, the Dene, the Nakota Sioux, the Saulteaux, and later the Métis.

NOTE TO READERS

Throughout this report, “EPCOR” is used to refer collectively to EPCOR Utilities Inc. and its subsidiaries, without distinguishing the legal entity that holds particular operations.

Several of the photos featured in this report were taken prior to, or at different stages of, the COVID-19 pandemic, and therefore may not reflect current health and safety protocols and procedures.

All currency references are in Canadian dollars unless otherwise noted.

[For information on the scope of reporting, see page 94.](#)

FORWARD LOOKING INFORMATION

Certain information in this ESG Report is forward-looking as it relates to anticipated performance, events or strategies. When used in this context, words such as “will,” “anticipate,” “believe,” “plan,” “intend,” “target,” and “expect,” or similar words, suggest future outcomes. The purpose of forward-looking information is to provide readers with EPCOR’s assessment of future plans and possible outcomes and may not be appropriate for other purposes.

Readers are cautioned not to place undue reliance on forward-looking statements as actual results could differ materially from the plans, expectations, estimates or intentions expressed in the forward-looking statements. All forward-looking information contained in this report is expressly qualified by this cautionary statement.

Additional information about the material factors and risks that could cause actual results to differ materially from the conclusions, forecasts or projections in the forward-looking information and the material factors or assumptions that were applied in drawing a conclusion or making a forecast or projection as reflected in the forward-looking information is contained in the most recent Management Discussion and Analysis filed on SEDAR (www.sedar.com) and EPCOR’s website (epcor.com).





EPCOR AND ESG

EPCOR's history, operational profile and strategic priorities, how we developed the ESG metrics and sustainability factors found in this report, and how our ESG reporting aligns with global standards.



EPCOR at a Glance
Pg 3



Materiality Assessment
Pg 9



Climate Related Disclosures
Pg 14



GOVERNANCE

EPCOR's governance model, the responsibilities of the Board of Directors, and specific governance related measures and targets. EPCOR's Board Chair shares her perspective on the role of EPCOR's board, its commitments to sound governance, and the importance of diversity.



Leadership In Governance



ENVIRONMENT

EPCOR's environment measures and targets, environment and climate change strategy, and how the strategy is being implemented. EPCOR scientists and field experts share the stories of their work to reduce EPCOR's environmental footprint, protect utility infrastructure, and enhance community resilience.



Environment and Climate Change Strategy



SOCIAL

EPCOR's social measures and targets. Learn how EPCOR is working to advance health and safety, build a diverse and engaged workforce, and meet customer expectations for reliability, service, cost-effectiveness, and engagement. EPCOR's President & CEO reflects on the challenges of 2020 and how Team EPCOR's shared purpose shone through at a time when our customers and communities needed us most.



A Social Vision Rooted in Purpose



A Look Inside:
Board Diversity at EPCOR



A Look Inside: Securing Water Supplies
in the Desert Southwest



A Look Inside: EPCOR's Safety Culture

Key Strategic Elements:

- [Sustainability Governance and Reporting at EPCOR](#) Pg 20

Key Strategic Elements:

- [Climate Mitigation: Pathway to Net Zero](#) Pg 31
- [Managing Climate Adaption Risk](#) Pg 37
- [Reducing Environmental Footprint](#) Pg 47

Key Strategic Elements:

- [Health and Safety](#) Pg 66
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ENVIRONMENT SCORECARD AT A GLANCE. Pg 27

SOCIAL SCORECARD AT A GLANCE. Pg 62



LETTER FROM THE BOARD CHAIR

Our company's roots began 130 years ago, with initial operations on the banks of the North Saskatchewan River, and 25 years ago, when the City of Edmonton combined its power and water utilities into a standalone corporation with a mandate for growth. Today, EPCOR and its people have established a strong reputation for providing clean water and safe, reliable energy to communities across Canada and the United States.

EPCOR's growth has delivered increasing financial returns for our sole shareholder, the City of Edmonton, including \$2.5 billion in dividends paid since 1996. Among the foundations for that success are our corporate governance model and practices, which have earned national recognition.

In 2019, as part of the company's long-term planning process, the board and management considered a wider view of our responsibilities to current and future generations. As a result we modified EPCOR's Vision statement to take on a wider perspective. While "being valued by our shareholder" will always remain an important objective, our Vision now speaks to "being valued by our stakeholders." This shift in perspective was further reinforced in 2020, when the fourth pillar of our business strategy was updated to reflect a focus on communities.

"The measures in our ESG report are derived from reviews of our company's performance and reporting standards, and reflect feedback from stakeholders representing a broad range of interests and experiences."

Over recent years, this broader view of our responsibilities has been reflected in the increasing volume and quality of our sustainability disclosures related to risk management, assessment of climate change related risks, and our company's overall environment and climate change strategy.



EPCOR's board includes a diverse range of business and community leaders from across North America, with a depth of experience in setting priorities, tracking and reporting on environment, social and governance (ESG) performance. Working closely with management over the past year, the board guided the development of EPCOR's 2020 ESG report.

The measures in our ESG report are derived from reviews of our company's performance and reporting standards, and reflects feedback from stakeholders representing a broad range of interests and experiences. The results of a thorough materiality assessment have shaped the qualitative disclosures and the quantitative targets, which are structured around the 10 ESG factors most relevant to our stakeholders and the company.

We invite you to discover the progress EPCOR has been making to date, the commitments we've made, and the targets we've set that you can use to track our performance. We trust that our stakeholders will see in our work the positive impacts our people and operations are making on their lives and communities, the processes we are using to manage risk and leverage opportunities, and our dedication to working collaboratively to build on these achievements.

Janice Rennie
Chair, Board of Directors
EPCOR

MESSAGE FROM THE PRESIDENT & CEO

In March of 2020, at our annual employee Safety Summit, EPCOR affirmed its purpose statement – *Communities count on us. We count on each other.* It was a statement developed by our employees, for our employees; a mantra to work and live by as part of Team EPCOR.

Days later, everything changed – at home, at work and across all the communities we serve. What remained for us, and quickly grew in prominence, was how important this purpose would become as we worked to keep our teams safe while delivering reliable services to the over two million customers who count on us across North America.

As we move beyond the pandemic and into a stronger future, we will continue to be counted on for essential services, to plan effectively for growth, operate ethically and in an environmentally-responsible manner, and demonstrate our commitment to the communities we serve.

“The report includes a consolidated scorecard of performance measures and targets we will strive to achieve as we create the kind of value expected by our stakeholders and communities.”

With this in mind, we are pleased to share our ESG report, which builds on our 20-year heritage of sustainability reporting. The report includes a consolidated scorecard of performance measures and targets we will strive to achieve as we create the kind of value expected by our stakeholders and communities.

As you explore its contents, you’ll see strong links between the risk assessments we’ve completed and activities that align with our long-term plan. This is driven by our Enterprise Risk Management process used to understand, rank and mitigate risks, while considering opportunities for growth and investment.



Altogether, this report features 25 measures spread across the three pillars of environment, social and governance sustainability. While some of these align with our past track record of disclosure and reporting, we are introducing new and expanded targets that represent our commitment to creating value for a diverse range of stakeholders across all the communities we serve.

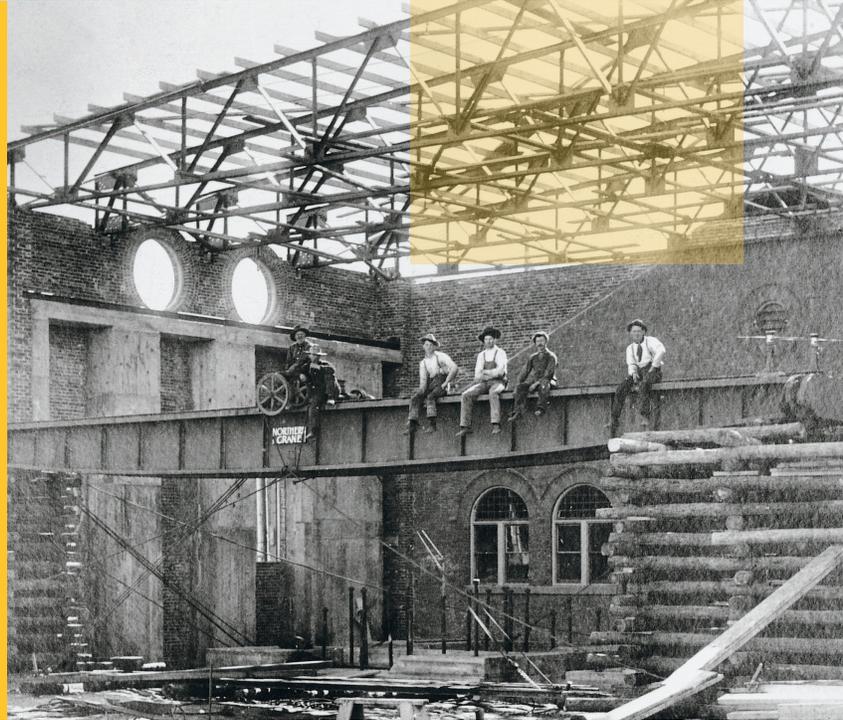
The report outlines commitments to sound governance through our independent Board of Directors and the work we do to foster a strong culture of ethical performance across the organization. It introduces wider and deeper targets for reducing greenhouse gas emissions that now reflect all EPCOR-owned operations – and for the first time, affirms our commitment to reaching net zero emissions by 2050. It showcases our leadership and investments in climate adaptation, including protection of water supplies and critical infrastructure, and innovative projects to develop clean energy and ensure community resiliency. And it puts our teams and communities at the forefront, as we nurture our safety-first culture, and invest in community organizations and in building meaningful relationships with our partners and stakeholders.

These are all powerful commitments – but they are also a starting point for our journey. We look forward to building on this work, both in the substance of our achievements and in the information we share in future reports. We welcome your perspective, and invite you to join us on this journey.

Stuart Lee
President & CEO
EPCOR

EPCOR AT A GLANCE

130 YEARS
IN OPERATION



3,500+
employees

**Over \$2.5
billion in
dividends**
paid to the City of
Edmonton since 1996

**OVER \$12
BILLION IN
ASSETS (2020)**

**2 MILLION CUSTOMERS
SERVED ACROSS**

2 countries, **4** provinces and **3** states.

**\$2 BILLION
IN REVENUES
(2020)**

EPCOR: A PURPOSE-DRIVEN TEAM

EPCOR's story began in Edmonton, Alberta in 1891 as Canada's first municipally owned electric utility and, 10 years later, as Edmonton's water utility. Today, we build, own and operate electrical transmission, natural gas and water distribution networks; water and wastewater treatment facilities; drainage systems; and infrastructure in Canada and the United States.



WHAT WE DO



ENERGY

- Regulated electricity sales to about 600,000 residential and small commercial customers in Alberta, along with competitive electricity retail and natural gas including green energy solutions.
- Electricity distribution to nearly 420,000 customers in Edmonton and nearly 20,000 customers in the Collingwood, Ontario area.
- Natural gas distribution to customers in Ontario and Texas.
- Natural gas sales to customers in Alberta.



WATER, WASTEWATER AND DRAINAGE

- Water and wastewater treatment services for more than one million people in over 80 western Canadian communities and industrial sites.
- Drainage services in Edmonton through the operation of our sanitary collection and stormwater collection system.
- Water and wastewater services for approximately 770,000 people in 32 unique communities and 12 counties in Arizona, New Mexico and Texas, including us among the largest private water utilities in the southwestern United States.



EPCOR AND THE CITY OF EDMONTON: A UNIQUE RELATIONSHIP

EPCOR's sole shareholder is the City of Edmonton. EPCOR operates as a commercial entity, governed by an independent Board of Directors appointed by the City, with no elected representatives of the City on the board. Directors are respected business and community leaders from across North America, and we have been nationally recognized for innovation and excellence in corporate governance.

EPCOR Utilities Inc. was formed as a standalone corporation in 1996, uniting Edmonton's power and water utilities into a municipally owned utility with a mandate to grow beyond the city. Now, with annual revenues of \$2 billion and assets of \$12 billion (2020), the company has more than doubled its annual dividend, and has returned \$2.5 billion in overall dividends to our sole shareholder since we were created.

OUR VISION

is to be a premier essential services company that attracts and retains the best employees, is trusted by our customers, and is valued by our stakeholders.

OUR MISSION

is to provide clean water and safe, reliable energy.

OUR PRIORITIES

We implement our vision and mission through a long-term plan that focuses on four strategic priorities:

- **People** - attracting and retaining high-quality employees, supporting our workforce in growing and becoming future leaders, and nurturing a strong culture of engagement.
- **Growth** - sustaining capital and organic growth in our existing service areas, and business development and acquisitions.
- **Operational excellence** - continually improving health, safety and environment performance, and seeking efficiencies through scale, business unit synergies and technology.
- **Communities** - being trusted by our customers and stakeholders, engaging in collaborative and transparent planning, and meeting our commitments to the community.

OUR VALUES



ACTING WITH PURPOSE

Our mission and vision guide our operations. In 2020, we also launched a purpose statement:

“COMMUNITIES COUNT ON US. WE COUNT ON EACH OTHER.”

EPCOR employees developed the purpose statement to express what motivates them, every day, to serve customers, communities and one another.

AWARDS & RECOGNITION

We're proud to have been recognized for our leadership as an environmentally and socially responsible corporation, and for providing a healthy, safe and rewarding work environment for our employees.



Corporate Knights magazine's
Best 50 Corporate Citizens in
Canada (2017 - 2021)



Utility of the Future Today
from the Water Environment
Federation (2020 — EPCOR USA)



Canada's Clean50
Recognizing EPCOR's Edmonton
flood mitigation program with a Top
Project Award (2021)



Phoenix Business Journal's Best
Places to Work (2015 - 2021 —
EPCOR USA)



Canada's Top Employers
for Young People (2012 - 2021)



**Two awards for exceptional utility
performance in 2019:**



Alberta's Top Employers
(2006 - 2021)



People's Choice Winner from the
American Water Works Association
(AWWA). Tap Water Taste Test, and
the Bentley Year in Infrastructure
award in the advancements in
Utilities and Industrial Asset
Performance category.



More than 200 awards across our
Arizona operations since 2012
(including 41 in 2021) for workplace
safety and operational excellence
from the Arizona Water Association.

EMPLOYEE RECOGNITION



Dr. Rasha Maal-Bared



Susan Ancel



Art Nunez

EMPLOYEES RECOGNIZED FOR CONTRIBUTIONS TO WASTEWATER AND DRAINAGE MANAGEMENT

Leading water protection organizations have praised the work of our talented teams for their contributions to water management and the environment. Recent examples include:

- Dr. Rasha Maal-Bared, Senior Microbiologist at EPCOR, led an international team of volunteer experts in examining the relationship between COVID-19 and water/wastewater. The Water Environment Foundation (WEF), where Dr. Maal-Bared chairs the Waterborne Infectious Disease Outbreak Control Subcommittee, recognized her for her work.
- Susan Ancel, EPCOR's Director of One Water Planning, was named as a Canada's Clean50 - Individual Honouree in 2021. She was recognized for her work leading the EPCOR team that developed Edmonton's innovative flood mitigation program.
- Art Nunez, Operations Director in EPCOR USA, received the Arthur Sidney Bedell Award from the WEF in 2021. The award acknowledges his extraordinary personal service as a water professional over his 35-year career managing water and wastewater systems and serving industry associations.



DEVELOPING EPCOR'S ESG REPORT: THE MATERIALITY ASSESSMENT

In early 2020, EPCOR established an internal, cross-functional team to develop an environmental, social and governance (ESG) scorecard and determine the best approach to communicating with internal and external stakeholders on ESG factors. EPCOR's Board of Directors and executive leadership oversaw the development of performance measures and reporting.

As part of the process, an external consultant conducted a materiality assessment to inform metrics and reporting about the sustainability issues that affect our business. The company's last assessment was completed in 2014, to inform an earlier generation of sustainability reporting.

Identifying and prioritizing the company's material ESG factors enables EPCOR to focus its resources on the areas of highest impact and on the ESG factors of most concern to stakeholders.

THE APPROACH TO DEFINING MATERIALITY

EPCOR's materiality assessment identifies both material ESG factors for capital market participants and sustainability factors of interest to broader stakeholders. Interviews with external stakeholders included representatives of equity and debt holders, labour, Indigenous communities, and multi-stakeholder groups involved in watershed protection and broader environmental issues. The project team also considered customer priorities identified through public advisory committees, input from a concurrent consultation on the future of EPCOR's Edmonton water-cycle utilities, and engagement research.

A range of internal stakeholders were also interviewed, drawn from operational and corporate functions, and from across the company's geographic footprint. These interviews considered EPCOR's existing ESG priorities, policies and disclosures; external ESG regulations, rules and guidance; and relevant ESG standards and ratings programs.

EPCOR's materiality assessment identifies both material ESG factors for capital market participants and sustainability factors of interest to broader stakeholders.

EPCOR'S TOP-RANKED ESG FACTORS

In ranking ESG factors, the materiality assessment considered:

- **Impact** of an ESG factor to influence financial performance, operations, financial stakeholders or stakeholder perceptions in a way that causes impact to company value.
- **Likelihood** of an ESG-related impact to occur over the short, medium or long term. The “likelihood” rating considers the company’s unique operating circumstances and the nature and location of its operations.

These ratings are based on inherent risk, which provides insight into the key ESG-related factors that must be managed by the company. The company’s performance on ESG is reflected in the extent to which risks are mitigated (residual risk) and through the quantitative and qualitative disclosure in this report.

EPCOR’s ESG report focuses on 10 ESG factors rated most material to the company:



Generally, internal and external stakeholders held similar views on which topics were most material. One factor – human capital management – was ranked lower by external stakeholders, but elevated to the high-ranked level by EPCOR’s leadership.

Stakeholders also considered additional factors, but ranked them lower overall. These included: climate transition risk, labour relations, biodiversity impacts, energy management, and distribution network efficiency and integrity. While EPCOR has strategies and actions in each of these areas, they are not the focus of the ESG report.



U.N. SUSTAINABLE DEVELOPMENT GOALS

Environmental stewardship, public health, and community well-being are at the heart of EPCOR’s mission to provide clean water and safe, reliable energy.

They’re also central to achieving the U.N. Sustainable Development Goals – universal framework of 17 goals for ending poverty, protecting the planet, and improving the lives and prospects of people everywhere.

Across the communities we serve, the work of EPCOR’s people and the fulfillment of our corporate mission make meaningful contributions towards the following Sustainable Development Goals (SDGs):



6 CLEAN WATER AND SANITATION



EPCOR reports on its performance achieving SDGs for reliable water and wastewater services, reasonable utility service costs, and water-use efficiency.

In support of the goal to improve water quality by reducing pollution, EPCOR reports on its work:

- To protect the integrity of source water supplies in Canada and the United States.
- On an integrated water management strategy to address stormwater and utility discharges to the North Saskatchewan River.

7 AFFORDABLE AND CLEAN ENERGY



EPCOR reports on its performance delivering SDGs for reliable power distribution, reasonable utility service costs and proactive programs to support grid transformation.

In support of the goal to substantially increase the share of renewable energy in the global energy mix, EPCOR reports on its work:

- To green the electricity supply for its utility operations.
- To create new sources of renewable natural gas and market zero-emission electricity.
- To support the electrification of transportation and adoption of distributed generation.

EPCOR SCORECARD

E2, E3, E4, S10, S11, S12

SASB

IF-WU-140a.2, IF-WU-250a.1, IF-WU-440a.3, IF-WU-450a.1, IF-EU-550a.2



In alignment with Canadian and American commitments under the Paris Agreement, the City of Edmonton’s ambitions in its City Plan, The Way We Green policy and Community Energy Transition Strategy, and the calls to action in the Edmonton Declaration, EPCOR reports on:

- Its climate action commitments, including its pathway to net zero emissions.
- Projects it is implementing to achieve a 50% reduction in net greenhouse gas emissions by 2025.



In support of the SDGs to significantly reduce human and economic losses caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations, EPCOR reports on:

- Its community flood mitigation program for Edmonton.
- Its investments to protect critical utility infrastructure from the impacts of flooding and temperature extremes.
- Protection of water supplies threatened by drought.

EPCOR’s Edmonton flood mitigation program includes specific policies that prioritize the protection of vulnerable populations, and its customer rate and billing programs in many communities.



EPCOR SCORECARD

E1, E3, E5

SASB

IF-WU-440a.2,
IF-WU-440a.3,
IF-EU-110a.1,
IF-EU-110a.3

GRI

103, 305-1,
305-2, 305-5



In support of the SDGs for global and local poverty reduction, EPCOR reports on:

- Its community investment programs designed to help lift young individuals out of poverty.
- Its support of programs that set vulnerable youth up for success along their educational journey and pave the way to stable, successful employment.

In its operating practices and community programs, EPCOR also contributes to achieving these Sustainable Development Goals:



In support of the SDGs for ensuring women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life, EPCOR reports on its actions to build:

- A workforce that is reflective of the diversity of the communities we serve.
- A workplace where people feel respected, valued and part of a team.



In support of the SDGs to develop quality, reliable, sustainable and resilient infrastructure to support economic development and human well-being, EPCOR reports on:

- Its capital programs and projects that extend utility infrastructure to support growing communities.
- Enhancing physical resilience and sustainability.



EPCOR SCORECARD
G2, S7, S16

GRI
405-1

CLIMATE RELATED DISCLOSURES

The Task Force on Climate-related Financial Disclosures (TCFD) recommendations form a global foundation for climate-related disclosures. The standards set by the Sustainability Accounting Standards Board (SASB), Climate Disclosure Standards Board (CDSB), and Global Reporting Initiative (GRI) support implementation of the TCFD recommendations by providing structures for collecting and disclosing uniform quantitative and qualitative information on material, climate-related risks and opportunities. This section provides an overview of the EPCOR disclosures that align with these standards, with a climate-related focus.

CORPORATE GOVERNANCE

EPCOR's governance of climate-related risk, and the roles of the board and management in that process, are described in the December 31, 2020 [Management's Discussion and Analysis](#) (beginning on page 29) and in the [2020 Annual Information Form](#) (beginning on page 24).

This report also describes the [roles](#) of the board and management in developing this ESG report, including the [materiality assessment](#) that informed the report's content; performance measures and qualitative disclosure selection; and performance monitoring.

STRATEGY

EPCOR's Environment and Climate Change Strategy is described in the [2020 Annual Information Form](#) (on pages 25–27). This report expands on that disclosure with:

- Broadened and accelerated [targets](#) for greenhouse gas mitigation, and information on how the 2025 target will be met and what work will remain.
- A description of risks to certain utility infrastructure from [river flooding](#), the investments and timelines for mitigating those risks, and the residual risk that will remain following completion of that work.
- A description of risks to water sources in [Canada](#) and the [United States](#), and EPCOR's programs and investments to monitor and sustain water volume and quality.
- Information on the capital investment opportunities and benefits from EPCOR's community [flood mitigation](#) programs.
- Links to additional public information that describes these programs and investments in greater detail.

