



2019 GRI Report

MAY 2020

ENMAX Corporation’s (ENMAX) Global Reporting Initiative’s (GRI) Report has been prepared in alignment with the GRI Sustainability Reporting Standards. ENMAX has publicly disclosed its ESG performance for 13 years and we continuously strive to enhance the robustness of our disclosure, currently reporting on over 100 environment, safety, social and governance indicators.

Financial data is presented in Canadian dollars and numerical data is rounded and presented using the metric system unless otherwise stated. A team of subject matter experts from across our organization made every effort to ensure the data is accurate and complete. In some instances, estimates are made based on best-available information and records at the time of writing. ENMAX’s Internal Audit team verified key indicators to provide assurance of the methodology and accuracy of the values reported. These key indicators include our community investment, direct and indirect greenhouse gas emissions, employee safety, electric system availability and reliability, and customer satisfaction.

GENERAL DISCLOSURE

1.0 STRATEGY AND ANALYSIS

102-14	Statement from senior decision-maker	2019 Sustainability Report, Message from Gianna Manes, President and CEO
102-15	Description of key impacts, risks, and opportunities	Refer to 2019 Financial Report; sections: Significant Events, Risks and Uncertainties, Climate Change and the Environment

2.0 GOVERNANCE

ENMAX’s Board of Directors and Executive Team are committed to strong and effective standards of corporate governance and ethical conduct. Although ENMAX is not required to publicly file an annual information circular, for the past 10 years we have released an annual disclosure document regarding our governance and executive compensation practices that is informed by the requirements applicable to public companies. Our most recent Annual Report on Governance and Compensation is located [here](#).

ENMAX has an independent, diverse and highly qualified Board of Directors. In 2019, ENMAX made a series of enhancements to its governance framework with The City of Calgary, its sole Shareholder, including an increase in the frequency of meetings with the Shareholder while removing City Councillors from the Board of Directors. For the 2019 year: (i) all of our Directors were independent, other than our President and CEO; and (ii) 38 per cent of the Board of Directors were women, excluding our President and CEO. We are a signatory to the Leadership Accord on Gender Diversity headed by Electricity Human Resources Canada.

To reflect our commitment to diversity on our Board, ENMAX is a member of the 30% Club Canada, an organization working towards having women represent 30 per cent of board members in Canada by 2022, and have in place a diversity policy which includes an aspirational target that women continue to comprise not less than 30 per cent of our Directors. We have met that target since 2017.

102-18	Governance structure including major Board Committees	ENMAX Corporate Board committee and policy information is here
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102-20	Report the executive-level position or positions with responsibility for economic, environmental and social topics, and whether post holders report directly to the highest governance body.	Our President and CEO, and Vice President Public Affairs have accountability for ENMAX's overall sustainability framework and report directly to the Board on such matters. The Executive Vice President Power Services Delivery and COO, along with the Vice President, Safety, Environment and Support Services have accountability for ENMAX's safety, environment, and security reporting to the Safety and Human Resources Board Committee. Access this link for more information.
102-21	Mechanisms for consulting stakeholders on economic, environmental and social topics	Refer to Sustainability; Materiality and Stakeholder Engagement here
102-22	Number of independent, non-executive directors on the Board and report the compensation of the highest governance body and its committee.	8 of 9 Directors (89 per cent), are independent, non-executive. See current version of our Report on Governance here
102-23	Confirm if Chair of the highest governance body is also an executive officer.	Confirmed. Follow this link for our Board of Directors information.
102-24	Process for determining qualifications and expertise of the Board for guiding ENMAX's sustainability strategy	The Board maintains a skills matrix and uses this matrix to inform Board composition planning. See our Report on Governance here
102-32	Highest committee or position that formally reviews and approves the organization's sustainability report and ensures that all material aspects are covered.	See the mandate in place for the Board of Directors here . The President and CEO and the Executive Team are ultimately accountable for the content of our reports.
102-33	Process for communicating critical concerns to the highest governance body.	Concerns may be communicated through our anonymous 24/7 Safety and Ethics Helpline or email to boardofdirectors@enmax.com
102-35	Remuneration policies for the highest governance body and senior executives	Refer to Board Governance and Executive Compensation available here
102-38	Ratio of the annual total compensation for the organization's highest paid individual to the median total compensation for all employees (excluding highest paid individual) ¹	16.3:1
102-39	Ratio of percentage increase in annual total compensation for highest paid individual to the median