RISK MANAGEMENT

EPCOR's approach to risk management, including climate-related risk and its integration into the company's Enterprise Risk Management (ERM) system, are described in the December 31, 2020 [Management's Discussion and Analysis](#) (MD&A) (beginning on page 29), and in the [2020 Annual Information Form](#) (on pages 23–25). The MD&A discusses weather and climate change risks the company faces, including physical and transitional risks (on pages 32–33). This ESG report expands on that disclosure with additional information on physical climate risks from flooding, drought and weather pattern changes, and EPCOR's work to [monitor and mitigate](#) those impacts.



METRICS AND TARGETS

In alignment with global reporting standards, this ESG report discloses Scope 1 and Scope 2 greenhouse gas emissions for EPCOR-owned operations by [volume and by source type](#). The report discloses targets for net emissions in 2025, 2035 and 2050. These [targets](#) have been broadened and accelerated from those disclosed in the 2020 Annual Information Form. The company also reports on the [activities](#) underway to meet the 2025 targets, and the residual emissions that will remain to be addressed to achieve its medium- and long-term targets. The [Scope of Reporting](#) section provides additional detail on the emissions data reported, including material assumptions, assurance processes and range of uncertainty.



GOVERNANCE





EPCOR's Board of Directors, from left: Catherine Roozen, David Hay, Nizar Somji, Margaret Bateman, Leontine Atkins, Allister McPherson, Janice Rennie (Chair), Richard Cruickshank (Vice Chair), Robert Foster, Alan Krause, Vito Culmone.

LEADERSHIP IN GOVERNANCE

When EPCOR was formed in 1996, it was unique – the first strategic linking of a power and water utility in Canada, and a dynamic market-oriented organization with a mandate to grow beyond its hometown and create value for its sole shareholder, the City of Edmonton.

To steward this vision, the shareholder established an independent Board of Directors, composed of business and community leaders, with no employees or elected officials on the board. Over the subsequent quarter-century, this model has proved resilient and successful, winning EPCOR national recognition for excellence in corporate governance, preserving value through rigorous risk management processes, and growing the company into a North American utility leader.

This success of EPCOR's governance model has delivered significant value to the shareholder. EPCOR's annual dividend has grown from \$62 million to \$171 million – and despite market transformations, a financial crisis, and a global pandemic, the annual dividend has never been cut.

The board is responsible for the overall stewardship and governance of the company, delivering long-term value to our shareholder and ensuring we provide clean water and safe reliable energy to our customers, and foster success with all our stakeholders.

EPCOR is committed to demonstrating leadership in corporate governance, and continuously reviews and improves our governance systems to ensure they meet or exceed the standards of evolving securities, regulatory and market environments.

“It is the responsibility of the board to direct management to ensure the corporation operates at all times within applicable laws and regulations and to the highest ethical and moral standards.”

– EPCOR's inaugural Board Charter of Expectations.



CORPORATE GOVERNANCE SCORECARD AT A GLANCE

100%

Board independence

Percentage of directors who are independent under National Instrument 58-101

36%

Board gender diversity

Share of board seats held by women

100%

Employee ethics training

Percentage of employees who have received training on EPCOR's Ethics Policy

100%

Ethics complaints actioned

Percentage of 80 ethics complaints received in 2020 that were investigated or otherwise resolved



TARGETS

- At least 67% of directors are independent under National Instrument 58-101
- At least 30% of board seats are held by women
- 100% of employees have received ethics training
- 100% of ethics complaints have been investigated or otherwise resolved

BEHIND THE NUMBERS: EPCOR's Corporate Governance Scorecard in Context

EPCOR'S GOVERNANCE SCORECARD:



Affirms the foundational role of board independence, reporting on the percentage of directors who are independent under National Instrument 58-101. EPCOR has reported on director independence since the company's inception in 1996.



Upholds the commitment to high ethical standards, reporting on employee ethics training, and the volume and handling of ethics complaints. In addition, the company provides multiple channels for anonymous reporting, promotes the reporting of complaints and concerns, has a no retaliation policy to protect whistleblowers, and is committed to independently investigating every complaint.



Promotes the company's commitment to diversity, reporting on the gender composition of the board and our representation threshold.

“EPCOR has a governance system that is worthy of the very best publicly-traded companies.”

Award citation, National Award in Governance from the Conference Board of Canada / Spencer Stuart.



The late Hugh J. Bolton (right), EPCOR's Board Chair for 18 years, received the 2017 Peter Dey National Governance Achievement Award.

EPCOR'S STATEMENT OF CORPORATE GOVERNANCE PRACTICES

EPCOR's corporate governance policies, principles and practices are described in our Statement of Corporate Governance Practices, published each year in Appendix II of our [Annual Information Form](#).

Our statement describes the responsibilities of the board and its committees, our practices for position descriptions, nominations, director independence, board size, assessment, orientation, continuing education, meetings, compensation, and the roles of management in relation to the board. Together, these practices enable the board to deliver on its responsibility for the overall stewardship and governance of EPCOR and long-term value to the company's shareholder.

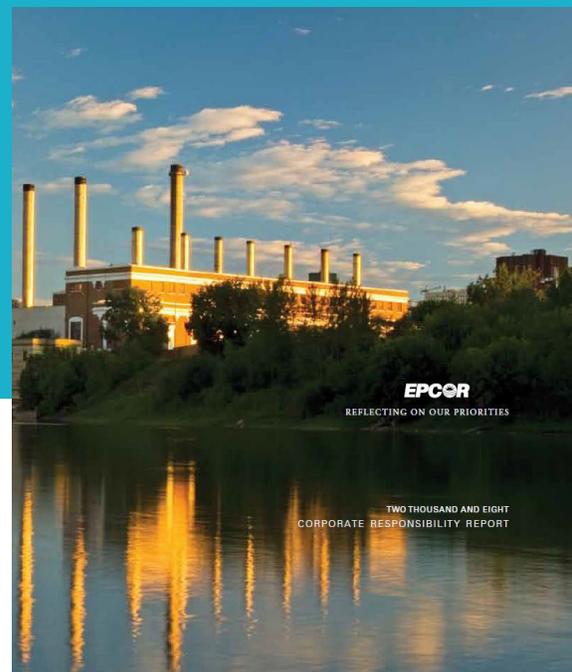
SUSTAINABILITY GOVERNANCE AND REPORTING AT EPCOR

EPCOR's environmental performance has been at the heart of the company's culture from the beginning. Three years after EPCOR's launch, the company published its first Environment and Sustainable Development Report, launched a Green Power offering for retail electricity customers, and began voluntary disclosure of its greenhouse gas emissions.

By 2000, the company had already surpassed its first voluntary greenhouse gas reduction target and completed a pioneering trans-Atlantic carbon offset trade. EPCOR was the first Alberta water utility to achieve EnviroVista Champion status (which the company continued to hold until the programs termination in 2021), and its operations in the U.S. and Canada have received numerous awards for environmental leadership, technological innovation and project implementation. The governance framework under which these achievements were realized was itself recognized through the National Award in Governance from the Conference Board of Canada/ Spencer Stuart.

From 2008 to 2013, the company published sustainability reports based on the Global Reporting Initiative reporting standards. This ESG report marks the latest step in reporting publicly on EPCOR's sustainability governance journey.

Over the past several years, the board has overseen a substantial increase in the volume and depth of sustainability disclosure, including the discussion of EPCOR's environment and climate change strategies in the [Annual Information Form](#), and the descriptions of EPCOR's risk management practices in the [Management's Discussion and Analysis](#), and the physical and transition risks from weather and climate change.



From 2008 to 2013 the company published sustainability reports based on the Global Reporting Initiative reporting standards. This ESG report marks the latest step in reporting publicly on EPCOR's sustainability governance journey.

In 2020, the board and management embarked on the development of expanded ESG reporting. The Environmental, Health & Safety Committee, Corporate Governance & Nominating Committee, and Human Resources & Compensation Committee each led reviews of performance metrics and reporting standards in their areas of oversight. The board oversaw management's work on the report's development, and the Audit Committee oversaw the disclosure process.

This report reflects the work of the board and management and was shaped by feedback from stakeholders representing a diverse range of interests and experiences. The feedback from the [materiality assessment](#) resulted in the qualitative and quantitative information in the report being structured around [10 ESG factors](#) most relevant to stakeholders and the company.

Through EPCOR's reporting on those factors, stakeholders from all backgrounds can discover information of relevance to them that speaks to the company's impacts, and to how EPCOR is managing the risks and opportunities that ESG presents.

A LOOK INSIDE: BOARD DIVERSITY AT EPCOR

We invited award-winning Edmonton journalist, Curtis Gillespie, to interview leaders and members of Team EPCOR to provide a unique perspective on our role and commitment to ESG. In this article, EPCOR's Board Chair, Janice Rennie, shares her perspectives on board diversity.

ABOVE BOARD

Janice Rennie, the Board Chair of EPCOR, knows that times have changed but that we still have a ways to go when it comes to diversity in the workplace and on corporate boards. She laughs when she recalls that one of her very first major appointments, to an industrial company board back in the early 1990s, came when she was pregnant. She asked if they could hold off on her appointment until after the upcoming AGM, so that she could give birth first. "I don't think they'd ever had many, if any, women on the board," she says. "Let alone one who was pregnant!"

That made her a pioneer in many ways. As did bringing her new son along to meetings here and there, which, back then, "was just an array of older men and me." Rennie worked as a CA and development executive, joined the board of Edmonton Power, EPCOR's precursor, and later served as the company's senior vice president of human resources. She returned to the board in 2017 and became chair in 2018. This arc makes Rennie uniquely qualified to understand both the evolution of EPCOR's board and boards in general.

"I love EPCOR," she says. "It's done such amazing things." Rennie believes the current board is as good as she's ever seen. "It's such a dedicated group of directors, filled with energy and commitment."

In many ways, the quality of EPCOR's services flows directly from that energy and commitment, from the quality of the strategic decisions made at the board level, which is one of the reasons why the board is committed to exploring the concept of diversity and executing on it. But it's not as obvious a task as it might seem at first. What, precisely, is diversity? "It's not a science," says Rennie. "There's a bit of magic to it. You've got to find the right people. You strive for diversity, but that means a diversity of people, of talents, of skillsets, of personalities."

It's a serious undertaking, not least because every decision impacts the delivery of utility services for the communities it serves. The board knows that operating across a complex array of terrains, demands, communities, peoples, governments and much more, requires a skillset at the board level that is the equal or better to that complexity. Progress is being made in reflecting that challenge. Four out of 11 board positions at EPCOR, for instance, are currently held by women, even though in 2020 only 22% of board seats across Canada were held by women and only 5% of boards were chaired by a woman.



It's about more than gender, however. Diversity on the EPCOR board is defined by a broad range of attributes, including gender and ethnicity, of course, but also making sure the definition includes covering off essential disciplines such as finance, economics and engineering. Geographic and demographic considerations are also taken into account. Potential board members are assessed for their independence as well as their alignment with EPCOR's vision, so that there is every assurance they will represent EPCOR with integrity in the community. The board recruitment process is guided by a skills matrix that allows the recruitment and governance committee to seek out candidates who can meet this diverse set of requirements. The matrix scores candidates against multiple criteria, including experience as a director, in business, in HR, in utility regulation, health and safety.

"I love EPCOR," she says. "It's done such amazing things." Rennie believes the current board is as good as she's ever seen. "It's such a dedicated group of directors, filled with energy and commitment."

EXCELLENCE IN GOVERNANCE



▶ EPCOR's independent Board of Directors includes a range of business and community leaders from across North America. Watch as our Board Chair, Janice Rennie, offers perspective on the role of EPCOR's board and commitments to sound governance.

In the end, it's about leadership, which will always have a significant impact on an organization. An organization is a bit like a lawn and good leadership is the water that sustains it. The moisture seeps into the earth, nourishes the soil, helps life thrive at every level. The EPCOR board understands that excellence in its processes and decision-making saturates the entire organization. If the board remains fresh and diverse, so will the organization. Which is why the board is committed to consistently assessing the who, how and why of its composition.

"We will always be making progress, but we still have to accelerate our thinking," says Rennie. "Diversity that both reflects society and finds the best talent is a balance we will always be moving towards. It's an important process of evolution and EPCOR is at the front of it."

GENDER DIVERSITY IN CANADIAN BOARDROOMS

EPCOR's 11-member board has included four women since 2017, equal to 36% of board seats. By comparison, a recent survey found that 13% of Canadian firms exceeded the 35% threshold for women directors in 2020, and 10% of boards included four or more women directors.

As of 2020, about 22% of board seats at Canadian firms were held by women, and 5% of boards were chaired by a woman (as is EPCOR's). About 29% of TSX-listed firms and 59% of the TSX 60 have formally adopted gender diversity targets at the board level.

(All contextual data from: Diversity Disclosure Practices, Osler, Hoskin & Harcourt LLP, 2020).

GOVERNANCE OUTLOOK: OPPORTUNITIES FOR CONTINUOUS IMPROVEMENT



EPCOR has a sustained record of high performance on board independence, ethics conduct and monitoring, and corporate reputation.

The company's commitment to equal the governance of the best publicly-traded firms requires an ongoing evaluation and evolution in the company's governance practices – and consideration of changes in regulatory and market context. As our practices change, we expect to update our Statement of Corporate Governance Practices, and provide commentary on those changes in future ESG reports.

We continue to monitor the potential for diversity reporting practices to expand and include additional attributes. For example, as of 2020, publicly-traded corporations governed by the *Canada Business Corporations Act* are required to provide additional diversity disclosures respecting Aboriginal persons, visible minorities and persons with disabilities on the board and senior management. While EPCOR is incorporated pursuant to the *Business Corporations Act* (Alberta), the company continues to track the evolution in disclosure requirements and consider the expansion of diversity reporting to include additional attributes in future reports.



ADDITIONAL RESOURCES



NOTE:

Links to resources included in online version of report, available at www.epcor.com/ESG

For more information on EPCOR’s governance strategies, programs and performance, please see:

RESOURCE	WHAT YOU’LL FIND
<u>2020 Annual Information Form</u>	<ul style="list-style-type: none"> ▪ Information on EPCOR’s Board of Directors, including biographies, number of meetings, recruitment and appointment procedures, and standing committees (pages 32–40) ▪ Statement of Corporate Governance Practices (Appendix II, pages 66–69)
<u>Management’s Discussion and Analysis</u>	<ul style="list-style-type: none"> ▪ EPCOR’s overall approach to risk management and the roles of board and management in that process (page 29) ▪ The company’s principal risks, including risks related to topics discussed in this ESG report (starting on page 30)
<u>Who We Are and What We Do</u>	<ul style="list-style-type: none"> ▪ EPCOR’s operating companies and detailed information about operations across EPCOR’s jurisdictions ▪ Leadership and board membership ▪ Mission, vision and values ▪ Financial information ▪ Corporate governance structure overview ▪ History
<u>News & Announcements</u>	<ul style="list-style-type: none"> ▪ News releases for Canadian and U.S. operations, including financial reports, major projects, acquisitions and other announcements
<u>2020 Annual General Meeting Online Feature</u>	<ul style="list-style-type: none"> ▪ Snapshot of EPCOR’s operations today ▪ Operational and financial performance ▪ Key growth areas and outlook for future growth ▪ Support for customers, communities and employees



ENVIRONMENT





ENVIRONMENTAL LEADERSHIP AT EPCOR

EPCOR empowers its people to be leaders on environment and public health by anticipating the future direction of regulation and legislation, being early adopters of technologies and improved operating practices, and acting as trusted advisors to policy makers.

This culture of environmental leadership has led to EPCOR being recognized as: one of Canada’s Best 50 Corporate Citizens, an EnviroVista champion-level operator in Alberta, one of America’s Utilities of the Future Today, and a Canada’s Clean50 award winner for environmental sustainability.

EPCOR’s leadership is underpinned by its Health, Safety and Environmental Policy, which commits the company to “preventing pollution and reducing our environmental impacts, including those contributing to climate change and affecting the ecosystems in which we operate.”

This commitment is backed by disciplined day-to-day operations, with most of EPCOR’s Canadian operations holding third-party ISO 14001:2015 certification for their environmental management systems. Through its Enterprise Risk Management program, the company identifies, manages and monitors business risks that could significantly impact day-to-day operations or its ability to achieve its long-term plans.

SCORECARD AT A GLANCE

REDUCE ENVIRONMENTAL FOOTPRINT

193,402
TONNES CO₂eq

Greenhouse Gas Emissions

EPCOR owned and leased, company-wide Scope 1 and 2 emissions, net of offsets

39,688 kg/day

Protect water quality

Annual discharges of suspended solids into the North Saskatchewan River from land drainage, wastewater treatment operations and combined sewer overflows (2019)

RESILIENT UTILITY INFRASTRUCTURE

4%

Implementation of Edmonton flood resilience upgrades

Protect utility assets and critical infrastructure from river flooding to at least a 1:200-year flood event (percentage of improvements implemented)

6.1%

Limit water loss

The percentage of treated drinking water lost due to transmission and distribution line leaks and failures, and inaccurate meters (U.S. and Canada combined, 2019)

COMMUNITY RESILIENCE

94.4%

Wastewater reuse

Percentage of treated effluent reused or used to recharge aquifers (U.S. operations)

TARGETS

- 50% reduction in net greenhouse gas emissions by 2025, 85% by 2035, and net zero by 2050
- 2027: 100% of flood resilience upgrades complete
- 90% beneficial reuse and/or recharge of treated effluent by existing U.S. operations



BEHIND THE NUMBERS: EPCOR's Environmental Scorecard in Context

EPCOR'S ENVIRONMENTAL SCORECARD:



Affirms the need for urgent climate action, reporting on EPCOR's achievement of its greenhouse gas reduction targets and the company's accelerated pathway to net zero.



Sustains the company's leading role in watershed protection, reporting on multi-utility strategies to reduce total loading to the North Saskatchewan River.



Protects the integrity of utility operations, reporting on the implementation of flood resilience upgrades to protect water and electricity utility assets, and the integrity of water distribution and transmission systems.



Supports community sustainability and health, reporting on efforts to recharge desert aquifers with treated wastewater, monitor and protect source water in the North Saskatchewan River basin, and implement the lead mitigation strategy in Edmonton.

EPCOR'S ENVIRONMENT AND CLIMATE CHANGE STRATEGY

EPCOR'S ENVIRONMENT AND CLIMATE CHANGE STRATEGY, ADOPTED IN 2019, HAS THREE OBJECTIVES:



Reduce the company's environmental footprint



Improve the resilience of utility infrastructure



Help communities and customers reduce their own environmental footprint and increase their resilience

Each objective is supported by ongoing initiatives and projects, embedded in the company's long-term plan and annual operating plans, reported annually to executive leadership and the board, and summarized in this report and the company's *Annual Information Form*.





REDUCE EPCOR'S ENVIRONMENTAL FOOTPRINT

- Reduce net greenhouse gas emissions 50% by 2025 through green power
- Eliminate PCBs above 50 parts per million from electricity infrastructure by 2023
- Reduce emissions and energy use from fleet vehicles through tracking and driver feedback
- Reduce energy consumption through investments in HVAC, lighting and heat recovery systems
- Prevent increases in total loadings of suspended solids to the North Saskatchewan River
- Maintain effluent reuse in Arizona and New Mexico to reduce pressure on source water supplies



UTILITY INFRASTRUCTURE RESILIENCE

- Implement a multi-year capital program to protect Edmonton's two water treatment plants and electrical substations from the impacts of a 1:200-year river flood
- Complete studies and capital program development to protect Edmonton's wastewater treatment plant from a 1:500-year flood
- Conduct reviews and updates to electrical infrastructure specifications for climate-driven risks such as extreme heat, storm events and high wind events
- Make risk-based investments in utility infrastructure renewal, targeting assets based on risk and impact of failure, and implement drainage system investments to protect the sewer system from corrosion



COMMUNITY RESILIENCE AND ENVIRONMENTAL FOOTPRINT

- Implement EPCOR's Edmonton flood mitigation program — a 20-year, \$1.6 billion system-wide plan to protect homes, businesses and essential services by mitigating flood risk
- Grow EPCOR's capacity to recharge Arizona aquifers to 8 million gallons per day (MGD) of treated effluent through expansion of the Luke 303 Regional Water Reclamation facility
- Prepare Edmonton's electricity grid to support customer choice as households adopt electric vehicles and self-generation of electricity
- Enable the adoption of electric vehicles through the development of community charging stations
- Offer customers convenient options to green their power supply
- Enable the greening of the community's natural gas supply by converting biogas from wastewater treatment into renewable natural gas and delivering it for community use
- Provide educational tools and resources to help customers achieve energy and water efficiency, resource conservation and home flood proofing

EPCOR'S ENVIRONMENT AND CLIMATE CHANGE STRATEGY



- ▶ Environmental performance is at the heart of our operations. EPCOR's Senior Vice President of Corporate Services, John Elford, shares why our people are excited to help solve challenges to reduce our environmental footprint and protect against the impacts of climate change – while still keeping essential services running.

CLIMATE MITIGATION: EPCOR'S PATHWAY TO NET ZERO



The installation of more than 300 solar panels at the Hugh J. Bolton Service Centre is helping to reduce emissions from grid power consumption.

EPCOR first disclosed its greenhouse gas (GHG) emissions more than 20 years ago, and began working to reduce them. Today, emissions total about 193,000 tonnes of carbon dioxide equivalent (tCO₂eq) per year.

In 2019, EPCOR announced its commitment, as a member of Edmonton's Corporate Climate Leaders program, to reduce the company's greenhouse gas footprint inside the City of Edmonton by 70% relative to 2012 emissions. The goal would be achieved by using 100% green electricity for all of EPCOR's Edmonton-based operations.

With the publication of this ESG report, EPCOR is broadening and deepening its commitment to climate leadership. EPCOR's accelerated pathway to net zero will see:

- A 50% reduction in net greenhouse gas emissions company-wide by 2025
- An 85% reduction by 2035
- Net zero emissions by 2050

These more ambitious targets — which now encompass all EPCOR-owned Canadian and American operations and use 2020 as a baseline — reflect the urgent need for climate action, and will deliver early reductions that support the achievement of Canada's targets under the Paris Agreement.

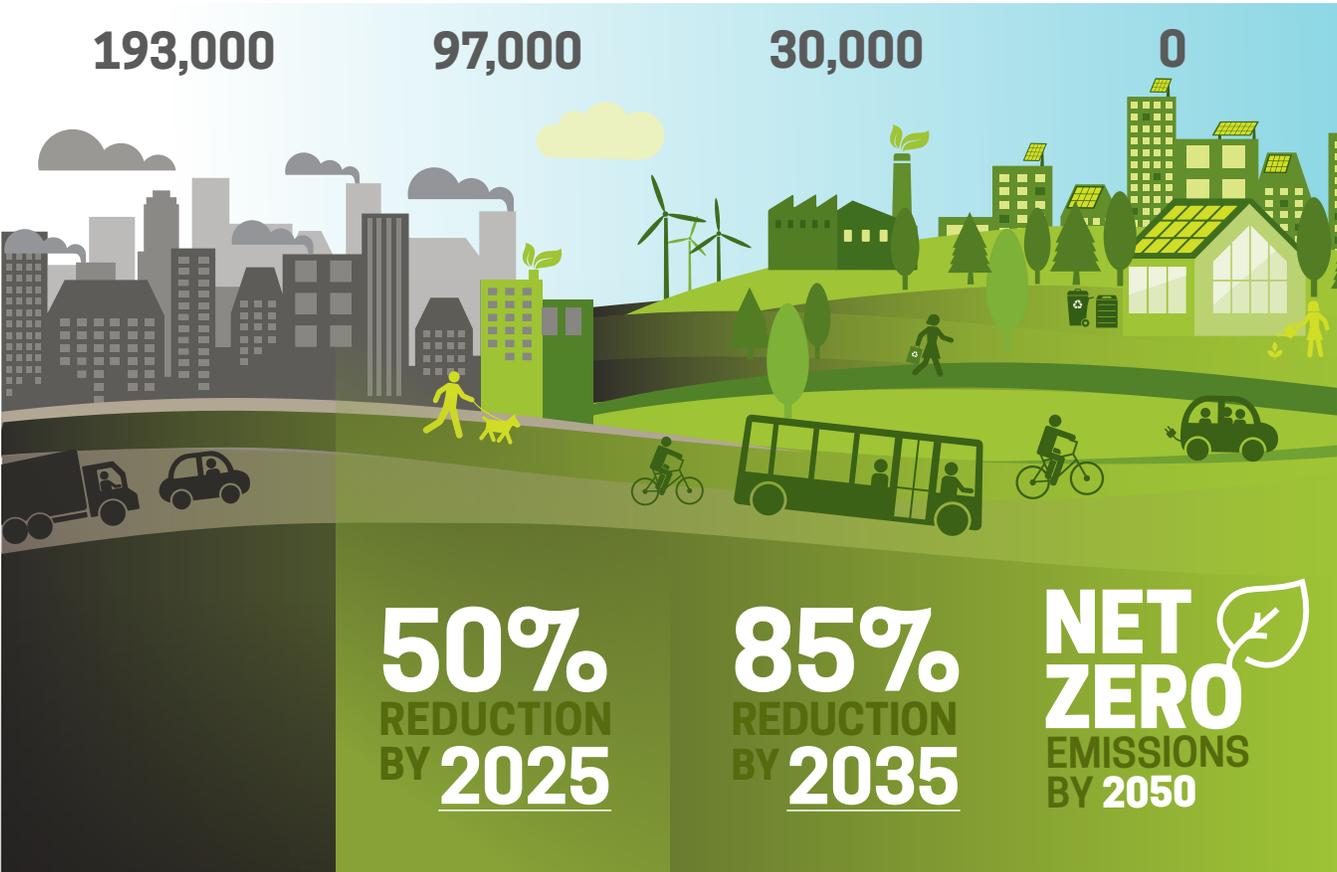
The work to achieve the 2025 target is already well underway. EPCOR is developing an on-site solar resource to power its Edmonton water operations, and a green power initiative that is leading to the development of a new wind power resource in southern Alberta. Together, these are expected to reduce net emissions by more than 95,000 tCO₂eq per year.

Upcoming strategic initiatives will identify the best ways to achieve the deeper reductions needed to meet EPCOR's 2035 and 2050 targets. The accelerating pace of vehicle electrification, the growing potential for renewable natural gas as a source of energy, and the greening of the electricity grid supply, are each potential enablers of emission reductions. But reaching net zero will require internal innovation, and close collaboration with regulators and policymakers.



EPCOR'S PATHWAY TO NET ZERO EMISSIONS

(Net Tonnes of Scope 1 and Scope 2 CO₂e emissions from EPCOR-owned operations)



“Smart grids help ensure safer and more secure delivery of electricity, and are a key enabler for GHG mitigation and increasing resiliency.”
(Natural Resources Canada)

ALTERNATIVE AND CLEAN ENERGY

▶ From biogas capture to wind and solar energy, EPCOR is working to develop alternative forms of energy and reduce greenhouse gas emissions company-wide 50% by 2025. EPCOR's Craig Bonneville talks about the challenge in meeting this goal — and the opportunity.



SOURCES OF EMISSIONS

More than 75% of EPCOR’s greenhouse gas footprint is Scope 2 emissions from electricity consumption. Most of this electricity is used to pump large volumes of drinking water through the treatment process, to customers, and to move and treat wastewater. EPCOR continues to invest in energy efficiency, but the primary focus for these emissions is on greening the electricity supply.

Nearly 10% of EPCOR’s emissions come from the biological nutrient removal process used in wastewater treatment. Nearly all remaining emissions are from the consumption of natural gas for heating, and fuel for vehicles, with minor residual emissions from releases of sulphur hexafluoride (SF₆) from electrical equipment.

GHG Emissions by Source (tonnes CO₂ eq)

SCOPE 2 EMISSIONS



Electricity consumption (tCO₂eq)

149,517

Scope 2 emissions are indirect emissions from the creation of purchased energy.

SCOPE 1 EMISSIONS



Wastewater treatment processes (N₂O)

17,680

Scope 1 emissions are direct emissions from owned or controlled sources.



Natural gas consumption

15,029



Vehicle fuels

10,858



Sulphur Hexafluoride (SF₆)

318

DID YOU KNOW?

EPCOR’s Rosssdale and E.L. Smith water treatment plants and Gold Bar wastewater treatment plant are three of the five largest users of electricity connected to Edmonton’s power distribution grid.



E.L. SMITH SOLAR FARM

CLEAN ENERGY TO CREATE CLEAN WATER: THE E.L. SMITH SOLAR FARM

The E.L. Smith Water Treatment Plant (WTP) is essential to life in Edmonton and its metro region. Constructed more than 40 years ago, today it supplies more than 65% of all the water consumed in Edmonton and our surrounding communities.

Edmonton's City Plan envisions the region growing to two million people and beyond over the coming decade. Most of the water needed to serve that population will come from the E.L. Smith WTP.

The facility is already EPCOR's second largest source of greenhouse gas emissions as a result of electrical energy used to pump water. As water demand and treatment volumes grow, reducing emissions from electricity consumption at the water treatment plant is essential for EPCOR to meet its emission reduction targets.

The E. L. Smith Solar Farm tackles this challenge directly. Once constructed, it will give the water treatment plant access to three sources of electricity:

- **Real-time power** from approximately 31,000 panels that will make more than 20,000 megawatt hours of clean energy each year
- **Battery power** as the on-site battery storage device is charged during the day, then used when it is needed most
- **Grid connection**, which becomes a two-way resource through which we can indirectly share extra renewable power production with other EPCOR facilities

The project is designed as a behind-the-meter smart grid. This means that the renewable power source is located next to the water plant, not on the grid. This enables the plant to directly access green power for its own needs and reduce its grid power consumption.

It is a "smart grid" because the water plant, solar panels, and battery work together as a system. They're united by intelligent controls that optimize when the energy is stored and how it is used.

Project partners include Natural Resources Canada, which is providing funding for the battery and smart grid system. Additional partnerships with post-secondary institutions will promote knowledge sharing and training on smart grid installations.

E.L. SMITH SOLAR SPOTLIGHT

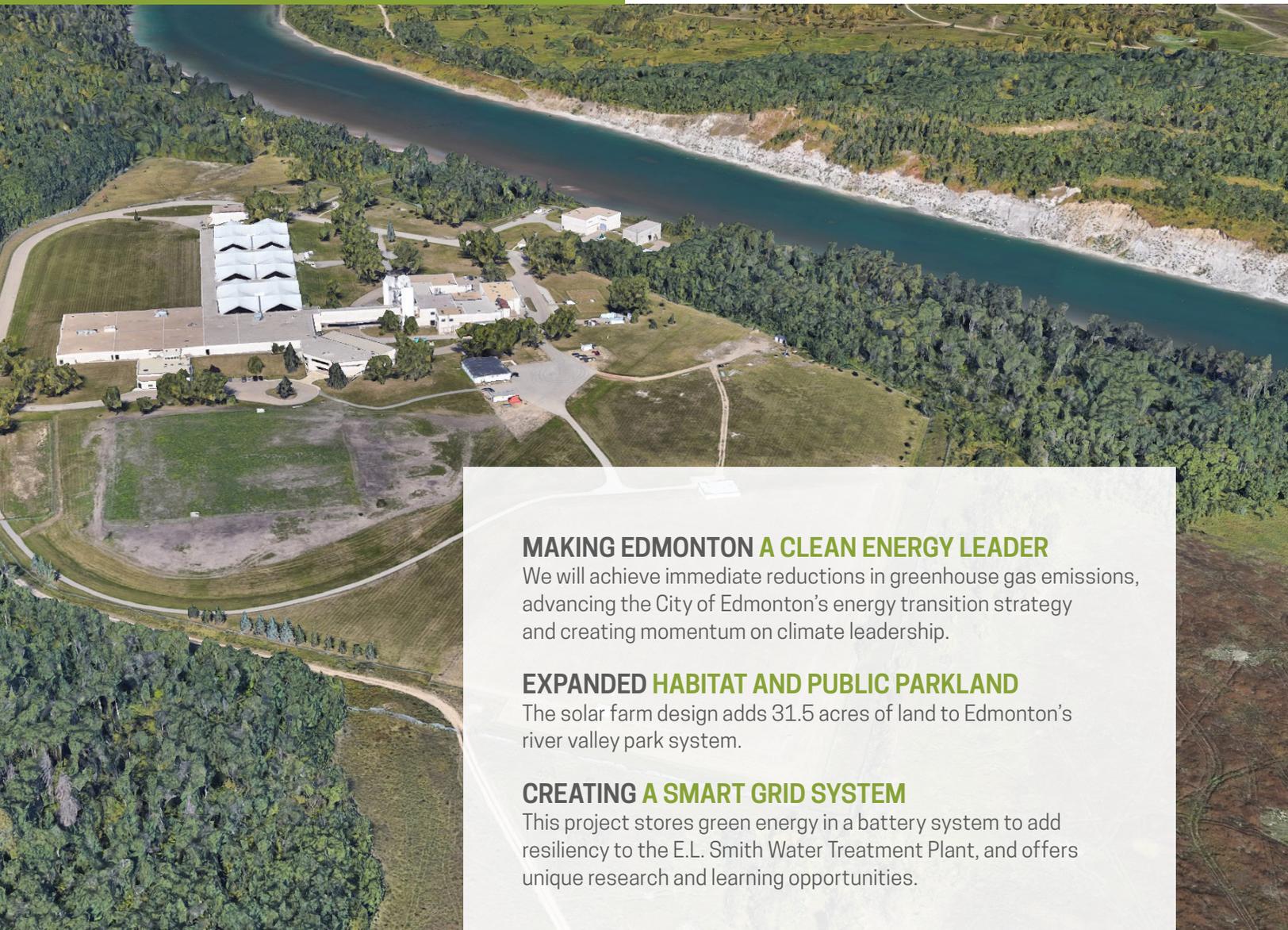
Once operating, the 12 megawatt solar installation is expected to:

- Produce 21,500 megawatt hours of clean electricity annually
- Supply 50% of power consumed at the water treatment plant
- Reduce greenhouse gas emissions by 14,000 tonnes per year

E.L. SMITH SOLAR FARM



- ▶ Learn how the E.L. Smith Solar Farm will produce clean water made with clean energy.



MAKING EDMONTON A CLEAN ENERGY LEADER

We will achieve immediate reductions in greenhouse gas emissions, advancing the City of Edmonton's energy transition strategy and creating momentum on climate leadership.

EXPANDED HABITAT AND PUBLIC PARKLAND

The solar farm design adds 31.5 acres of land to Edmonton's river valley park system.

CREATING A SMART GRID SYSTEM

This project stores green energy in a battery system to add resiliency to the E.L. Smith Water Treatment Plant, and offers unique research and learning opportunities.

GREENING EPCOR'S ELECTRICITY SUPPLY

EPCOR is working with Renewable Energy Systems Canada to develop and construct a new wind farm in southern Alberta.

As part of EPCOR's work to green the company's electricity supply, EPCOR has signed an agreement with Renewable Energy Systems Canada to develop and construct a new wind farm in southern Alberta. EPCOR will acquire the Renewable Electricity Certificates from the project for a 20-year term.

Permitting activities are currently underway and the wind farm is expected to be constructed in the summer of 2022, with commercial operations commencing before 2023.

Together, the wind power project and the E.L. Smith Solar Farm will deliver about 95,000 tonnes of net emissions reductions – equal to more than 50% of EPCOR's current net greenhouse gas emissions company-wide.

WIND POWER SPOTLIGHT

- Wind farm forecast to offset electricity emissions by 85,000 tonnes per year
- Edmonton operations will be 100% powered by clean electricity



As a presenting sponsor of the inaugural Intergovernmental Panel on Climate Change (IPCC) Cities and Climate international conference in 2019, EPCOR created a platform for more than 40 grassroots Alberta organizations to share their stories of climate leadership with the community, and to hear from national and international leaders.



EPCOR Water USA serves 42 communities and 18 counties in Arizona, New Mexico and Texas — many of which are situated in desert areas where drought is common.

MANAGING CLIMATE ADAPTATION RISK: PROTECTING AND SUSTAINING WATER SOURCES

Utilities both contribute to climate change, as greenhouse gas emitters, and are at risk of being impacted by the effects of climate change. Among the impacts most material to EPCOR are changes in both the availability and quality of source water for our drinking water operations and the communities we serve.

The effects of climate change on source water vary by geography. In this section, we take a closer look at water supply issues in EPCOR's two largest water customer regions: the Edmonton metro region, which is served by the North Saskatchewan River, and EPCOR's Arizona and New Mexico operations in the U.S. desert southwest.

EPCOR has tailored its climate adaptation and source water protection response to the different challenges faced in each region. What unites the strategies is a commitment to research-driven risk assessments, ecological monitoring, and investments that protect the long-term sustainability of the water supplies our customers count on.

“EPCOR’s Climate Change Adaptation Strategy for the Edmonton water system summarizes the current state of knowledge on changes in water quality and quantity in the North Saskatchewan River, recommends adaptation measures, and includes a research strategy to better understand and predict the impacts of climate change in the source water.”



A LOOK INSIDE: THE NORTH SASKATCHEWAN RIVER AND CLIMATE CHANGE

We invited award-winning Edmonton journalist, Curtis Gillespie, to interview leaders and members of Team EPCOR to provide a unique perspective on our role and commitment to ESG. For this article, Curtis spoke with two of EPCOR's scientists about their work to protect the North Saskatchewan River.



Stephanie Neufeld, Watershed Manager for EPCOR, works on the WaterSHED Monitoring Program, which collects data to support the protection and preservation of the North Saskatchewan River.

MANAGING THE FLOW

The North Saskatchewan River (NSR) is the life source for much of central Alberta's population. The NSR's flow is vast, its movement thrilling, its sinuous valley acting as the world's largest urban park. The water of the NSR (after EPCOR treatment) was also recently named the People's Choice Winner of the American Water Works Association Tap Water Taste Test. The NSR is, in short, a natural gift to be cherished and protected.

“We are all connected to and by the river,” says Craik. “Which is why climate change is a shared issue none of us can ignore.”

And it is EPCOR's job to collaboratively manage and protect this resource for the more than 1 million people in 70 communities who rely on its water. One of the issues both immediate and long-term is to understand, plan for and mitigate how climate change might affect and put at risk our water supply. Dr. Steve Craik and Stephanie Neufeld of EPCOR are part of a broader network of scientists dedicated to the protection of the NSR watershed and ultimately our water supply. Craik is Director of Quality Assurance and Environment for EPCOR.

“We are so lucky” says Craik. “The NSR is a great river.” But, he adds, it naturally contains silt, clay, sand, sediment and organic matter, not to mention whatever the watershed collects due to human activities such as farming, industry and urban development. That's one of the realities of a watershed and treating its water for human use. Climate change is another reality. “What climate change does,” says Craik, “is increase the uncertainty of an already variable system.” Drought, floods, colour, turbidity, all affect how difficult it is to treat the water.

The dominant narrative around climate change is a hotter and drier climate, but current modelling suggests otherwise for the NSR watershed. The biggest challenge we can expect, says Craik, is more water at different times, as well as increased weather volatility and variability. Turbulent weather means likely changes in natural turbidity as well as in public expectation of raw water conditions, all of which will alter EPCOR's treatment methods in order to maintain its water quality standards.

Neufeld is Watershed Manager for EPCOR and works on the Climate Change Adaptation Strategy and the Source Water Protection Plan. The WaterSHED Monitoring Program, which she also works on, is a basin-wide water quality monitoring collaboration with Alberta Environment and Parks (AEP), the North Saskatchewan Watershed Alliance, and the City of Edmonton. Locally, EPCOR has also created an initiative called the Integrated Watershed Management Strategy that looks to manage total loads of nutrients, sediments, metals, and bacteria from stormwater, wastewater and treatment processes. "When we talk about watersheds," says Neufeld, "it's the science of how and when water moves and interacts across our landscape, and what geo-biochemical processes occur as that water's moving. A watershed is about movement over time."

We need both basin-wide and urban watershed models, says Neufeld, to look at how climate change will affect precipitation patterns, which is what drives water quality and quantity. What will an earlier spring mean? Or more frozen ground? What if more of our precipitation falls as rain instead of snow? Rainfall in a forest is different than rainfall on a parking lot. When water moves faster across harder and dirtier landscapes, the quality of the water is affected. Precipitation mostly ends up in the river, but so too does a lot of what the water picks up along the way. Changes in rainfall and snowmelt patterns would affect the movement of substances to downstream water bodies, making EPCOR's job of treating water more difficult. Edmonton's 700 square kilometres footprint is small compared to the upstream watershed of 28,000 square kilometres and the total watershed of 57,000 square kilometres. Edmonton's effect on the quantity of water in the NSR, therefore, is likely to be minimal, but the city's effect on the water's quality could be significant.

"In our Climate Change Adaptation Plan, we do identify flood as being one of the top risks of future climate change, mostly due to the increased uncertainty," says Craik. "The other one that follows is the impact on water quality and its treatability." To address this, EPCOR is at work refining barrier techniques to protect water treatment plants, as well increasingly sophisticated processes to clean and purify the water.

Climate change is also tied to population growth and development. The more people there are, the more pressure the climate is under. We are all connected to and by the river, says Craik. Which is why climate change is a shared issue none of us can ignore. Neufeld agrees. "We're a little more fragile than we think," she says. "Ecosystem collapse is a slippery slope. We need to do everything we can."

Neufeld and Craik, and EPCOR and those it collaborates with, know that to protect our water supply, we need to protect the environment. As the great Canadian writer Margaret Laurence once said, the river flows both ways.

EPCOR's triennial Source Water Protection Plan is part of a multi-barrier approach to protect both the quality and quantity of water from the North Saskatchewan River. The 2020 edition includes assessments and management recommendations for more than 30 risks, including commentary on climate-driven trends and their impact on water volume and water quality in the North Saskatchewan River.

A LOOK INSIDE: SECURING WATER SUPPLIES IN THE SOUTHWESTERN U.S.

We invited award-winning Edmonton journalist, Curtis Gillespie, to interview leaders and members of Team EPCOR to provide a unique perspective on our role and commitment to ESG. For this article, Curtis spoke with EPCOR environmental and water experts in Arizona about the effects of climate change and efforts to ensure a consistent and reliable water supply for our customers.



DESERT WATERS

If you say the word desert, you might picture an explorer trying to extract one last drop of water out of an upturned bottle. That is a scenario millions in Phoenix and the southwestern United States are working to avoid through innovation, education and collaboration. EPCOR has branched out significantly in the last decade and is now servicing parts of greater Phoenix and communities in New Mexico and Texas. But the Colorado River is declining. Climate change is accelerating. The challenges are growing. Yet for the Southwest, those challenges might not be quite what you think.

John Calkins worked with Arizona's Department of Environmental Quality before joining EPCOR as Senior Manager of Environmental Compliance. When it comes to solving the puzzle of water supply and climate change, he says, it's about recognizing how many puzzle pieces there are. "Temperature, precipitation, population. Changes in the flora and the nature of forest fires, the way snow melts, how that impacts surface flow." It's a complex eco-system and part of the complexity is where the water comes from. About 40% of central Arizona's supply comes from the Central Arizona Project (CAP) canal system, which runs from the Colorado River through the desert into Phoenix and then down to Tucson. The Salt and Agua Fria rivers also supply water, as do the major aquifers underneath the Phoenix basin. There's water available, but it's all about making the pieces fit.

Doug Dunham is a Phoenix native and EPCOR's Manager of Water Resources. The problem back in the 1970s, he says, was water overuse due to things like unmanaged flood irrigation techniques. The Groundwater Code has since advanced legislation such as the 1980 Assured Water Supply Program, stipulating that new development has to demonstrate a 100-year renewable water supply. "We live in the desert," says Dunham. "We understand drought. Despite some of the outward appearances of the state in terms of growth, there is an underlying current of conservation here." Evidence of that is the fact that Arizona now uses less water by total volume than it did 50 years ago. "It's all part of accepting reality," says Dunham.

"My planning horizon is 100 years out. We're constantly thinking that far into the future because we understand we live in a water-stressed area."



“You can’t just retreat into a corner,” he says. “My planning horizon is 100 years out. We’re constantly thinking that far into the future because we understand we live in a water-stressed area.”

Not retreating means having everyone pulling in the same direction. EPCOR has agreements, for instance, with the Salt River Project, the Ak Chin tribe, and others, not to mention programs such as selling treated wastewater to golf courses. And there is the Maricopa Water District agreement, which allows for efficient transition from agricultural water rights to municipal uses; this saves water, as houses use significantly less water than farming. Also important is the state-run water bank which stores excess water when available for use in times of shortage, and a system for water providers like EPCOR, for instance, can put water it’s not using back into the aquifer. If it needs that water in the future it has a state “credit,” that it can recover.

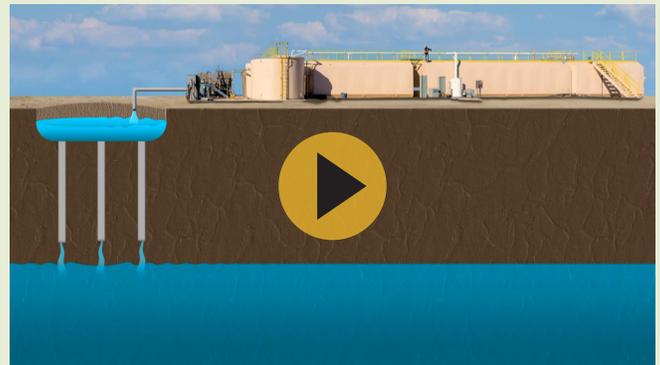
There are other external factors that require a team approach, such as the PFAs (polyfluoralkyl substances) often found in things like firefighting foams, stain guards and even Teflon pans. Calkins calls them the “forever chemicals” because they don’t break down readily and can leach into aquifers. EPCOR is responding to public concern by proactively sampling its water sources to ensure that PFAs levels are well below the EPA guidance. This is just one area of public education in which EPCOR is at the forefront.

Rick Obenshain worked with Arizona’s Department of Water Resources before transitioning to EPCOR as Water Resource Analyst and managing EPCOR’s conservation programs. These programs include the H2O Magic program for children, a groundwater education program and courses he runs or teaches on desert adaptive plants, water regulation, drought contingency, and a program called Hydrate, on how to use rainfall and runoff. Last but hardly least, he oversees the gorgeous xeriscape gardens at the EPCOR offices. His work is about teaching the public how water works and how they can use it, reuse it and not lose it.

All of which are essential to the Southwest’s water supply. EPCOR reuses close to 93% of treated wastewater or effluent, and its wastewater is treated to A+ effluent standards, which is significant because 2020 EPCOR recharged 2.3 million gallons a day (MGD) into aquifers. That number is expected to reach 8 MGD in the years to come. Having such high effluent standards helps take the pressure off the earth in returning water to a potable state.

If we’re smart about it, there is enough water to supply the Southwest, which means we shouldn’t have to go around holding our water bottle upside down over a dry tongue. “There is a lot of water here,” says Calkins. “But it needs to be used wisely. Because it doesn’t matter where you are, everything is interconnected.”

LUKE 303 WATER RECLAMATION FACILITY

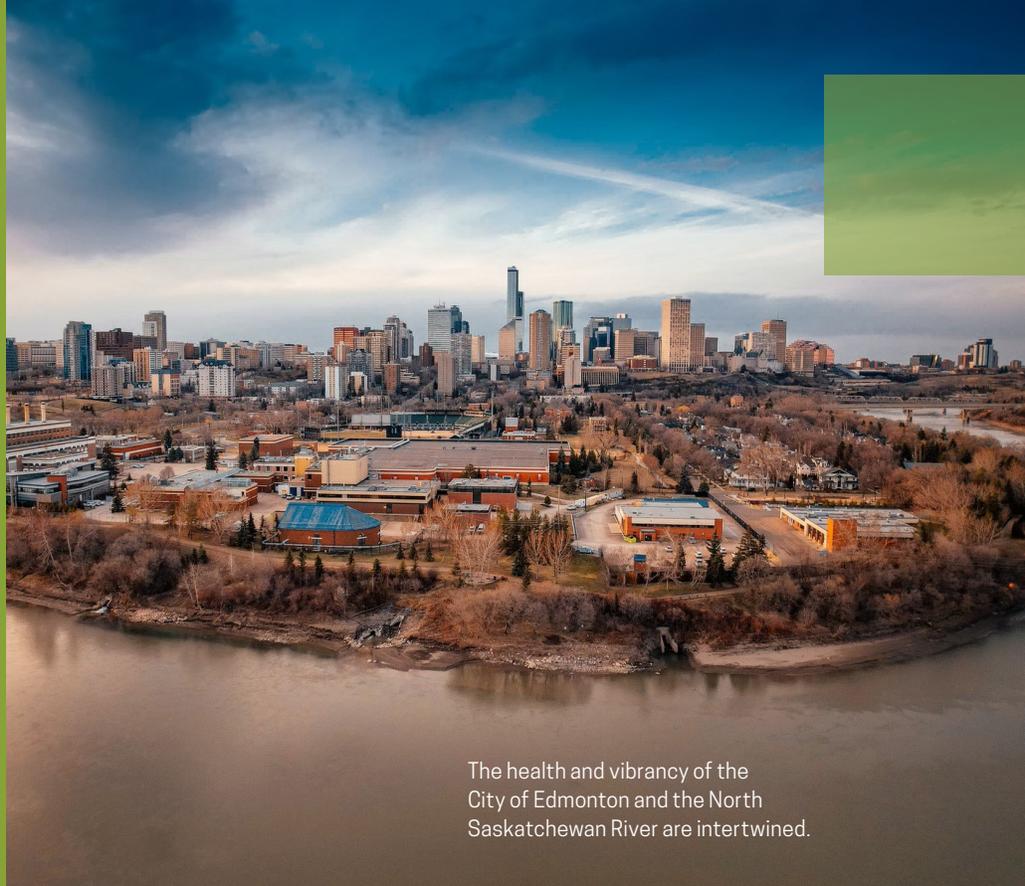


▶ Learn how the Luke 303 Regional Water Reclamation Facility – in one of the fastest-growing areas of Greater Phoenix – is ensuring long-term water system reliability and fueling the economy.

The Luke 303 Water Reclamation Facility has a strong sustainability component. Once the expansion is complete, the facility will recharge up to 8 million gallons of treated effluent into the ground every day.



MANAGING CLIMATE ADAPTATION RISK: HARDENING UTILITY INFRASTRUCTURE AGAINST FLOODING



The health and vibrancy of the City of Edmonton and the North Saskatchewan River are intertwined.

“Communities count on us. We count on each other.”

EPCOR’s purpose statement speaks to the essential nature of the services EPCOR’s people provide. In 2018, public opinion research found that Edmontonians rated critical utility and health infrastructure as the most important community assets to protect from flooding — even more important than their own homes.

Several of EPCOR’s critical utility assets are located next to the North Saskatchewan River, including Edmonton’s two water treatment plants and a major electrical sub-station, each of which is at risk from flood events. EPCOR is implementing protection plans for these assets to protect them from 1:200-year flood events, and in some cases, from 1:500-year floods. These investments are partly offset by federal and provincial grant funding.

EPCOR has further studies underway across the full range of its operations, examining the potential impacts of extreme weather events on the ability to deliver reliable utility services. This will result in additional action plans to improve system resiliency and reliability.

INFRASTRUCTURE PROTECTION



- ▶ Hear from EPCOR’s own Audrey Cudrak on how we’re working to safeguard critical infrastructure – and the Edmonton region’s drinking water – from the impacts of a major flooding event.

SCENARIO PLANNING: UNDERSTANDING THE RISKS FROM EXTREME RIVER FLOODING

The worst flood experienced in Edmonton since modern records have been kept occurred in June 1915. Considered a 1:180-year event, it resulted in widespread destruction of Edmonton's river valley and the relocation of most businesses to higher ground.

EPCOR's Edmonton water treatment plants supply water to nearly one-third of Alberta's population. Both are located next to the river, with infrastructure at varying elevations and extensive below-grade facilities, including reservoirs.

EPCOR conducted scenario planning for a recurrence of a 1915 flood event. The analysis predicted that river flood water would enter the water treatment plants across overland flood plains and through underground waste stream/overflow piping systems that discharge to the river. Critical electrical infrastructure, chemical storage facilities and reservoirs would all be damaged.

The immediate impacts and aftermath would be considerable. Forecasts indicate that without improvements to protect the water treatment plants, the ability to treat water could be interrupted for three to 10 months, and a boil water advisory would need to remain in place until the entire distribution and transmission network is flushed and disinfected. Until water production is restored, customers would be supplied with water trucked-in as part of EPCOR's Emergency Water Supply Plan.

A disruption on this scale would have a substantial impact to the regional economy, and the direct costs to EPCOR would be extensive.

PROTECTING UTILITY INFRASTRUCTURE FROM EXTREME RIVER FLOODING

In 2018, EPCOR initiated a multi-year capital program to improve the flood resiliency of Edmonton's water treatment plants. These efforts have been extended to critical electrical infrastructure also located in the river valley.

The Flood Protection Project will provide protection for a 1:500 year flood through investments of \$36.9 million, partly supported by \$11.4 million in federal and provincial grant funding. The investments will reduce the risk of catastrophic damage to the WTPs and electricity infrastructure during a flood, and enable the facilities to resume potable water treatment as quickly as possible following an extreme flood event.

Investments include:

- **Critical asset protection or relocation** through hardening of underground reservoirs and chemical storage tanks against flood-related structural damage, and the raising of key electrical infrastructure above flood water heights (completion in 2023)
- **Backflow prevention from waste stream outfalls,** which stops the backflow of flood water through process drains, preventing indoor flooding of buildings and treatment process equipment contamination (completion in 2023)
- **Prevention of overland flood inundation,** using embankments and barriers to connect existing high ground around the treatment plants (completion in 2027)

FRAMEWORK FOR DRINKING WATER EMERGENCIES

Scenario planning and business continuity planning are key tools used to manage and mitigate risk, including climate adaptation risk. In addition to extreme flooding events, EPCOR water treatment operations could be disrupted by a range of high-impact, low-probability events, including other types of natural disasters, extended river contamination and physical attack.

EPCOR worked with key stakeholders to develop a drinking water emergency exercise plan for the Edmonton and region water system. The plan focuses on how to supply customers with drinking water in the event of a disruption to the water treatment plants. The work has been documented in a Framework for Drinking Water Emergencies in the Greater Edmonton Region, an Emergency Drinking Water Supply Plan, and a five-year exercise plan. Critical to these plans is the ability to quickly access alternative water supplies and to mobilize physical distribution of water to residents in Edmonton and the surrounding regions.



COMMUNITY RESILIENCE: EPCOR'S FLOOD PROTECTION PLAN FOR EDMONTON

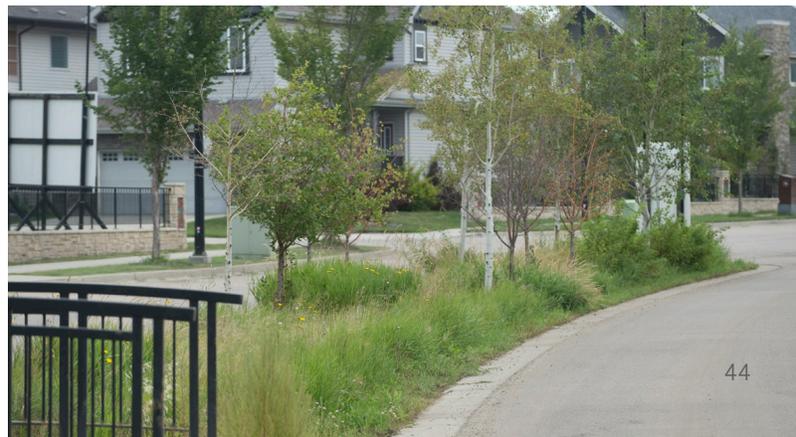
As recently as 2016, Edmonton experienced significant urban flooding caused by large rainfall events. The impacts of flooding to citizens, the environment, society and property were substantial.

In 2019, EPCOR presented its flood mitigation program to Edmonton's City Council. The Stormwater Integrated Resource Plan (SIRP) is a 20-year, \$1.6 billion system-wide plan to protect homes, businesses and essential services by mitigating flood risk.

The plan requires less capital investment and delivers faster results than traditional engineering approaches. SIRP has led to Edmonton receiving national recognition, with the Intact Centre on Climate Adaptation now ranking Edmonton first (tied with Toronto and Regina) among 16 Canadian municipalities for the quality of its plans to limit the risk of flooding.

Through a mix of capital and operational program investments, the goal of SIRP is to slow, move, secure, predict and respond to flooding events to prevent or reduce their impacts.

The plan was developed through a detailed analysis of more than 1,300 drainage sub-basins in Edmonton, which were risk-ranked on health and safety, environment, social, and financial risks from flooding. The analysis was further refined based on public input, which was used to weight the risk categories and identify specific policies for the protection of vulnerable populations and community infrastructure deemed most important by the public.



SLOW



Slow the entry of stormwater into the drainage network by absorbing it in green infrastructure and holding it in ponds, creating space in the collection system during storm events.

- Installation of dry ponds to hold stormwater
- Low Impact Development (LID) investments in green infrastructure

MOVE



Move excess water safely away from areas at risk, quickly and efficiently, by increasing capacity in the drainage system to handle peak water flow.

- Stormwater tunnels, trunks and sewer separation

SECURE



Help secure individual properties in higher risk areas against sewer backups, overland flooding and river flooding.

- Inflow and infiltration reduction, enhanced flood proofing, outfalls and control gates

PREDICT



Predict and manage the movement of stormwater through smart sensors and technologies that integrate into the collection system.

- Monitoring and controls

RESPOND



Respond through the fast rollout of flood barriers, traffic diversions and public communications to protect life, safety and property.

- Emergency response equipment

PROTECTING EDMONTON FROM FLOOD RISK



- ▶ Climate change brings greater risk of severe weather events and the potential for community flooding. Learn from Susan Ancel how EPCOR's award-winning approach to flood mitigation is helping to protect Edmontonians and their community.





PROPOSED FLOOD MITIGATION INVESTMENTS: 2022 – 2024

In a recent regulatory filing, EPCOR proposed investments of \$240 million to implement citywide flood mitigation measures in Edmonton during 2022 – 2024. The largest investments are in the construction of new dry ponds that protect property by capturing and holding stormwater, and the low impact development program which uses green infrastructure to slow the entry of stormwater into the drainage system, preserving pipe capacity during storm events and improving the quality of stormwater flowing to the river.

Investments in dry ponds are expected to be \$93 million, net of grants received from government. About one third is for the completion of infrastructure related to the Malcolm Tweddle and Edith Rogers dry ponds. At any one time, EPCOR expects to have six dry pond projects active — two in early planning, two in design and two in construction.

Low impact development work includes installation of green infrastructure at 18 commercial and industrial sites, and at eight additional sites that align with City of Edmonton projects. This investment of \$53 million will capture, absorb and filter stormwater before it reaches the sewer system.

Preserving capacity in the stormwater system during rain events helps reduce the risk of flooding and sewer backups. Nearly \$42 million will be invested to reline 60 km of sanitary and combined sewer pipes, and seal and reline 3,000 manholes.

2021
Clean50
Exceptional Contributors to Clean Capitalism
TOP PROJECT

CLEAN 50 AWARDS

EPCOR's [flood mitigation efforts](#) were nationally recognized with a Canada's 2021 [Clean50](#) Top Project Award for our Stormwater Integrated Resource Plan and an Individual Honouree award for our Director of One Water Planning, who led the project. The Clean50 annually recognizes Canada's leaders in sustainability for projects based on innovation, and their ability to inspire and inform. These awards highlight EPCOR's dedication to protecting customers and the communities they live in.

FLOOD MITIGATION PLAN WINS EDMONTON NATIONAL RECOGNITION

EPCOR's innovative community flood mitigation plan requires less capital investment and delivers faster results than traditional engineering approaches.

Introduced in 2019, the plan has led to Edmonton receiving national recognition, with the Intact Centre on Climate Adaptation now ranking Edmonton first (tied with Toronto and Regina) among 16 Canadian municipalities for the quality of its plans to limit the risk of flooding.

REDUCING EPCOR'S ENVIRONMENTAL FOOTPRINT



PCBs in electrical equipment are found in transformers such as this one, in the form of insulating oily liquid.

ELIMINATING PCBs FROM ELECTRICAL EQUIPMENT

EPCOR is on track to eliminate PCBs (polychlorinated biphenyls) above 50 ppm concentration from our Edmonton and Southwest Ontario electrical systems by 2025, in accordance with Environment Canada's PCB Regulations.

By 2010, our PCB testing program had facilitated the removal of most PCB-containing assets above 50 ppm from Edmonton's system. The 1,250 assets with unknown PCB content remaining in the system will be tested, and decommissioned if needed, by 2023. In Ontario, testing in Creemore and Stayner will finish in 2021, and testing of more than 700 assets in Thornbury and Collingwood will be complete in 2022, with removal from the system taking place as required.

EPCOR is prioritizing the elimination of PCBs from its electrical infrastructure based on testing data and proximity to water bodies and environmentally sensitive areas. The operation of equipment containing PCBs less than 50 ppm concentration will continue to be diligently managed in accordance with environmental regulations and bylaws as EPCOR continues to move forward with its PCB management plans.



OPTIMIZING FLEET USE TO REDUCE FUEL CONSUMPTION

EPCOR's fleet management system, first implemented in our Edmonton electricity business in 2015, provides real-time data on vehicle location, driver behaviour, and vehicle diagnostics for our Electricity, Water and Drainage fleets. It allows us to continuously improve the routing of dispatched crews and vehicles, optimize vehicle maintenance and reinforce efficiency-focused driving habits.

These improvements, alongside initiatives such as EPCOR's anti-idling policy, have contributed to a fuel use reduction of more than 200,000 litres per year within its Electricity fleet since 2015. Further efficiencies were achieved through the adoption of electronic fleet management within the U.S. vehicle fleet in 2017.



EPCOR operates a network of 22 flow and water quality monitoring stations at strategic locations throughout the North Saskatchewan River watershed, in collaboration with Alberta Environment and Parks, the North Saskatchewan Watershed Alliance, and the City of Edmonton.

PROTECTING WATER QUALITY IN THE NORTH SASKATCHEWAN RIVER

In the environment section of our ESG scorecard, we report on one of the ways EPCOR protects water quality in the North Saskatchewan River. The ‘total loadings’ measure quantifies the annual mass of solids carried into the river as it runs off the land, and from three sources: the stormwater system, combined sewer overflows, and the wastewater treatment plant. The objective is to keep the volume of solids entering the river stable, even as the community grows.

EPCOR’s approach is to consistently evaluate our performance goals and update them as our knowledge increases. A decade old, this legacy measure is currently under review between EPCOR and its regulator and due to the timing of approvals the new measure is still to be finalized. We expect future ESG reports to include updated targets that cover a wider range of discharge sources (including EPCOR’s water treatment plants). Future targets may also vary based on river water flow conditions, reflecting the regulator’s pilot load apportionment framework and that the river’s capacity to absorb solids is diminished during low-volume periods.

SOURCES OF SOLIDS LOADING

The largest source of solids loading to the river (80%) occurs through stormwater system discharges. When it rains in an urban watershed, surface runoff drains through the stormwater collection system, and the water picks up particles that impact the quality of water downstream.

Historically, the volume of solids delivered to the river by the stormwater system has varied seasonally and annually based mainly on the volume and intensity of rainfall and snow melt – which is reflected in the data reported for 2017 to 2019 (2020 data will be finalized following publication of the ESG report, and reported next year).

During heavy rain events or accelerated snowmelt, there are two additional sources of solids discharged to the river. At the Gold Bar Wastewater Treatment Plant, high flows are managed by diverting some partially-treated water to the river. This accounts for about 18% of reported solids loading.



INVESTING TO PROTECT RIVER WATER QUALITY

Edmonton’s drainage utility transferred to EPCOR’s ownership in September 2017, and along with it came accountability for addressing solids loading to the river from the stormwater and sewer systems.

EPCOR subsequently developed its Stormwater Integrated Resource Plan (SIRP), which includes more than \$900 million in planned investments over 20-years to reduce peak stormwater flows through the use of dry ponds and Low Impact Development, both of which collect and store water during large rainfall events and accelerated snow melt. These investments build on the earlier Combined Sewer Overflow (CSO) control strategy.

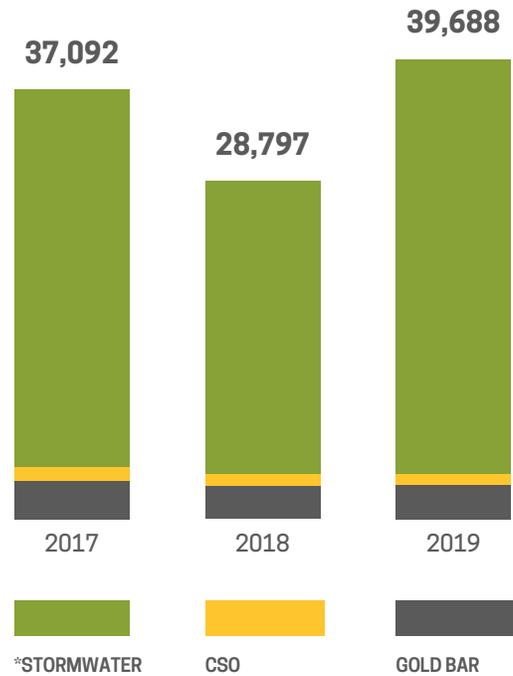
These investments will reduce the risk of flooding, increase capacity in the combined sewer system, and filter stormwater before it reaches the river – improving the quality of stormwater entering the river, limiting the occurrence of CSOs, and reducing urban creek erosion.

Through increased monitoring, research, and modelling, EPCOR can quantify the sources for the loadings and then manage total loadings from its stormwater and sewage collection system.

A HOLISTIC APPROACH TO WATERSHED PROTECTION

The management of total loadings to the river is one aspect of a much broader Integrated Watershed Management Program. The program includes each of EPCOR’s water-cycle utilities in Edmonton, and is designed to consider the entire watershed’s health, ensure source water protection for the Edmonton water supply, and protect urban creeks and streams from erosion and loss of aquatic habitat.

TOTAL LOADING TO THE NORTH SASKATCHEWAN RIVER
(AVERAGE KG/DAY)



*Stormwater loading is partially estimated. Stormwater load is calculated based on estimated and measured loads.



Drainage infrastructure is working to reduce the impact of heavy rainfall events. Real time Control #3 is part of a system that stores and moves combined sewer flows, reducing the frequency of CSO events. The facility was also recognized with a 2020 [Governor General’s Medal](#) in Architecture.

SUPPORTING COMMUNITY RESILIENCY

Across EPCOR's operations, the company is working to enhance community resilience and help customers reduce their own environmental footprint. In addition to EPCOR's investment in flood mitigation for Edmonton, the company is working to modernize the electricity grid, support community-level energy transition, increase the supply of renewable natural gas, promote efficiency, and make it easy for customers to charge electric vehicles and self-supply electricity from renewable sources.

MODERNIZING EDMONTON'S ELECTRICITY GRID TO ENABLE CUSTOMER CHOICE

The way people use the electricity grid is starting to change, with electric vehicles, distributed energy generation and energy storage playing increasing roles in the electricity system. These consumer behaviours change the way power flows from and into the grid. EPCOR is working to provide our Edmonton and area customers with an electricity platform that supports electric vehicles (EVs), customer-owned power generation, energy storage and micro-grids, now and into the future. Work is also occurring in Ontario to encourage the growth of EV adoption through public charging infrastructure.

New technologies for distributed energy resources (DERs), such as electrical vehicles, solar panels and energy storage batteries, are emerging every day. EPCOR has established a team to research and pilot these new technologies to better understand how they will be safely integrated into our electricity system in a way that maintains the reliability of our grid, while minimizing costs to consumers.

EPCOR partners with researchers, government agencies and larger, nation-wide initiatives, such as SmartGrid Canada, to find new and innovative solutions to respond to a rapidly evolving grid.

CHIRP (GREEN POWER)

Encor by EPCOR provides renewable electricity options to its customers in Alberta called Chirp. When customers buy Chirp green electricity, they are buying Renewable Energy Certificates from Alberta's Taylor hydro facility, a certified Canadian renewable energy facility. The quantity purchased matches the percentage of green energy customers choose for their energy plan. Encor offers 15, 50 or 100 percent Chirp options.



UNDERSTANDING THE IMPACT OF DISTRIBUTED ENERGY RESOURCES

From 2015 to 2018, EPCOR, the University of Alberta, and the Natural Sciences and Engineering Research Council (NSERC) completed one of the largest studies of its kind on how EVs and solar panels will impact the electrical grid.

The key findings were:

- **Edmonton's power grid is well-positioned to incorporate the DERs.** The study helped EPCOR identify a small number of circuits where there is potential for service voltage issues if the adoption of DERs dramatically increased. This will enable EPCOR to take steps to better ensure future reliability in those areas.
- **Electrical vehicle charging will be the most challenging aspect to incorporate.** Unlike solar panels, EV charging is currently unregulated in Alberta, which makes the associated demands on the system less predictable.

EPCOR now understands its underground residential infrastructure is a potential pinch-point for mass adoption of at-home EV charging, so the company is exploring options to maintain the reliability of the distribution grid. Options include moving to larger service transformers and understanding the potential for smart charging to shift charging times to later in the evenings when there is more capacity on the transformers.



HOME ELECTRICAL SYSTEMS AND EV CHARGING STATIONS

If a home is not prepared for the additional power needed for an EV charging station, the electrical system could get overloaded. [EPCOR works with customers](#) and their electricians to make sure they understand their home's electrical system and helps ensure their electrical system is ready for the addition of an EV charger, prior to installing one.

PREPARING FOR AN INCREASE IN ADOPTION OF ELECTRIC VEHICLES

A typical Edmonton household uses about 2.5 to 3 kilowatts of power during peak usage times in the morning and early evening. Plug in an electric vehicle to charge, and that peak power use can more than double.

This surge in electricity consumption can stress the power grid and a home's electrical system. EPCOR's study found that if as few as 15% of homes on a single circuit have EVs charging at the same time, voltage issues can emerge that threaten the system's ability to deliver reliable service.

In March of 2020, there were approximately 1,300 EVs registered in Alberta, with about 450 of those in Edmonton. With that number expected to grow exponentially in the coming years, EPCOR is actively working on solutions to keep the grid reliable and enable EV buyers to plug in to get the power they'll need.



HOW SOLAR PANELS WORK ON EDMONTON'S POWER GRID

Once installed, solar panels start converting sunlight to electricity. Any electricity not used at the home or business at that time is sent to the electrical grid for others to use. The advanced power meter at the home or business measures the amount of electrical energy produced at the site and sends that data to the customer's retailer of choice to credit the customer's bill. Customers will see a credit if they produce more energy than they use, in any given measurement interval.

In Alberta, electricity generation, including solar panels, is regulated by the Alberta Utilities Commission (AUC) under Rule 024 and reported to the Alberta Electric System Operator. EPCOR is working with the AUC as it updates Rule 024 that regulates micro-generation in Alberta.

ADVANCED METERS HELPING FACILITATE SOLAR POWER AND MORE

Did you know the move to advanced meters helped to reduce the steps involved in getting a customer's site ready for solar panels? Older models of power meters only recorded the flow of power into a home. Previously, a special bi-directional meter had to be installed onto a customer's home so they could receive the credits for the excess energy produced at their site.

The advanced electricity meters used by EPCOR in Edmonton are bi-directional (they record the flow of electricity into and out of the home) and are ready to accommodate this new technology. When the advanced metering system was first implemented, it helped to identify sites that had solar panels installed but not registered as power producers. Through this identification, EPCOR worked with customers to help reduce a safety risk to its crews from the back-feeding energy while working nearby, and to ensure customers were being reimbursed for the excess energy they were delivering to the grid.

SOLAR POWER FOR HOMES AND BUSINESSES

EPCOR has already seen a dramatic increase in the pace of solar panel installations by Edmonton customers. In 2020 alone, more than 300 homes and businesses added solar arrays. To support customers, EPCOR streamlined its processes and provided customers with the [information and resources](#) they need to become independent power producers.

EPCOR is also working with Edmonton customers who are connecting 20 MW of distributed power generation to the grid through six large solar installations at commercial buildings, recreation centres and a school.

As of November 2020, 1702 solar panel sites have been installed in Edmonton, up from fewer than 50 a decade ago.





To better understand how larger solar panel installations work with Edmonton's power grid, EPCOR installed 331 solar panels at its Hugh J. Bolton Service Centre. The installation is capable of generating 124.4 kWh at peak performance. In a typical year, EPCOR expects the panels will produce about 130,000 kWh per year — equivalent to the average annual power consumption of 15 homes.

RESEARCHING THE BENEFITS OF BATTERY STORAGE

Battery energy storage systems for consumers typically store enough energy to supply an average home in Edmonton for one day. They are typically installed in regions where a backup power supply is desired. Batteries are also beneficial in areas that use Time-of-Use pricing instead of the flat fee per kWh that is regulated for smaller energy customers in Alberta. Time-of-Use customers store energy from the power grid when prices are lower and draw energy from the battery at times when the price of power is higher.

Because Edmonton's electricity grid is reliable, and smaller customers receive flat rate energy pricing, there are few batteries installed on the EPCOR power grid. However, if regulations change to support wide adoption of Time-of-Use pricing, EPCOR will likely see more batteries. At-home batteries may also increase their role in supporting rapid EV charging at home.

There are potential benefits for industrial and commercial customers who require a reliable and affordable flow of power. To better understand the challenges and benefits of integrating large scale battery storage to the system, EPCOR is piloting battery use with the solar array at the E.L. Smith Water Treatment Plant, and installing a modern control system (a Distributed Energy Resource Management System, or DERMS) that will allow EPCOR's electricity operators to have better awareness of how distributed generation is functioning and impacting the electrical system.

GREEN TECHNOLOGY AND GRID TRANSFORMATION



- ▶ Customers have growing opportunities to take advantage of green technologies to help reduce their environmental footprint. Saqib Chaudhary, EPCOR's Director of Regulatory Affairs and Business Planning for electricity services, explains what these green alternatives mean for the industry and modernization of the energy grid.



 <p>BACKWATER VALVE SUBSIDY PROGRAM</p>	 <p>WEEPING TILE AND SUMP PUMPS</p> <p>Inspection and maintenance</p>	 <p>RAIN BARRELS</p> <p>Installation and maintenance</p>
 <p>NO CORRODE (OR “ORANGEBURG”) SEWER PIPES</p>	 <p>SURFACE DRAINAGE</p> <p>Maintenance</p>	 <p>EAVESTROUGHS, DOWNSPOUTS, EXTENSIONS AND SPLASH PADS</p> <p>Maintenance</p>
 <p>WINDOW WELLS</p> <p>Inspection and maintenance</p>	 <p>BACKWATER VALVE</p> <p>Inspection and maintenance</p>	 <p>EPCOR FLOOD PREVENTION PROGRAMS</p>

[EPCOR offers a number of flood prevention programs and information for homeowners.](#)

CONSERVATION TIPS AND CUSTOMER RESOURCES

Through online resources at epcor.com and community initiatives, EPCOR provides customers with information on how to efficiently use electricity, gas and water to reduce their environmental footprint, as well as ways to increase the resilience of their properties.

- EPCOR’s partnership with [Empower Me](#) helps diverse communities in Alberta understand their services and bills, and how to make their homes more energy efficient.
- Customers interested in adopting green energy, such as [electric vehicles](#) or [self-generation of electricity](#), can visit epcor.com to learn how to proceed and how EPCOR is preparing our local electricity grid to support their choices.
- At epcor.com/floodprevention, Edmonton customers can learn how to flood proof their homes and about the flood prevention home checkup and backwater valve subsidy programs EPCOR provides.



ENVIRONMENT MANAGEMENT FOUNDATIONS

THROUGH THE COMPANY'S HEALTH, SAFETY AND ENVIRONMENT (HSE) POLICY, EPCOR'S PEOPLE ARE COMMITTED TO:



Preventing pollution and reducing environmental impacts, including those contributing to climate change and affecting the ecosystems in which EPCOR operates.



Meeting or exceeding all applicable legal requirements, industry standards and societal expectations.



Continual improvement of the performance of its HSE system.

To achieve these goals, EPCOR has built an enterprise-wide Integrated Health, Safety & Environment Management System (HSE MS) that meets the requirements of two international standards: ISO 14001 (environmental management systems) and ISO 45001 (safety management systems).

All EPCOR businesses in Canada and the United States are required to conform to the EPCOR HSE MS. Most EPCOR operations in Regina, Chestermere, Strathmore, Britannia Mine, Kananaskis (Evan-Thomas) and Edmonton hold third party ISO 14001:2015 Certifications. In addition, EPCOR's Edmonton water lab holds ISO 17015 accreditation.

All material operations of EPCOR Water and Electricity in Edmonton have transitioned from certification under OHSAS 18001:2007 to ISO 45001:2018. All Drainage operations will achieve ISO 45001:2018 Certification in 2021. The White Tanks Water Treatment Plant is pursuing certification under the OSHA Voluntary Protection Program, the highest U.S.-based safety recognition program.

Maintaining these certifications requires annual external surveillance audits and triennial recertification to confirm EPCOR has the systems in place to protect the environment and is continuously improving on its performance and monitoring.

The periodic audits involve a review of the management system documentation, followed by an assessment of how well EPCOR is applying the concepts in the field. This involves the co-operation of all employees and contractors on site and in the field.

The Britannia Mine Wastewater Treatment Plant near Howe Sound in B.C. is among the EPCOR operations that hold third party ISO 14001:2015 certifications for environmental management. The plant helped end over a century of pollution from an abandoned copper mine, allowing aquatic life to return to Howe Sound.





ENVIRONMENTAL OUTLOOK: OPPORTUNITIES FOR CONTINUOUS IMPROVEMENT

EPCOR has set an ambitious pace for carbon reduction. While projects already underway will be sufficient to reach the first target (a 50% reduction by 2025), substantial work remains to develop the pathway to the second milestone (an 85% reduction by 2035) and to our ultimate goal of net zero emissions by 2050. EPCOR expects to detail its progress on those plans in future reports.

EPCOR's greenhouse gas reporting and strategies are focused on the company's Scope 1 and Scope 2 emissions from EPCOR-owned operations. The company also operates facilities owned by others and retains contractors to perform substantial volumes of construction and maintenance work. While emissions from these sources are beyond the scope of this report, EPCOR is committed to advising and supporting its client communities and project partners on how to implement their own climate mitigation and adaptation projects and to encouraging emission reduction activities by contractors.

EPCOR's program for community flood mitigation in Edmonton is the company's largest activity under the "community resilience" theme of its environment and climate change strategy. The next wave of funding to implement EPCOR's flood mitigation program is being proposed to regulators in 2021 through Edmonton's Performance Based Regulation (PBR) process. Once confirmed, EPCOR will set additional implementation targets. The company will report progress externally through the annual PBR reporting process, and it expects to include implementation targets in future ESG Scorecards.

EPCOR's ability to implement climate mitigation and adaptation investments is, in most cases, subject to approval by regulators and dependent on supportive policy frameworks. The company also seeks grant funding from multiple orders of government to reduce the burden on ratepayers. The company continues to advise policymakers and regulators on the development of frameworks that will facilitate the investments needed to reduce the environmental footprint of its operations, improve the resilience of utility infrastructure, and help communities and customers reduce their own environmental footprint and increase their resilience.

ADDITIONAL RESOURCES



NOTE:
Links to resources included in online version of report, available at www.epcor.com/ESG

For more information on EPCOR’s environmental strategies, programs and performance, please see:

RESOURCE	WHAT YOU’LL FIND
<u>2020 Annual Information Form</u>	<ul style="list-style-type: none"> ▪ Environmental regulations and initiatives within each line of business (10-13, 15, 19-20, 21, 22) ▪ Health, Safety and Environment Policy (23-24) ▪ Climate Change, Enterprise Risk Management program, Environment and Climate Change strategy, climate change opportunities and risks (24-27)
<u>Performance Based Regulation (PBR) filing</u>	<ul style="list-style-type: none"> ▪ Proposed plans for EPCOR’s Edmonton water cycle utilities ▪ Applications proposing capital and operating programs for 2022-2026 (Water) and 2022-2024 (Drainage and Wastewater Treatment), including business cases for all projects of \$5 million or more ▪ An executive summary providing an orientation to the filings and a summary of the proposal. The filings include more than 2,500 pages of detailed plans for the water-cycle utilities
<ul style="list-style-type: none"> ▪ Executive Summary ▪ Detailed filings 	
<u>PBR Performance Reports</u>	<ul style="list-style-type: none"> ▪ The most recent performance reports for the Edmonton water-cycle utilities, including detailed performance data on environmental, social and customer service performance
<u>EnviroVista Report</u>	<ul style="list-style-type: none"> ▪ EnviroVista Champion status (until the program’s termination in 2021) , which is awarded to organizations that promote environmental leadership and recognizes environmental excellence ▪ A report that outlines EPCOR’s Edmonton water treatment plant’s environmental performance and specific environmental initiatives that go above and beyond the typical approval-to-operate requirements for municipal water operations
<u>Water Quality Data</u>	<ul style="list-style-type: none"> ▪ Daily, weekly and monthly water quality data for the Edmonton region, showing test results for both raw river water and treated drinking water

ADDITIONAL RESOURCES



NOTE:
Links to resources included in
online version of report, available
at www.epcor.com/ESG

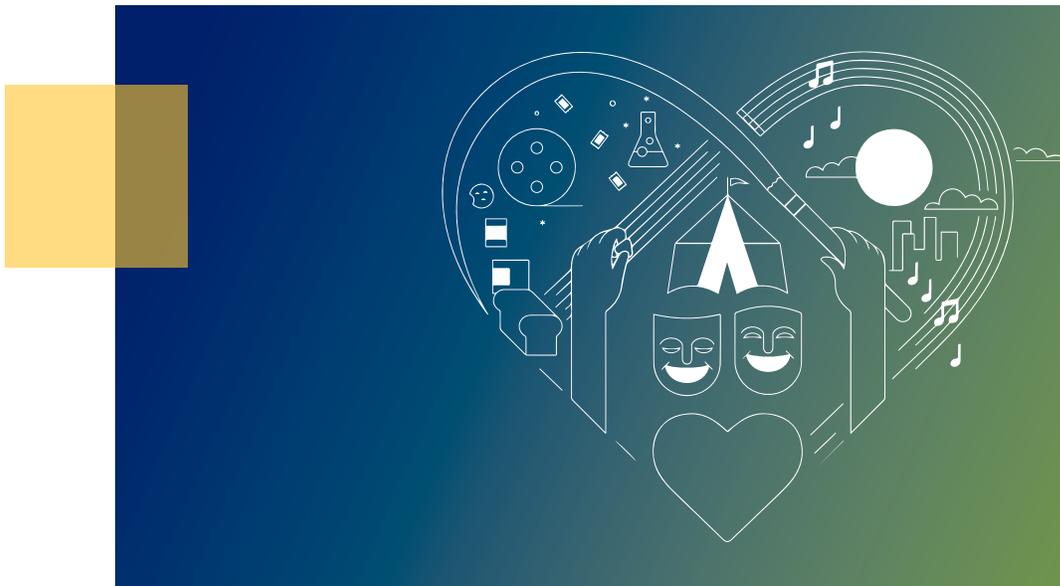
For more information on EPCOR’s environmental strategies, programs and performance, please see:

RESOURCE	WHAT YOU’LL FIND
<p>Source Water Protection Plan (2020 edition)</p>	<ul style="list-style-type: none"> ▪ The most recent triennial publication, updating the risk assessment for the North Saskatchewan River and the multi-barrier protection system that is in place ▪ A plan prepared by a team of watershed biologists who study our watershed throughout the year, the SWPP works to understand and mitigate potential risks to source water supplies through a watershed and aquifer approach
<p>EPCOR’s Stormwater Integrated Resource Plan (SIRP)</p>	<ul style="list-style-type: none"> ▪ An overview of EPCOR’s \$1.6 billion 20-year plan to protect Edmonton from overland flooding
<p>Customer Resources</p> <ul style="list-style-type: none"> ▪ Conservation tips ▪ Home flood proofing programs ▪ Connecting residential solar systems 	<ul style="list-style-type: none"> ▪ Electricity, water and natural gas conservation tips for customers in all markets ▪ Educational information and customer programs for home flood proofing in Edmonton ▪ A simplified guide for connecting your home solar system to the Edmonton electricity grid
<p>Projects</p> <ul style="list-style-type: none"> ▪ E.L. Smith Solar Farm ▪ Steinhauer and Ermineskin Flood Mitigation Project ▪ U.S. projects, including improvements to the San Tan system, and the Luke 303 expansion 	<ul style="list-style-type: none"> ▪ Project information and community engagement materials



SOCIAL





A SOCIAL VISION ROOTED IN PURPOSE

EPCOR provides clean water and safe, reliable energy, and it is proud to be a socially responsible corporation. Its vision is to be a premier essential services company, trusted by customers and valued by stakeholders. That commitment to stakeholders has spanned generations — from the company’s founding in 1891 — and was further amplified in 2020 with the adoption of a purpose statement: *Communities count on us. We count on each other.*

Some of the many ways communities count on EPCOR are captured in the Social section of the ESG scorecard, which speaks to:

- Being a company that puts safety first in everything it does, and living the belief that there is nothing more important than the health and safety of its employees, contractors and the public.
- Building a workforce that is reflective of the diversity of the communities it serves, and a workplace where people feel respected, valued and part of a team.

- Being trusted by its customers to deliver excellent service, reliability, quality and cost.
- Engaging with Indigenous Nations and Peoples, and community stakeholders, so it designs, builds and operates critical infrastructure in a way that is aligned with the interests and priorities of the community, and that meets the needs of the broader society.
- Creating economic value for its stakeholders through returns to investors, employment, procurement, taxation and community investment.

The social dimensions of EPCOR’s performance are fundamental to its ability to successfully execute its long-term plan. Five of 10 ESG factors rated most material to the company — affordability and access, community relations, the rights of Indigenous peoples, workforce health and safety, and human capital management — are found in the Social section of this report. The significance of social factors is also reflected in the four focus areas of EPCOR’s long-term plan: people, growth, operational excellence, and communities.

SCORECARD AT A GLANCE

HEALTH AND SAFETY

1.03

Total recordable injury frequency (TRIF)

The number of recordable incidents for every 100 full-time workers over a one-year period

0.06

Lost-time injury frequency (LTIF)

The number of lost-time injuries per 1 million hours worked

69

Lead mitigation

Cumulative number of the 360 high priority residential lead service lines (LSLs) replaced under EPCOR's Enhanced Lead Mitigation Strategy

HUMAN CAPITAL

77%

Employee engagement

In 2020, top quartile performance compared to similar companies was 75% or better and top decile performance was 82% or better

5.4%

Employee turnover

Employee departures for all reasons, divided by year-end headcount

16.9% & 34.6%

Visible minority

The percentage of EPCOR's Canada (16.9%) and U.S. workforce (34.6%) who self-identified as visible minorities

28.5%

Women in the workforce

The percentage of EPCOR's Canada and U.S. workforce who are women. Within senior leadership, 21.4% of positions are held by women

TARGETS

- A safety-first culture, driving to zero incidents
- Edmonton households comply with new Health Canada guidelines for lead at the tap by 2025, prior to provincial regulation. EPCOR has replaced 360 high priority LSLs by 2023, and commissioned the orthophosphate system
- Top decile employee engagement against a group of comparator companies by 2023
- EPCOR's workforce is reflective of the diversity of the communities it serves

CUSTOMERS

+7

Corporate reputation

EPCOR's reputation rating in Edmonton compared to its nearest utility peer (percentage points)

100%

Customer satisfaction

The number of customer satisfaction metrics that meet or exceed full-year satisfaction targets set by regulators (5 of 5)

1.9%

Reasonable costs

Change in annual operating costs per customer

50

Reliable power distribution

Average number of minutes power service is interrupted in EPCOR electricity distribution service territories per year

0

Safe water

Number of acute health-based drinking water violations from EPCOR controlled activities

97.2%

Prompt service

Percentage of Edmonton drainage maintenance calls resolved within 24-hours

COMMUNITY

2,178

Public engagement

The number of community participants in engagement processes conducted at the “Advise” level or higher in the IAP2 engagement spectrum

\$2.5 Billion

Economic value distributed

Economic value delivered to stakeholders, including suppliers, employees, providers of capital, governments and community organizations

\$3.3 Million

Community investment

Economic value delivered to stakeholders through donations and sponsorships in 2020

Member

Progressive Aboriginal Relations (PAR) certification

Level achieved to date in the Canadian Council for Aboriginal Business recognition program

TARGETS

- EPCOR’s reputation exceeds its nearest utility peer by five points or more
- 100% of customer satisfaction ratings meet or exceed regulated targets
- Average operating costs per customer increase 2% per year or less, over a three-year period
- Power service is interrupted for fewer than 70 minutes per year, per customer
- Zero acute health-based drinking water violations from EPCOR controlled activities
- 80% of drainage maintenance calls are resolved within 24 hours
- Achieve Imagine Canada’s *Caring Companies* designation by 2023 by donating 1% of pre-tax income to community causes
- Achieve PAR “Committed” status by 2021, achieve “Bronze” level performance certification by 2023, and set targets for higher level performance once “Bronze” level status achieved

BEHIND THE NUMBERS: EPCOR'S SOCIAL SCORECARD IN CONTEXT

EPCOR'S SOCIAL SCORECARD:



Confirms that we are a company that puts safety first in everything we do, reporting on safety performance across our workforce.



Demonstrates our efforts to align with the interests and priorities of the community, reporting on Indigenous and community stakeholder engagement.



Commits to building a workforce that is reflective of the diversity of the communities we serve, reporting on workforce demographics in relation to community composition.



Illustrates the diverse ways we create economic value for stakeholders, reporting on a range of cash flows that sustain the community.



Affirms the importance of earning the trust of our customers, reporting on customer service ratings, reliability and quality performance, and cost.





HEALTH AND SAFETY

EPCOR's commitment to health and safety starts in the workplace and extends into the community. EPCOR aims to be a company where safety matters most, so that it can continue to provide safe and reliable essential services to its customers and preserve the environment.

EPCOR continues to make progress toward creating a safety-first culture, driving to zero incidents. And the company reports on work to implement its lead mitigation program — designed to protect water quality from the street to the tap.



A LOOK INSIDE: EPCOR'S SAFETY CULTURE

We invited award-winning Edmonton journalist, Curtis Gillespie, to interview leaders and members of Team EPCOR to provide a unique perspective on our role and commitment to ESG. In this article, Curtis spoke with Duane Duhamel to learn more about EPCOR's safety culture.



SAFE AND SOUND

Safety and passion might not seem natural partners at first glance, since we often equate safety with caution and passion with abandon. But for Duane Duhamel, EPCOR's Director of Health, Safety and Environment (HSE), safety and passion are not only linked but mutually reinforcing. To him, EPCOR's people aren't going to feel as passionate about their work if they don't feel safe and cared for, and they're not going to be as safe at work if the organization isn't passionate about health and safety. It's got to flow both ways to flourish.

Duhamel just celebrated his second year with EPCOR, but prior to that he worked with significant companies in the utilities, energy, petrochemical and aerospace sectors. His experience has led him to draw some fundamental conclusions. "EPCOR believes in safety," he says. "The fact that this portfolio reports to an executive at the leadership table is one sign among many that they take it extremely seriously."

HSE is a core component of everything EPCOR does. If you ask its employees what they do, you'd get thousands of answers. If you ask about overarching priorities, you'd get fundamentally similar answers: every employee safe at work and every customer safe at home. It's also worth noting in light of the pandemic that safety is psychological as well as physical. EPCOR has been mindful, for instance, of the mental health and work-life balance of employees, both those who

In 2020, EPCOR provided extra Personal Protective Equipment (PPE) to employees, and delivered care kits to those working from home. A secure online health screening tool was also launched for team members to complete their daily survey before reporting to work.

continued to work on site and the 1,900 staff who have been working from home, which carries a different kind of emotional and professional pressure. It wasn't just about checking in, either. Extra Personal Protective Equipment (PPE) was made available to employees. Care kits, including masks and sanitary supplies, were delivered to employees who were working from home. EPCOR COVID Health Outlook (ECHO), a mobile-supported online health screening tool, helped give employees assurance about their health at work.

"All in all," says Duhamel, "we can be proud that 2020 was actually our best year ever, from a reduction of workplace injuries perspective. The maturity of our culture and the existing processes we have in place was part of it, but the pandemic also brought a heightened sense of awareness about safety and health."

"It's really about creating meaningful employee engagement."



Pandemic or not, HSE is a road you travel toward building a company-wide culture. It takes time and commitment at every level, but also recognizing that people can be reluctant to change unless they see the value. Which means HSE advances most significantly when you can motivate employees in two different but complementary ways. You must have leadership endorsement and grassroots engagement, both of which EPCOR has. Employees must be empowered to embody the process, hence the HSE Starts With Me mantra. You bring it to life through having people know it's imperative to report hazardous or unsafe work conditions, to report close calls or near misses, to involve the entire team in creating solutions, by making the process simple and consistent.

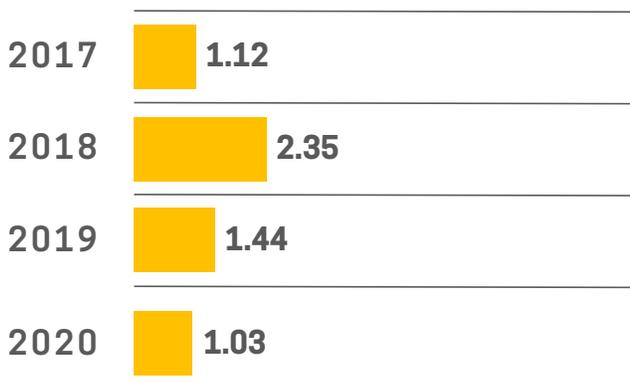
"It's really about creating meaningful employee engagement," says Duhamel. "The goal is to have HSE embedded across the organization, from field crews, to teams operating our plants and through our service centres and corporate offices. No matter where you go, there's a "hand in glove fit" between HSE for employees and for the essential services to the communities we serve."

Of course, we will never be able to eliminate human imperfection, no matter how good our HSE systems are. "Humans make mistakes," says Duhamel. "But a mistake should never cost someone their life." Or even an injury. Rather, it's about helping employees to continuously improve, to stay focused, to build in redundancy, to make processes and situations as safe as possible. Programs such as EPCOR Athletes, which helps employees weave biomechanics into everyday tasks, contribute to physical safety. It's also that when a person does make a mistake—and we all do—it's a process failure and not a serious injury or fatality. Because let us never forget, EPCOR's work environment can be very high-risk. High-volume pipes, hazardous chemicals, excavation, trenching, high-voltage electricity and live lines. But, as Duhamel notes, the trends are moving in the right direction. The severity of injuries is decreasing, partly due to enhancing and reinforcing the HSE culture. It's not just about rules and regulation; it's about understanding people and weaving that understanding into a strong HSE philosophy.

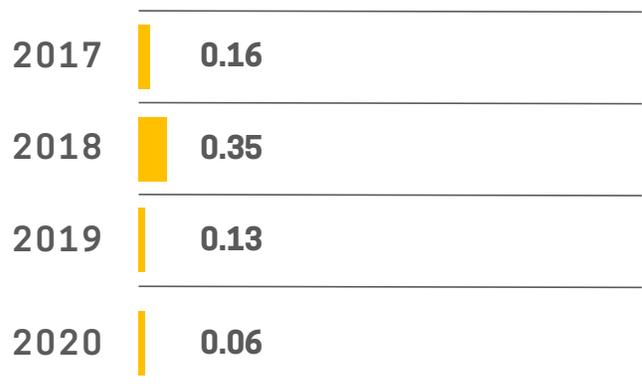
"This is what safety 2.0 looks like," says Duhamel. "By diving deeper into how we work and why we err when we do, we can get ahead in recognizing and addressing it, so that we are always looking at how to help our people be successful."

EPCOR'S SAFETY CULTURE

TOTAL RECORDABLE INJURY FREQUENCY



LOST TIME INJURY FREQUENCY



*2018 marks the first full year of operations following the integration of the Edmonton Drainage utility in the third quarter of 2017.





LEAD MITIGATION STRATEGY

EPCOR's people take pride in providing safe and clean drinking water to customers. Our processes include extensive water testing during water treatment, storage and distribution.

There are no measurable levels of lead in drinking water when it leaves EPCOR's water treatment plants; however, lead may be found in tap water for homes with lead service line pipes, or it may be present in lead plumbing and fixtures inside the home.

About 1.6% of Edmonton homes have lead service lines (LSL). In 2008, we started our Lead Management Program to increase lead testing and educate Edmontonians with lead service lines (on the utility side or customer side) about what they could do to improve water quality in their homes. As part of that program, we send annual communications to residents, offer in-home water testing, provide free water filters, publish educational materials, and replace the utility portion of the service line when customers are upgrading their portion.



NEW CANADIAN DRINKING WATER GUIDELINES

In March 2019, Health Canada announced a new guideline for drinking water quality in Canada. The changes reduced the maximum acceptable concentration of lead in drinking water, and moved the point of compliance from the property line (where water is delivered to the customer) to the tap inside their home or business. This change made water utilities accountable for potential sources of lead inside the home, such as plumbing fixtures or pipe solder.

EPCOR anticipated the new guideline, recognized the benefit to public health, and had been operating a pilot program since 2018 to inform the design of an Enhanced Lead Mitigation Strategy that could achieve compliance with the new targets. While the provincial regulator gave utilities until 2025 to develop plans to meet the new guideline, EPCOR's plan was in place immediately. Implementation is now well underway based on a funding mechanism that will accelerate complete replacement of LSLs on both the utility-owned and the private side of the lead line, which is also a more effective approach to eliminating lead than replacing just the utility-owned portion.

AN ENHANCED LEAD MITIGATION STRATEGY

EPCOR's enhanced lead mitigation strategy was presented to the utility regulator in March 2019, and endorsed by public health and environment officials. Key elements of the plan include:

- Adding a lead inhibitor (orthophosphate) to drinking water to create a protective coating inside of lead pipes and plumbing that prevents lead from leaching into drinking water. Orthophosphate is safe and commonly used for this purpose by water utilities across North America and the United Kingdom. It has no impact on the taste or odour of drinking water and is naturally present in food.
- Accelerating the replacement of high-priority lead service lines in homes that would not meet the new lower limit after the addition of orthophosphate – at no additional cost to the recipient.
- Eliminating partial lead service line replacements by replacing the full-service line, again, at no additional cost to the recipient.

EPCOR estimates that the addition of orthophosphate by the end of 2022 will result in nearly all Edmonton homes and businesses coming into compliance with the new, lower lead level in the Health Canada guidelines.

EPCOR's 2019 studies forecast that about 360 homes would remain above the guideline – and these were designated “high priority” lines for replacement. Work to replace these high priority lead service lines is underway, with a target completion date of 2023 to complete most of the work. EPCOR continues to conduct water testing, with the goal of identifying any additional homes where the lead concentration exceeds the new guideline after the addition of orthophosphate, and adding them to the high priority replacement program.



In 2008, we started our Lead Management Program to ensure Edmonton customers with lead service lines on the utility side are receiving good water quality.

HUMAN CAPITAL

EPCOR is striving to achieve top decile employee engagement levels.



EPCOR employees are invited every two years to share their views about what drives them, and what they believe EPCOR should focus on for employee engagement. Professional growth consistently ranks as one of the top drivers.

AN ENGAGED WORKFORCE

EPCOR's people are fundamental to its success, and EPCOR wants to make sure it remains a great place to work. Over the past six years, employees provided feedback through a biennial employee engagement survey facilitated by an external provider. The most recent survey was conducted in October 2020.

Once surveys are complete, aggregated results are provided to EPCOR leadership. With that information, company leaders identify what EPCOR is doing well and where it can make improvements. Results are then shared with employees, and teams work to build and implement engagement action plans.

EPCOR is working to create a workforce that is reflective of the diversity in the communities it serves, and a workplace that respects, values and leverages different opinions, beliefs, lifestyles and experiences.

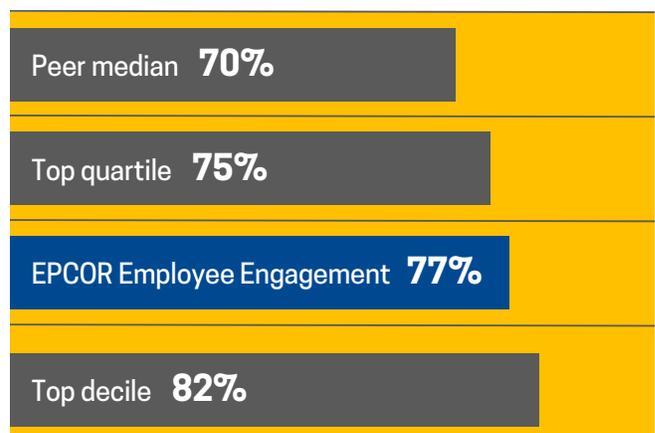
THE 2020 ENGAGEMENT SURVEY

More than 2,700 employees participated in the fall 2020 survey — 82% of the employee population. The participation rate is well above the benchmark for similar surveys and provides robust feedback that helps EPCOR know what is important to employees and where there is room for improvement.

For EPCOR overall, the engagement score was 77%. That result is on par with 2018 and was a welcome outcome during a challenging year. The result put EPCOR's engagement levels in the top-quartile of peer companies. In the 2020 survey, median performance was 70%, top quartile performance was 75% or better, and top decile performance was 82% or better.

The survey also revealed a great deal of favourable sentiment about EPCOR's COVID-19 response, and the measures taken to keep employees safe and prevent the spread of COVID-19.

EPCOR ENGAGEMENT 2020





Throughout the year, EPCOR employees take time to recognize and celebrate diversity and inclusion. During Pride Week, we asked our employees to “show us your rainbow.”

EPCOR'S DIVERSITY COUNCIL

EPCOR is committed to creating a respectful, supportive and inclusive workplace that recognizes and values the unique perspectives, experiences and backgrounds of all people.

The EPCOR Diversity & Inclusion Council, formed in 2018, is a cross-company working group of committed and passionate employees across various business units, under the guidance of an executive sponsor.

Working together, the council is driving the implementation of EPCOR's Diversity Framework. The Framework seeks to create a workforce that is reflective of the diversity in the communities EPCOR serves, and a workplace that respects, values and leverages different opinions, beliefs, lifestyles and experiences.

The work is supported at all levels of leadership and across the company through the Inclusion Champion network — a connected, caring community of employees who are passionate about diversity and inclusion. Employee Resource Groups (ERGs) focus on ensuring EPCOR employees feel valued, engaged and enabled to professionally and personally succeed and support EPCOR in being recognized as a leader in the areas of diversity and inclusion. Between the Diversity & Inclusion Council, our ERGs, and network of Inclusion Champions, EPCOR estimates that well over 1,000 employees are helping support our diversity and inclusion efforts.



Everyone deserves the opportunity to be successful at work. An internal story on K9 service dog, Sirius, joining Team EPCOR was an opportunity to educate our employees about inclusion in the workplace.

HERSTORY WINS EMPLOYEE RESOURCE GROUP OF THE YEAR

Herstory started in 2015 with a 50 all-female lunch time networking event and has since grown in popularity. The first ERG established at EPCOR, its events now include hundreds of employees in-person and online, drawn from across EPCOR communities.

In 2020, the Canadian Centre for Diversity and Inclusion named Herstory the Employee Resource Group of the Year (Western Canada). The award highlighted Herstory's “Hidden Figures” event, which brought visibility to inspiring people who work behind the scenes, who have overcome challenges to lead, and are a big part of our success. In addition to the EPCOR team presenters, external community members also shared their stories that encouraged and motivated further dialogue.

The intent of Herstory is to drive change within EPCOR by stimulating constructive conversations within the organization. These conversations focus on ensuring women feel included, empowered and supported, as well as armed with the information and tools needed to make decisions about their individual, professional and personal growth.





As of March 2020, contact centre agents like Shane started working from home to help ensure they could stay healthy and safe during the pandemic. They were able to keep the contact centre operating with no service interruptions.

CUSTOMERS

EPCOR's ESG scorecard reflects the diversity of the ways the company serves its customers and meets their needs. Whether it's delivering high quality customer service; prudently managing the business to keep costs reasonable; or an unwavering commitment to ensuring safe, reliable services, EPCOR's people are living the company's purpose every day — knowing that communities count on them.

In the next section, take a closer look at the innovative plans and technologies EPCOR is using to achieve high levels of reliability in Edmonton's electricity distribution system, while improving communications and responsiveness for electricity customers. And learn about EPCOR's response to the extraordinary challenges of the COVID-19 pandemic and how, internally and externally, it mirrored and modelled the company's purpose statement.



RELIABLE POWER DISTRIBUTION

Keeping the power on 99.99% of the time is not as easy as flipping the switch — even if it can seem that way.

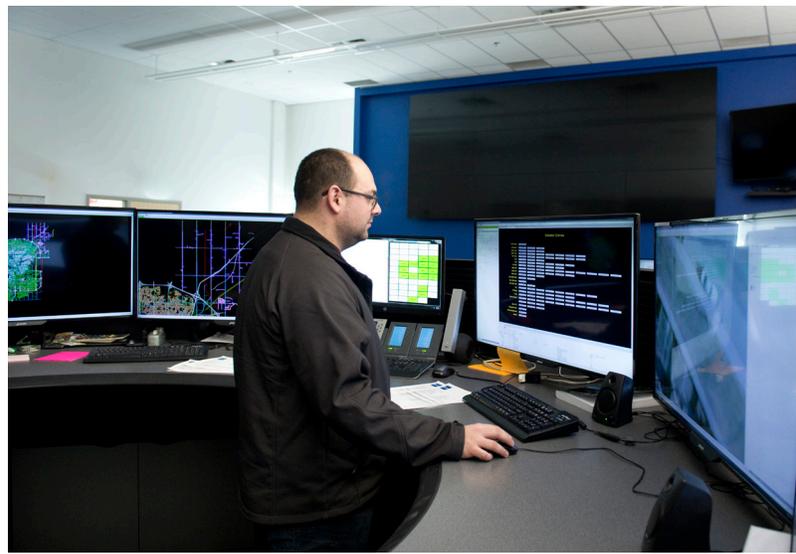
As assets like transformers and power poles age, they become less reliable and present greater risks to public safety and the environment. Many EPCOR electricity assets were installed during the 1970s boom, and will likely need to be replaced at the same time.

With this in mind, EPCOR’s Asset Management team analyzed data related to asset failures and outage records from 2004 to 2015. The outcome was an innovative risk-based solution that allows EPCOR to rank more than 120,000 electricity assets based on their likelihood to fail; and the public, environmental and financial consequences of their failure. This approach to managing aging assets recently earned EPCOR international recognition at the Bentley Year in Infrastructure Awards.

The asset rankings have helped EPCOR decide which equipment to replace before failures occur, minimizing the number of unplanned outages and the stress that type of outage has on the system. This ongoing work supports EPCOR’s continued achievement of strong reliability results, with power service interruptions from defective equipment decreasing by an average of 32% since the high of 2014.

ENSURING RELIABLE ELECTRICITY SERVICE

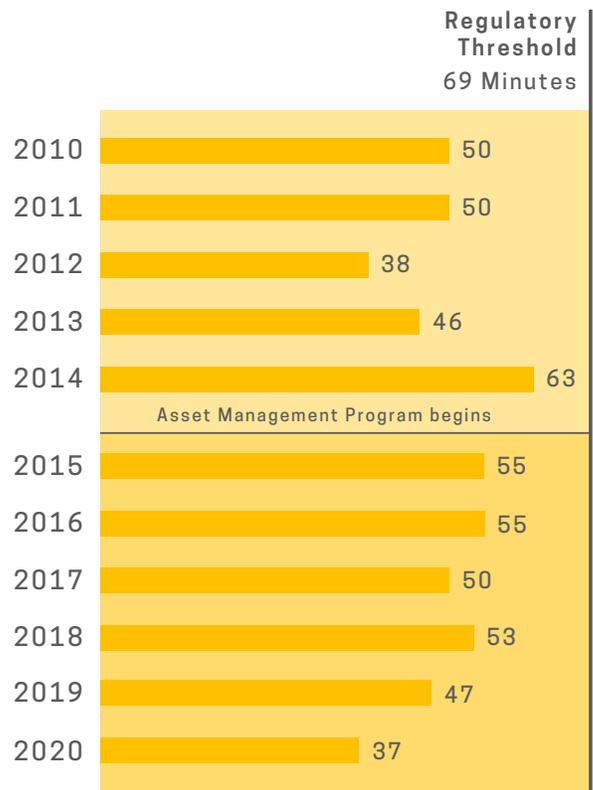
EPCOR’s electricity asset teams have also developed climate models and climate adaptation management plans to mitigate risks to reliability. With some assets lasting 35 to 60 years, the company is making changes to equipment specifications today so they can meet future needs.



EPCOR Electricity Distribution & Transmission employee, Ryan, monitors the grid from the power control room.

Following the introduction of the asset management program in 2015, the length of time the average customer is without power each year reached its lowest level in nearly 15 years.

EDMONTON RELIABILITY MINUTES PER YEAR WITHOUT POWER



INVESTING IN RELIABILITY FOR A GROWING EDMONTON

Edmonton continues to grow at a rapid rate. To support these new customers, EPCOR invests about \$57 million on expanding its distribution network each year. At the same time, its life-cycle replacement program helps to reduce the risk of outages to existing customers. Through this program, EPCOR implements an average of \$84 million in upgrades to existing assets each year to replace aging or worn parts of the system.

EPCOR also works with the Alberta Electric System Operator and the Alberta Utilities Commission to help improve the transmission supply to growing Edmonton neighbourhoods. Upgrades to the transmission grid reduce the risk of outages to the system by ensuring delivery of adequate energy supply.

Most recent transmission system upgrades include:

- Adding 75 MW of electricity to the system with the Riverview substation to reliably support an ever-expanding southwest Edmonton. With this project, EPCOR installed 11 km of distribution lines below Anthony Henday Drive (Edmonton's ring road) and under the North Saskatchewan River.
- Constructing 5 km of 72 kV aerial transmission line and supporting infrastructure as part of the Strathcona Transmission Line Upgrade.

EPCOR's crews are constructing 11 km of 72 kV aerial transmission line at two West Edmonton substations as part of the West Edmonton Transmission Upgrade Project.

Advanced metering and system automation allows EPCOR customers to [sign-up](#) for notification by text and email about outages and restoration times. Customers can also consult EPCOR's online [power outage map](#) for real-time updates or speak with the customer service team by phone.

IMPROVING EPCOR'S OUTAGE RESPONSE

Over the last five years, EPCOR has made automating the electricity system a priority to have better insight into the status of our equipment. This involved the installation of advanced metering infrastructure and the automation of key distribution and transmission assets, along with their communication systems. The results have dramatically improved the way EPCOR responds to power outages.

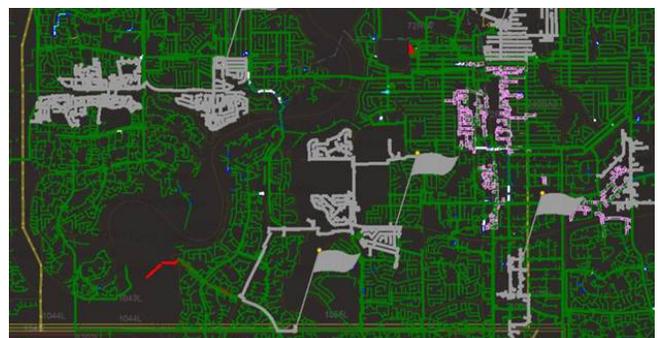
The Outage Management System uses a digital model of Edmonton's distribution grid containing all EPCOR's assets (e.g., power line, transformers) and combines it with information received from the company's Advanced Metering Infrastructure. This offers visibility into the full scope of outages on the power grid, enabling a more rapid and focused response.

Previously, EPCOR learned of power outages when customers called about their power being out. A Power Trouble Crew would then patrol the area and, once they found the cause, repairs could begin.

With automation, the advanced meters send a signal to the control room to let EPCOR know customers are affected by an outage. This data is combined with the system information to narrow down the location and the cause. This significantly reduces the time between when the outage is reported and when repairs can begin.

STORM OPERATIONS CENTRE

During weather events, such as major lightning or wind storms, EPCOR will activate its Storm Operations Centre (SOC). The SOC helps teams to effectively deploy resources to restore power to Edmontonians as quickly and safely as possible.



During a fast-moving storm, the Outage Management System identifies circuits where power has been interrupted (grey) and pinpoints the source of the interruption (flags) allowing for a rapid and safe response.



COUNTING ON EACH OTHER THROUGH THE PANDEMIC

EPCOR entered 2020 with ambitious plans across the organization and for the communities it serves. While its people were tested by both the extraordinary challenges of the COVID-19 pandemic, and extreme weather conditions in multiple jurisdictions, they delivered strong results across EPCOR's footprint. This included improved safety and operational performance, support for customers and community organizations, and consistently reliable utility services at a time when customers needed it the most.

SUPPORTING CUSTOMERS THROUGH UTILITY BILL DEFERRALS

The impacts of the COVID-19 pandemic are far reaching, and many individuals and businesses had their incomes disrupted.

With this in mind, EPCOR moved quickly to ensure that customers had assistance during one of the most challenging times in the pandemic. Working with the Government of Alberta, the City of Edmonton, and others in the utilities sector, EPCOR supported the design and launch of a utility bill deferral program — not just for EPCOR customers, but provincewide.

Recognizing that customers were vulnerable to both financial hardship and uncertainty, the program allowed any residential and small business customer to defer bill payments for up to 90 days and suspended late fees and disconnections. No application process or evidence of hardship was required — the benefit was offered universally.

By June 18, 2020, 114,000 of EPCOR's Alberta customers had opted to defer utility payments. While participants would have until June 2021 to repay their deferred balances, by the end of 2020 a large majority of participants had already done so.



Employees and visitors at EPCOR sites had their temperatures checked as part of the COVID-19 screening protocol.

SEAMLESS SERVICE THROUGH A DRAMATIC TRANSITION

As part of our ongoing investments in customer service, EPCOR implemented a new customer information system to improve how it managed accounts and supported customers, all while team members either moved to a work-from-home environment or implemented extensive safety precautions for in-person work.

Approximately 1,900 EPCOR employees transitioned to working from home — including EPCOR's customer care team that handles more than 20,000 calls a month. Backed by a robust business continuity plan and technology infrastructure, the team maintained high service levels even as their work environment changed.

In the field, some customer-facing programs were temporarily suspended from in-person delivery or transitioned to virtual delivery. But the daily operations, maintenance and construction of utility services continued uninterrupted, with the company delivering the largest capital program in its history, achieving superior reliability performance and surpassing every customer satisfaction target set by regulators.



ADAPTING TO A TRANSFORMED COMMUNITY

With many customers and students working from home, and with businesses struggling with the impacts of public health measures, critical system maintenance and upgrades could not go on as “business as usual.”

In EPCOR’s electricity business, teams made every effort to limit planned power outages, to mitigate the larger ones, and to support customers. This included calling in additional crews, completing more pre-work to limit the outage duration, shifting work to overnight when it could be done safely and, in some cases, providing generators to ensure continuity of service during maintenance work.

KEEPING EACH OTHER SAFE

Each step of the way, Team EPCOR worked to keep each other safe and healthy, and ensure the same for their customers.

Health protection measures were rolled out across EPCOR’s operations, including capacity restrictions, signage and protection measures, disinfection protocols and supplies, on-site health screening, contact tracing, and extensive educational resources and safe work procedures. As the pandemic continued, increasing attention was placed on providing mental health supports and resources to employees.

The overall response was guided by EPCOR’s Emergency Coordination Centre and Emergency Operations Centres in all business units and regions. Together, they continue to implement and monitor the company’s emergency response and business continuity plans.



In late April 2020, major flooding overtook Fort McMurray, Alberta. EPCOR’s local team supported the response effort by handling rural water treatment and delivery, as well as flushing the system in the city.

SUPPORTING FORT MCMURRAY’S FLOOD RESPONSE

The pandemic was not the only challenge faced by people in EPCOR communities in 2020. In late April, major flooding overtook the northern Alberta community of Fort McMurray, where EPCOR provides contract water services to commercial industrial customers. Within a short time, the city’s downtown was seriously impacted. EPCOR’s own office was completely flooded, with water almost two metres deep.

To support the Regional Municipality of Wood Buffalo (RMWB) in its emergency response, EPCOR provided local water operators for the community’s rural operations, including water treatment plants and water deliveries. As flood waters receded, members of EPCOR’s Edmonton team arrived with vehicles, tools and de-chlorination equipment, and assisted in flushing systems and restoring services to the community.

DEMONSTRATING OUR PURPOSE



- ▶ EPCOR’s President & CEO, Stuart Lee, reflects on the challenges of 2020 and how Team EPCOR’s shared purpose shone through at a time when our customers and communities needed us most.

STANDING UP TO SUPPORT OUR COMMUNITIES

Non-profits and charities in the communities EPCOR serves are the foundation to supporting people in need during difficult times. In 2020, EPCOR stepped forward to lift up these organizations that, in their own right, required support as they helped others.

EPCOR implemented a multi-phased support program for community organizations beginning in May 2020. At launch, the focus was on delivering relief funds into the community quickly — \$350,000 in donations to support social service organizations in the communities where we operate.

Three subsequent funding phases were designed with community input, targeting resources to the areas of greatest need.

In total, EPCOR deployed more than \$2 million in new community investment in 2020 to support non-profits and charitable organizations in their pandemic relief and recovery efforts. This investment was in addition to \$1 million provided annually in community sponsorships and partnerships.

EPCOR tripled its community investment in 2020 to more than \$3 million, helping community organizations support those in need.

SUPPORT FOR COMMUNITIES ACROSS CANADA & THE U.S.

While Edmonton is EPCOR's hometown, the need for pandemic support was felt across every region where we operate.

In the United States, EPCOR committed over \$230,000 for its COVID-19 Community Impact Fund, benefiting organizations and initiatives in Texas, New Mexico and Arizona, such as the Bullhead City Families First Food Bank and Fresh Start for Women Foundation. In communities in Alberta, B.C., Saskatchewan and Ontario, EPCOR's approximately \$90,000 in support helped organizations, such as Simcoe Muskoka Family Connexions, Paisley Blues Festival, Canmore & Area Health Foundation and Buffalo People's Arts Institute.



HEART + SOUL FUND

To support organizations that bring joy to communities and provide a lifeline to those hardest hit by COVID-19, EPCOR launched the Heart + Soul Fund.

Through this program, EPCOR provided \$1.25 million in 2020 to help support 47 organizations adjust to the changing landscape brought on by the COVID-19 pandemic and to ensure they can continue offering marquee cultural events and critical social supports. An additional \$1 million was made available in 2021.



Hit that Jive Play the Fool Festival
Online edition



TELUS World of Science
Online programming



Boyle Street
Holiday meal fundraising campaign



Downtown Business Association
Downtown Live performances



Bissel Centre
Giving Tuesday fundraiser



Edmonton Public School Foundation
Year-end virtual fundraiser

SUPPORT FOR CHARITIES

Dedicated non-profit organizations provide a lifeline to those who need help the most. Demand for food and shelter remain high and there's a growing need for mental health, substance abuse and family violence support in our community.

Fundraising has become a challenge for all. The Heart + Soul Fund helps charities reshape their fundraising activities, so they can continue supporting people in need.

SUPPORT FOR ARTS & CULTURE

EPCOR knows that arts and culture contribute to the heart and soul of any community, and these sectors have been hard hit during the pandemic. The Heart + Soul Fund supports arts organizations, theatres, festivals, and attractions that are helping to make every day lighter and brighter.

MAKING AN IMPACT



▶ Through the Heart + Soul Fund, 15 charitable organizations leveraged EPCOR's \$394,000 to raise nearly \$2.5 million, which they used to provide critical social services. Funding for 32 arts and cultural organizations helped employ 440 artists (including 25 BIPOC artists) and produce 108 new artistic works safely amid pandemic restrictions. And more than 30,000 students were able to access arts and science based programs online.

ENDING POVERTY: READY, SET, GO!

While the pandemic relief investments took centre stage in 2020, EPCOR continued to deliver on the focus of its community investment program. EPCOR helps lift young individuals out of poverty by supporting programs that set vulnerable youth up for success along their educational journey and pave the way to stable, successful employment.

EPCOR's charitable partnership program goes beyond just cutting a cheque. EPCOR looks for multi-year partnerships, and the opportunity to mobilize employees, facilities, and other resources unique to EPCOR. The goal is to create a true partnership that has more impact on young lives and to bring profile to the work we are doing together.

EPCOR focuses our support on three critical educational milestones that can mean the difference between poverty and prosperity:

1. **READY**

Learning readiness and achieving early literacy milestones

2. **SET**

Staying in school and moving towards high school completion

3. **GO**

High school completion and pursuit of post-secondary education or other career-related pursuits

ENCOURAGING THE NEXT GENERATION OF STEM WORKERS

From 2019 to 2021, EPCOR has provided \$130,000 to the University of Alberta's [Transition Year Program](#), within the First People's House. This support provides Indigenous students the opportunity to take fundamental core STEM curriculum courses in a smaller setting where they can engage with both the instructor and other students, as well as have embedded Teaching Assistant support and scheduled, collaborative work time to enhance their likelihood of success.

LEADING THE WAY

EPCOR employees raised more than \$570,000 in support of United Way in 2020, earning the company United Way's Leading the Way award.



COMMUNITIES AND PARTNERS

Respecting the traditions and perspectives of Indigenous Peoples

As a company that operates across North America, EPCOR respectfully acknowledges that its work takes place on, or in proximity to, territory and traditional lands of many Indigenous Peoples in Canada and the United States.

EPCOR recognizes the deep connections Indigenous Peoples have to the land and water and respects their rights, history, culture, aspirations and diversity. This has led the company's commitment to becoming a sector leader in Indigenous relations and to creating an environment where the participation, perspectives and traditions of Indigenous Peoples are respected and valued in our business today and into the future.

EPCOR is implementing a comprehensive multi-year program towards achieving progressively higher status under the Canadian Council for Aboriginal Business's Progressive Aboriginal Relations certification, beginning with registration in 2020, achieving Committed level status in 2021, and reaching Bronze level certification by the end of 2023.

EPCOR operates an Indigenous Monitoring Program that provides Indigenous Nations and communities with access to sites where excavations related to our projects are taking place. EPCOR regularly reaches out to more than 30 First Nations and Métis communities in the greater Edmonton area on major projects in the river valley. Archeological monitoring and partnerships with Indigenous Nations also extends beyond Edmonton, including work in the Southern Bruce region of Ontario as part of EPCOR's recent natural gas distribution projects. This enables Indigenous Nations and communities to participate in oversight of archeological work and ensures the inclusion of Indigenous perspectives.



In March 2021, the Métis Nation of Alberta toured the E.L. Smith Solar Farm site.

PARTNERING ON CLEAN WATER AND UTILITY INFRASTRUCTURE

EPCOR has entered into formal partnerships with two First Nations communities in [Ontario](#) and [British Columbia](#), seeking opportunities to work together to bring safe, clean drinking water to reserves; build reliable wastewater services; and support community economic development.

INDIGENOUS RELATIONS STEERING COMMITTEE

In 2019, EPCOR formed an Indigenous Relations Steering Committee, which has representation from senior leadership and Indigenous and non-Indigenous employees from across the organization. Together, the committee is pursuing opportunities to work with Indigenous businesses and suppliers, recruit Indigenous employees, and educate our employees about Indigenous Peoples and culture.



Archeological excavation work at the E.L. Smith Water Treatment Plant bypass main project.





From left: Stuart Lee, President and CEO of EPCOR, and Chief William Morin of Enoch Cree Nation at the MOU signing ceremony on the former reserve lands at the E.L. Smith Water Treatment Plant.

EPCOR-ENOCH MOU

On September 1, 2020, EPCOR and Enoch Cree Nation signed a [memorandum of understanding](#) (MOU) that formalizes a commitment to work together in the spirit of reconciliation and collaboration.

The MOU sets a strong foundation for both parties, creating a path forward on projects, initiatives and joint endeavors that cause ground disturbance at the E.L. Smith and Rosssdale Water Treatment Plants in Edmonton. As well, it provides a platform for meaningful, effective and transparent communication on issues of mutual interest.

A signing ceremony took place on the former reserve lands of Enoch Cree Nation, at the E.L. Smith Water Treatment Plant; it included a pipe ceremony, speeches, a gift presentation, and a drum song by local Enoch singers. Enoch Cree Nation Council members, knowledge holders, EPCOR senior leadership and working group members were in attendance.

Since the signing ceremony, Enoch Cree Nation and EPCOR have continued to work together to develop opportunities to reconnect the Maskêkosihk peoples to their lands, through activities such as harvesting of plants for traditional medicinal purposes and formalizing procedures and processes related to archeological work. Both parties are also committed to working together to ensure the E.L. Smith and Rosssdale Water Treatment Plants continue to be centres for the production of clean, safe water for future generations.

IN THE SPIRIT OF RECONCILIATION AND COLLABORATION



▶ Watch a video from the September 1, 2020 signing ceremony.



Stakeholders attend an E.L. Smith Solar Farm open house.

COMMUNITY ENGAGEMENT

ALIGNMENT WITH OUR CORPORATE VISION AND VALUES

EPCOR’s approach to and interest in community engagement is anchored in its vision, values and strategy. EPCOR’s vision speaks to being a “premier essential services company that attracts and retains the best employees, is trusted by our customers and is valued by our stakeholders.”

EPCOR’s values include acting with integrity and being trusted by its customers. Building and sustaining relationships with its customers, Indigenous Peoples, the public and stakeholders is critical to achieving its goals and development plans.





In Paradise Valley, Arizona, EPCOR worked with the community to identify and reduce the impacts of water main renewal work along a busy road.

PURPOSE OF OUR **ENGAGEMENT ACTIVITIES**

EPCOR aims to engage in collaborative, transparent and respectful planning that results in permitting, building and operating critical infrastructure in a way that is aligned with the interests and priorities of the community, and that meets the needs of the broader society. By engaging with honesty, transparency and accountability, EPCOR works to create meaningful and lasting community relationships.

EPCOR's community engagement programs are rooted in its conviction that:

- The community must be heard and understood. EPCOR seeks to learn what is important to the community and aligns its project designs to reflect community input.
- While meeting the technical and regulatory requirements for a project, many aspects of a development can and should be adapted to reflect community values; participants should be able to see their input reflected in the project design.
- Honesty, transparency and accountability are the basis for earning trust.
- Delivering on commitments is the foundation of EPCOR's social license to operate.

EPCOR works to design an engagement process that considers community preferences for how they wish to be engaged, the extent of potential impact on the community, and the extent of adaptation

possible within the known technical and regulatory requirements. The company's programs meet or exceed all regulatory requirements for consultation, and result in the incorporation of public input into the design of the project and consideration of alternatives. EPCOR then seeks to be a good partner to the community throughout construction and the life of the facility or infrastructure.

A high volume of EPCOR infrastructure work involves planned and emergency maintenance to sustain the reliable delivery of water, drainage and electricity services. Much of this work occurs outside the engagement spectrum, through communications.

Communications about work with significant impacts are delivered in advance to provide details about projects or construction to the community. EPCOR explains the work we are undertaking, why it is necessary, what communities can expect throughout construction, and how to contact us with questions and feedback.

EPCOR's community engagement program aligns with and uses techniques from the International Association of Public Participation (IAP2) engagement framework and, in Edmonton, also aligns with the City of Edmonton's public engagement framework.





ENGAGEMENT IN ACTION

RECENT ENGAGEMENT INITIATIVES

EPCOR worked with the community on several recent initiatives where it incorporated community feedback throughout project development and made clear commitments to the public and Indigenous Peoples. The level of engagement applied depended on community needs, regulatory requirements, the complexity of the project and the potential impacts.

PERFORMANCE-BASED REGULATION (PBR) APPLICATIONS



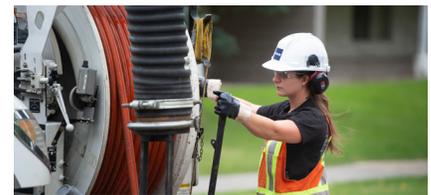
Multi-year plans for EPCOR's water-cycle utilities in Edmonton were informed by public and stakeholder group input. The result was a proposed recalibration of performance measures, optimization of the planned capital program, and evaluation of the proposed plans against community priorities for funding infrastructure renewal.

STORMWATER INTEGRATED RESOURCE PLAN (SIRP)



The risk weightings and plan policies for Edmonton's nationally-recognized flood protection plan were made based on the public's values and priorities for flood protection, which were evaluated through an award-winning research program.

CORROSION AND ODOUR REDUCTION (COR_e) STUDY



The strategy and sequencing for addressing corrosion and odour issues within the Edmonton drainage network was informed by public opinion research that quantified and qualitatively described issues at a neighbourhood level and evaluated views toward funding improvements.

GOLD BAR WASTEWATER TREATMENT PLANT INTEGRATED RESOURCE PLAN



A new long-term plan for the facility was created based on Shared Outcomes and Design Principles developed collaboratively by EPCOR and community members. The plan modified operational priorities based on community feedback and made a long-term written commitment to preserve river valley parkland and keep future operations within the existing fence line.

E.L. SMITH SOLAR FARM PROJECT



The design for a new 12 MW solar farm was improved based on community input over a three-year period, including changes to the site footprint, the addition of trail easements to improve public access, modifications to plans to naturalize former pasture land, and long-term protocols for Indigenous monitoring and access.

WEST EDMONTON TRANSMISSION UPGRADE PROJECT



As EPCOR planned for this project that would maintain reliability and address growth in west Edmonton, we collected input from stakeholders to inform the selection of a route that would balance social, economic and environmental considerations. The regulator and stakeholders were supplied with information about the costs and benefits of underground and overhead line configurations.

EXTENDING NATURAL GAS SUPPLY TO KINCARDINE, ONTARIO



EPCOR consulted with residents who had signed up for natural gas service to determine what hurdles were hindering them from getting their gas service energized in their homes. This work found gaps in the availability of the HVAC trades, and led to EPCOR providing more support to the HVAC community to help customers.

PARADISE VALLEY, USA WATER MAIN REPLACEMENT PROJECT



EPCOR worked with the community to develop a plan to reduce the impacts of water main renewal work along a busy road that provides access to resorts with high seasonal traffic levels. To minimize the economic impact to customers, EPCOR adjusted the timing of the work to limit disruptions during the tourism season and supported crews who would now perform the work during a period of hotter temperatures.

DRY POND DEVELOPMENTS EDMONTON



EPCOR engaged with the community throughout the various stages of development for dry ponds across the City of Edmonton. Engagement ranged from communications to consultation, and focused on the role of dry ponds, community input on recreation amenity changes, conceptual designs, final site design selection, identifying and addressing construction impacts, and timelines. Typically, at any one time, six dry ponds are in development.



BUILDING ENDURING RELATIONSHIPS: WORKING WITH FACILITY NEIGHBOURS AND COMMUNITIES

Outside of project-specific community engagement, EPCOR conducts many ongoing engagement activities which help foster and retain meaningful relationships with the communities in which we operate.

COMMUNITY PANELS

(EDMONTON, COLLINGWOOD, KANANASKIS, FRENCH CREEK)

Our community panels bring together groups of seven to 25 participants representing a variety of customer rate classes (residential, multi-residential, commercial and industrial) and major stakeholders in specific communities and/or neighbourhoods. These groups provide feedback and input on a community's priorities related to all aspects of service delivery.

JOINT COMMUNICATIONS PROTOCOL

(EDMONTON)

EPCOR and the Rosedale Community League jointly developed a Communications Protocol which expresses the mutual commitment of the parties to engagement and communications about the Rosedale site and community issues, defines a process for information sharing, and outlines standards for documenting decisions.

PROJECT-RELATED COMMUNICATIONS

(ALL COMMUNITIES)

EPCOR distributes project-related information through a variety of communication channels, including website content, newsletters, public notices, social media, emails, doorknockers, and bill inserts. The level and method of communication is tailored to the initiative or project.

ONE-ON-ONE MEETINGS

(ALL COMMUNITIES)

EPCOR organizes meetings with individual key community influencers, stakeholder groups, and community groups. These meetings can help discover issues, gain insight into community values, issues and events that may be of interest to EPCOR and be a means to determine perceptions of EPCOR operations in the community.

REGULAR COMMUNITY NEWSLETTERS

(EDMONTON, FRENCH CREEK AND USA)

EPCOR distributes community newsletters to residents located around our existing water and wastewater treatment facilities in Edmonton and to customers in San Tan Valley, Arizona. These newsletters provide updates to the community and educate the public about upcoming activities at EPCOR facilities.

TOURS (EDMONTON, KANANASKIS, CANMORE, STRATHMORE, BRITANNIA, FRENCH CREEK, REGINA AND USA)

EPCOR offers tours of its water treatment plants and wastewater treatment plants. Tours can be used to increase awareness in a community about operations, improve community relations and increase general education. While tours were suspended in 2020 because of the COVID-19 pandemic, EPCOR expects to resume tour programs once public and company health protection measures permit.



PARTICIPATION IN COMMUNITY EVENTS (EDMONTON, CANMORE, CHESTERMERE, STRATHMORE, COLLINGWOOD, AYLMER, KINCARDINE AND USA)

EPCOR's engagement teams participate in existing community events and, in certain areas, hosts events, demonstrating the company's commitment to its communities. It is also an opportunity to educate people about specific topics relevant to the community, including public safety, watershed protection and operational information.

CUSTOMER SURVEYS (ALL COMMUNITIES)

EPCOR connects with stakeholders regularly to understand how it is performing as neighbours and as their utility. This research seeks to understand how EPCOR can adapt its operations or approach in subjects ranging from rate applications to utility services and day-to-day operations.

DEVELOPER PORTAL

EPCOR maintains a portal where builders and developers can quickly and conveniently review the status of their commercial and land development projects, receiving updates on milestones and project details.

SAFETY CONSULTATIONS

EPCOR continues to offer powerline safety awareness sessions to organizations and contractors whose work puts them in close proximity to high-voltage electrical infrastructure. There, individuals learn about electrical hazards, steps to take to better ensure their safety and how to respond in an emergency. This is part of our commitment to ensuring the safety of our employees and the communities we serve.

KEEPING CUSTOMERS INFORMED OF MAINTENANCE AND UPGRADES

EPCOR continues to provide reliable electricity to its customers, although weather, for example, can lead to outages. When the power goes out, subscribers to EPCOR's outage alerts receive emails or text messages letting them know the cause and estimated time of restoration and engage with us on social media. Customers can also find details on EPCOR's outage map.

Some upgrades require us to disconnect power to safely perform critical maintenance and upgrades. We work closely with commercial customers to limit impacts to their businesses, where possible. In 2020, EPCOR provided notice of planned outages to over 7,000 residential and commercial customers through phone and/or email.

Providing reliable power to customers also means that EPCOR maintains a robust vegetation management program. We address trees and other vegetation growing into high-voltage aerial distribution lines, as these can present a fire hazard and lead to power outages. We notify customers when our work takes us near them.

Whether we are replacing a transformer or upgrading a ground grid on private property, we provide upfront notification to help customers understand why the work is necessary and what they can expect.

VALLEY LINE WEST – LRT UTILITY RELOCATIONS

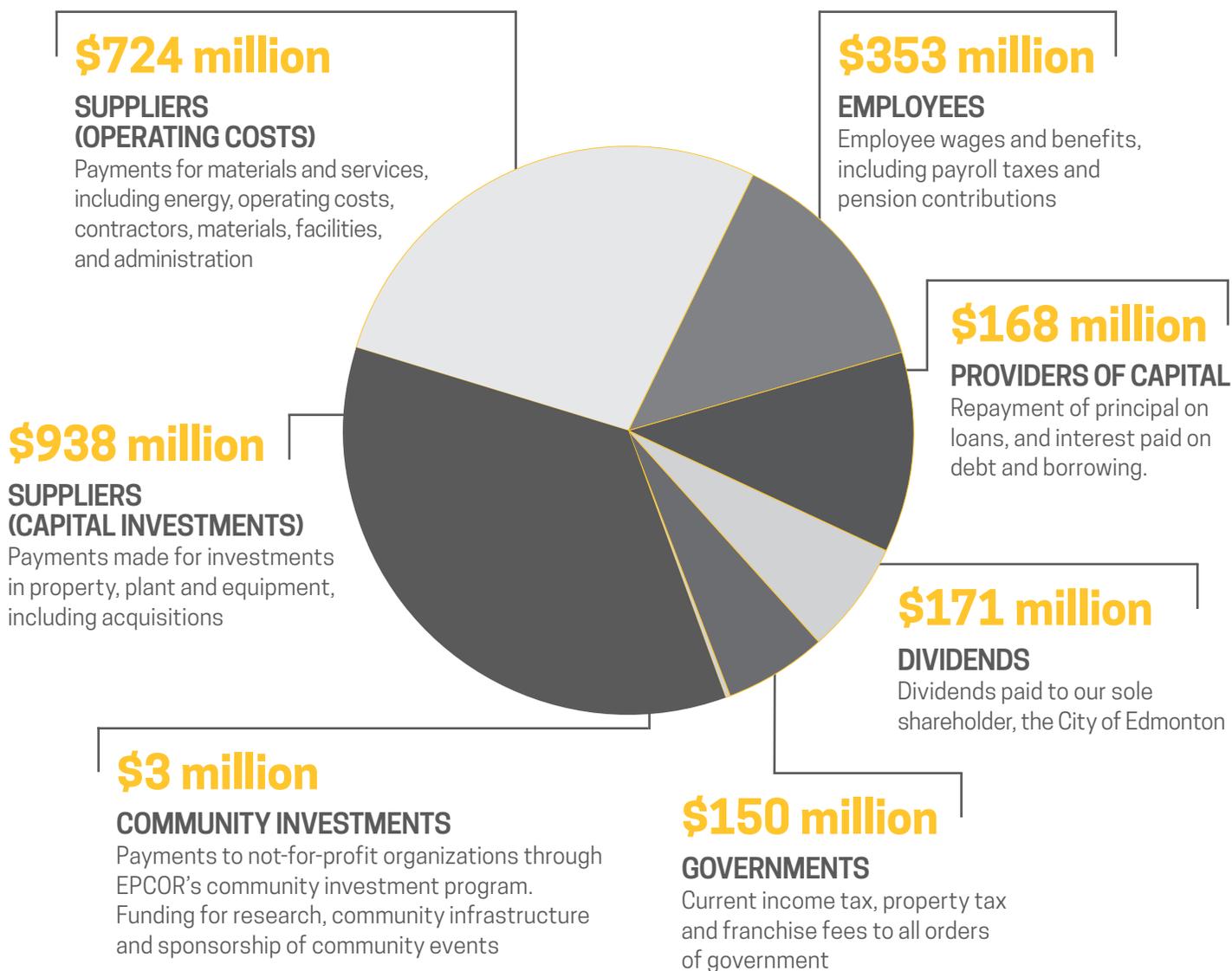


In addition to consultation, EPCOR works to communicate clear and useful information to customers who will be impacted by major utility work. With drainage, water and electricity utilities all relocating utility infrastructure to make way for Edmonton's Valley Line West LRT, EPCOR coordinated notifications to approximately 13,000 customers on the route so that stakeholders were given advance notice of the work, and a single point of contact for any questions or issues.



ECONOMIC VALUE

Through operations and capital investments, EPCOR distributes economic value to a wide range of stakeholders. In 2020, EPCOR distributed \$2.5 billion in economic value to stakeholders.





BRINGING NATURAL GAS SERVICE TO ONTARIO'S SOUTHERN BRUCE REGION

After several years of planning, community engagement, and regulatory work, EPCOR began construction on a new natural gas distribution system for the Southern Bruce region of Ontario in 2019. For the first time in the region's history, residents, farms and businesses in the area will enjoy the comforts and convenience of natural gas services.

EPCOR connected and energized a series of industrial customers in August 2020 and did the same for residential and business customers in the communities of Kincardine, Arran-Elderslie, Tiverton and the Township of Huron-Kinloss in November 2020. For customers who previously used propane, electricity or oil for home heating, natural gas service substantially lowers their utility costs.





IMPROVING SERVICE AND SUPPORTING GROWTH IN ARIZONA'S SAN TAN VALLEY

In October 2020, EPCOR announced an agreement had been reached to acquire Johnson Utilities, where EPCOR had been acting as interim manager since 2018. EPCOR's operations in San Tan Valley provide water and wastewater services for customers in a 160-square-mile service area in one of the fastest growing regions in the U.S.

Regulators and customers welcomed the news that EPCOR would become owner and operator of the system.

Arizona Corporation Commission Chair Lea Marquez-Peterson observed that the sale to EPCOR "will ensure residents of San Tan Valley have safe and reliable water and wastewater service moving forward and allow critical economic development in the area to continue."

San Tan Valley attorney Court Rich told the Arizona Republic that having EPCOR as owner would "unlock immense economic potential and job-creating potential. The entire region will benefit."

By March of 2021, EPCOR had announced the start of an expansion of the Pecan Water Reclamation Plant. The project will increase the facility's capacity by 1 million gallons per day and replace the poorly maintained parts of the facility where the wastewater treatment process begins.

The project is part of more than \$138 million in infrastructure improvements that will be needed over the next three years, including the construction of a new wastewater treatment facility to serve customers.



ADDITIONAL RESOURCES



NOTE:
Links to resources included in
online version of report, available
at www.epcor.com/ESG

For more information on EPCOR’s social strategies, programs and performance, please see:

RESOURCE	WHAT YOU’LL FIND
<u>Our Indigenous Relations page</u>	Information on: <ul style="list-style-type: none"> ▪ EPCOR’s Indigenous Relations Steering Committee ▪ EPCOR’s partnership with the University of Alberta’s First Peoples’ House ▪ Projects at EPCOR’s water treatment plants and engagement with Indigenous Nations
<u>Indigenous Monitoring Efforts at Rosedale and E.L. Smith Water Treatment Plants</u>	Details about how EPCOR is working or has worked with Treaty 6 First Nations communities on projects at both water plants. Both of Edmonton’s Water Treatment Plants are located on the banks of the North Saskatchewan River, which is Treaty 6 territory — the traditional lands of the Blackfoot, the Cree, the Dene, the Nakota Sioux, the Saulteaux and, later, the Métis.
<u>Our Public Engagement Framework</u>	EPCOR’s Public Engagement Framework describes the company’s five stages of engagement, and commitments for each stage.
<u>Indigenous Vendor Registration</u>	A database of Indigenous businesses and suppliers, which operate in the communities EPCOR serves, to help facilitate new business relationships and commercial partnerships.
<u>Our Community Investment page</u>	Information on: <ul style="list-style-type: none"> ▪ The Heart + Soul Fund ▪ EPCOR’s charitable partnerships ▪ Sponsorships
<u>Health, Safety and Environment Policy</u>	EPCOR is committed to building a culture that supports a workplace free of occupational injury and illness and minimizes harm to people and the environment. This policy outlines our beliefs along with our commitments to ensuring the health and safety of our employees, contractors, the public and the environment. Learn more about the emphasis we place on safety.

ADDITIONAL RESOURCES



NOTE:

Links to resources included in online version of report, available at www.epcor.com/ESG

For more information on EPCOR’s social strategies, programs and performance, please see:

RESOURCE	WHAT YOU’LL FIND
Our Financial Information Page	An overview of dividends paid to the City of Edmonton since 1996, as well as links to quarterly reports and year-end financial results dating back to 2005. The page also includes information on EPCOR’s credit rating and links to its Annual Information Forms on SEDAR.
Rate Cases (EPCOR USA)	Information about rate cases in several U.S. operating areas, and the water rate review by the Arizona Corporation Commission
Operating costs per customer: <ul style="list-style-type: none"> ▪ Performance Based Regulation (PBR) filing ▪ Water rates, terms and conditions ▪ Power rates, terms and conditions and services 	Proposed plans for EPCOR’s Edmonton water cycle utilities <ul style="list-style-type: none"> ▪ The applications propose capital and operating programs for 2022-2026 (Water) and 2022-2024 (Drainage and Wastewater Treatment), including business cases for all projects of \$5 million or more ▪ The executive summary provides an orientation to the filings and a summary of the proposal. The filings include more than 2,500 pages of detailed plans for the water-cycle utilities. ▪ Information about EPCOR’s rates, terms and conditions, and services is also provided.
Water Quality Data	<ul style="list-style-type: none"> ▪ Daily, weekly and monthly water quality data for the Edmonton region, showing test results for both raw river water and treated drinking water
Outage information and alerts	<ul style="list-style-type: none"> ▪ Resources for customers about how to prepare and respond to a utility outage ▪ Power and water outage maps ▪ Sign-up information for automated outage alerts
Power reliability	<ul style="list-style-type: none"> ▪ EPCOR’s award-winning approach to implementing risk-based asset management for power distribution to improve the reliability of the grid
Advanced meters	<ul style="list-style-type: none"> ▪ An update on how EPCOR is modernizing its meter reading system to serve customers more effectively and increase the reliability of services
Our Projects page	<ul style="list-style-type: none"> ▪ Learn about upcoming and current projects, and how to provide input and ask questions

SCOPE OF REPORTING

Data in the report and ESG Scorecard:

- Includes aggregate environmental performance data for EPCOR-owned and leased operations.
- Excludes environmental performance data for EPCOR-operated utilities that are operated by EPCOR personnel for a client.
- Includes data for all EPCOR operations with respect to governance, health and safety, workforce, community and financial data.

Data referenced in the ESG Scorecard is as of December 31, 2020. Other information in the report is current as of the date of publication in August 2021. Throughout the report, references to Sustainability Accounting Standards Board (SASB) or Global Reporting Initiative (GRI) standards indicate instances where data or subject matter relates to measures within the standard being referenced, or to the topic addressed by that standard, and does not indicate that the report provides data for all aspects of the referenced standard.

MATERIAL ASSUMPTIONS AND DATA LIMITATIONS

HUMAN CAPITAL – WORKFORCE DEMOGRAPHICS

The social section of the ESG Scorecard reports on diversity and inclusion attributes within EPCOR's workforce companywide. Information for Canadian employees is based on voluntary self-reporting, with some employees not making a disclosure, which is a limitation of the data on visible minority representation

GREENHOUSE GAS EMISSIONS

EPCOR's reported Scope 1 and Scope 2 greenhouse gas (GHG) emissions follow the classifications contained in the Greenhouse Gases Protocol issued by the World Resources Institute. The assumptions and methodologies used in emissions reporting include:

- Grid intensity values used in the calculation of emissions from electricity consumption. A third-party expert provided these values and they are unique to each province or state. Due to lags in reporting by national agencies, and the decarbonization of grid power supplies, grid intensity values are subject to retroactive adjustments that are likely to lead to downward restatements of historical emissions in future reports.
- Assumed electricity or natural gas consumption at certain facilities for a limited number of periods where data was not available, based on known consumption at each facility during a similar season or adjacent month.
- The estimation of nitrous oxide (N₂O) emissions from the wastewater treatment processes at the Gold Bar Wastewater Treatment Plant and in EPCOR

USA operations, which is based on measurement of nitrogen loading levels in influent, the measurement of influent volumes, the application of emission factors in accordance with National Pollutant Release Inventory (NPRI) methodologies prescribed by Environment Canada, and the 2019 revision of the applicable guidance issued by the Intergovernmental Panel on Climate Change (IPCC).

- The exclusion of emissions from the combustion of biogas from wastewater treatment processes, consistent with national and global reporting standards.
- The use of the IPCC Fifth Assessment Report factors.
- The exclusion of GHG contributions from the sewer system, wastewater/sludge lagoons, and the land application of biosolids, as these have not been fully assessed and may not be quantifiable with certainty.
- The exclusion of electricity losses from the overall Distribution and Transmission grid in Edmonton and Collingwood, as the regulatory construct does not provide sufficient control for utility investment in line loss reduction opportunities.

Some of the excluded sources mentioned above may be included in future reports or as data is made available.

Taking into account these uncertainties, the company estimates that the aggregate greenhouse gas emissions for the sources reported are accurate within +/- 5%.

EPCOR has engaged an external consultant to conduct an assurance review of the company's greenhouse gas emissions data, and expects to report on their review, any data adjustments, and any change to the range of uncertainty, in the next ESG reporting period.

EPCOR'S CONSOLIDATED ESG SCORECARD

This table consolidates EPCOR's ESG Scorecard — a simplified selection of performance measures, performance data, and targets aligned to the ESG factors rated most material to the company.

EPCOR's executive and employee compensation includes performance-based short and mid-term incentives, as further described on pages 47 to 53 of the 2020 Annual Information Form. The ESG Scorecard includes a number of targets and performance measures, some of which are used to determine the value of incentive-based pay. In addition, certain other ESG-related targets and measures are set for each specific line of business, geography, operating unit or individual.

In addition to the footnotes provided in the ESG Scorecard, the [Scope of Reporting](#) commentary provides additional information on the scope of data, material assumptions, assurance processes and the range of uncertainty for certain data.

The references to Sustainability Accounting Standards Board (SASB) or Global Reporting Initiative (GRI) standards indicate instances where ESG Scorecard data or subject matter relates to measures within the standard being referenced, or to the topic addressed by that standard. In some instances, this indicates that the ESG Scorecard entry is disclosing data against a single metric, while the relevant standard also contains additional metrics. In other instances, this indicates that the disclosure is related to the subject matter of the standard being referenced, but may be presented differently or use a different unit of measure. Where additional information is available in the ESG Report narrative that relates to other elements of a standard or to the subject matter in general, cross-references are provided to guide readers to the relevant content.

CORPORATE GOVERNANCE

	2017	2018	2019	2020	TARGETS AND COMMENTARY
G1 BOARD INDEPENDENCE Percentage of Directors who are independent under National Instrument 58-101	100%	100%	100%	100%	At least 67% of Directors are independent under National Instrument 58-101.
G2 BOARD GENDER DIVERSITY Share of board seats held by women <i>GRI 405-1(a)(i)</i>	36%	36%	36%	36%	At least 30% of board seats are held by women.
G3 EMPLOYEE ETHICS TRAINING^A Percentage of eligible employees who have received training on EPCOR's Ethics Policy <i>Relates to GRI 102-16 reporting recommendation 3.1.2</i>	N/A	100%	N/A	100%	100% of eligible employees are trained.
G4 ETHICS COMPLAINTS ACTIONED Number of ethics complaints received and the percentage investigated or otherwise resolved	39 100%	106 100%	96 100%	80 100%	100% investigated or otherwise resolved. Reporting volumes are provided for context.

ENVIRONMENT		2017	2018	2019	2020	TARGETS AND COMMENTARY
Reduce environmental footprint						
E1	<p>NET GREENHOUSE GAS EMISSIONS^B EPCOR owned and leased, company-wide Scope 1 and 2 emissions net of offsets (tCO₂e)</p> <p>Relates to subject of SASB Code IF-EU-110a.1, GRI 305-1(a) and GRI 305-2(a)</p>	Not reported	Not reported	Not reported	193,402	<p>2025: 50% reduction in net Scope 1 and Scope 2 CO₂E emissions from 2020 levels.</p> <p>2035: 85% reduction in net Scope 1 and Scope 2 CO₂E emissions from 2020 levels.</p> <p>2050: Net zero CO₂E Scope 1 and 2 emissions.</p> <p>See pages 31-36 for a discussion of management's approach to emission reduction.</p>
E2	<p>PROTECT RIVER WATER QUALITY Annual discharges of suspended solids into the North Saskatchewan River from land drainage, wastewater treatment operations and combined sewer overflows (kg/day)</p>	37,092	28,797	39,688	Not reported	<p>Performance data only, with reporting lagging by one year. See pages 48-49 for information on work to protect river water quality and discussion of source water strategies (related to SASB Code IF-WU-440a.3).</p>
Resilient utility infrastructure						
E3	<p>IMPLEMENTATION OF EDMONTON FLOOD RESILIENCE UPGRADES Protect utility assets and critical infrastructure from river flooding to at least a 1:200-year flood event (percentage implemented)</p>	N/A	Initiated	1%	4%	<p>Complete asset protection and relocation, and backflow prevention, by 2023. Embankments 100% complete by December 2027. See pages 42-43 for more information.</p>
E4	<p>WATER LOSS^C Limit the percentage of treated drinking water lost due to transmission and distribution line leaks and failures, and inaccurate meters (US and Canada combined).</p> <p>Relates to SASB Code IF-WU-140a.2</p>	6.0%	6.5%	6.1%	Not reported	<p>Performance data only, with reporting lagging by one year.</p>

		2017	2018	2019	2020	TARGETS AND COMMENTARY
Community resilience and environmental footprint						
E5	WASTEWATER REUSE^P Percentage of treated effluent reused or used to recharge aquifers (USA only) <i>Relates to SASB Code IF-WU-440a.2(1)</i>	92.4%	95.7%	96.7%	94.4%	90% beneficial reuse and/or recharge of treated effluent by existing U.S. operations, and a commitment to set targets for each new, expanded or acquired U.S. wastewater operation in arid regions.

SOCIAL		2017	2018	2019	2020	TARGETS AND COMMENTARY
Health and Safety						
S1	TOTAL RECORDABLE INJURY FREQUENCY Continuous reduction in total incidents (TRIF) <i>SASB Code: IF-EU-320a.1(1) GRI 403-9(a)(iii)^F</i>	1.12	2.35	1.44	1.03	A safety-first culture, driving to zero incidents.
S2	LOST-TIME INJURY FREQUENCY Continuous reduction in lost-time incidents (LTIF)	0.16	0.35	0.13	0.06	A safety-first culture, driving to zero incidents.
S3	LEAD MITIGATION Number of high priority lead service lines replaced as part of EPCOR's updated 2019 Enhanced Lead Mitigation Strategy, and not including EPCOR's lead replacement programs prior to this date.	N/A	N/A	Pilot program year	69	Edmonton households comply with new Health Canada guidelines for lead at the tap by 2025, prior to provincial regulation. EPCOR has replaced 360 high priority LSLs by 2023, and commissioned the orthophosphate system.

	2017	2018	2019	2020	TARGETS AND COMMENTARY	
Human Capital						
S4	EMPLOYEE ENGAGEMENT					
	Employee engagement as measured in a companywide survey. In 2020, top quartile performance compared to similar companies was 75% or better and top decile performance was 82% or better					
	N/A	78%	-	77%	Top decile performance against a group of comparator companies by 2023 (the next survey date).	
S5	TOTAL TURNOVER					
	Employee departures for all reasons including retirement, divided by year-end headcount					
	6.8%	6.1%	8.6%	5.4%	Performance data only. See pages 71-72 for discussion of EPCOR's workplace culture and initiatives.	
	<i>Relates to GRI 401-1(b)^F</i>					
S6	DIVERSE AND REPRESENTATIVE WORKFORCE					
	EPCOR's workforce is reflective of the diversity of the communities it serves					
	<ul style="list-style-type: none"> ▪ Women in workforce (Canada and USA) ▪ Visible minorities (Canada)^G ▪ Visible minorities (U.S.) ▪ Women in senior leadership (Canada and U.S.) 	27.4%	27.6%	28.4%	28.5%	Performance data only. See pages 71-72 for discussion of EPCOR's workforce.
		15.1%	15.2%	16.4%	16.9%	
		34.2%	35.3%	36.6%	34.6%	
		23.2%	22.4%	21.1%	21.4%	
	<i>Relates to GRI 405-1(b)(i) and b(iii)</i>					

Customers						
S7	CORPORATE REPUTATION EPCOR's reputation score in Edmonton compared to utility peers.	+5	+6	+7	+7	Exceed utility peer scores by 5 points or more.
S8	CUSTOMER SATISFACTION Number of customer satisfaction metrics that meet or exceed full-year satisfaction targets set by utility regulators.	4 of 4	4 of 4	4 of 4	5 of 5	Meet or exceed regulated targets in all surveys.
S9	REASONABLE COSTS^H Operating costs per customer (rounded to nearest dollar) as defined by the EPCOR's Mid-Term Incentive Plan and approved by the Board of Directors. ^I	Not reported	Not reported	\$157	\$160 1.9%	Three year average operating costs per customer increase by 2% or less. The 2020 percentage change reported is for a single year.
S10	RELIABLE POWER DISTRIBUTION^J Number of minutes per year that power service is interrupted (SAIDI, all electricity operations combined). <i>SASB Code: IF-EU-550a.2(1)</i>	59	53	60	50	Performance data only. See pages 74-75 for discussion of EPCOR's grid reliability programs.
S11	SAFE WATER Number of acute health-based drinking water violations from EPCOR controlled activities. <i>SASB Code: IF-WU-250a.1(1)</i>	0	0	0	0	Zero violations.
S12	PROMPT SERVICE Percentage of drainage maintenance calls resolved within 24-hours (Edmonton)	N/A	N/A	N/A	97.2%	Meet or exceed regulated target of 80% of calls resolved within 24 hours.

		2017	2018	2019	2020	TARGETS AND COMMENTARY
S13	ENGAGEMENT^K The number of community participants in engagement processes conducted at the “Advise” level or higher in the IAP2 engagement spectrum.	Not reported	Not reported	980	2,178	Performance data only. See pages 83-88 for discussion of EPCOR’s public engagement program, and pages 9-10 for discussion of the stakeholder engagement process for the ESG Report (related to GRI 102-43).
S14	ECONOMIC VALUE DISTRIBUTED Direct economic value delivered to stakeholders, including suppliers, employees, providers of capital, governments and community organizations.	\$2.39 B	\$2.47 B	\$2.27 B	\$2.5 B	Performance data only. See pages 89-91 for discussion of EPCOR’s direct economic value delivered to stakeholders, including suppliers, employees, providers of capital, shareholder, governments, and community organizations (related to GRI 201-1).
S15	COMMUNITY INVESTMENT Historical data: cash donations and sponsorships only. Future data will include eligible in-kind contributions, implementation costs, and volunteering.	\$1.6 M 0.7%	\$2.0 M 0.7%	\$2.1 M 0.8%	\$3.3 M 1.1%	Achieve Imagine Canada’s <i>Caring Companies</i> designation by 2023 by donating 1% of pre-tax income to community causes.
S16	INDIGENOUS RELATIONS Progressive Aboriginal Relations (PAR) certification by the Canadian Council for Aboriginal Business, and achievement levels	N/A	N/A	N/A	Member	Achieve PAR “Committed” status by 2021, achieve “Bronze” level performance certification by 2023, and set targets for higher level performance once “Bronze” level status achieved. See pages 81-82 for discussion.

^A G3: For some employee training records, data was obtained from summary files rather than original sources.

^B E1: Material assumptions and data limitations for this entry are listed in the Scope of Reporting.

^C E4: Data is sourced from a mix of regulatory filings and facility operating records. For some facility operating records, data was obtained from summary files rather than original sources. The unit of measure for water loss selected as most relevant by EPCOR (percentage) differs from the relevant SASB standard (cubic metres).

^D E5: Data is sourced from a mix of regulatory filings and facility operating records. For some facility operating records, data was obtained from summary files

rather than original sources. The unit of measure for wastewater reuse selected as most relevant by EPCOR (percentage) differs from the relevant SASB standard (cubic metres).

^E S1: The injury data reported aligns with the rate statistic specified in GRI standard 403-9(a)(iii). The ESG Scorecard does not report on the other element of GRI standard 403-9(a)(iii), the total number of injuries in the reporting period.

^F S5: The total turnover data reported aligns with a portion of the data specified in GRI standard 401-1(b), and does not additionally report on other data specified in that standard, including reporting of employee turnover by age group, gender, and region, by both total number and rate.

^G S6: Data limitations for a portion of this metric [Visible minorities (Canada)] are listed in the Scope of Reporting.

^H S9: For some information, data was obtained from summary files rather than original sources.

^I S9: Information on the use of this metric is found in EPCOR’s Annual Information Form.

^J S10: Prior to October 1, 2018, electricity reliability data is for Edmonton only. From October 1, 2018, the data incorporates performance from EPCOR’s Collingwood, Ontario operations.

^K S13: For some information, data was obtained from summary files rather than original sources.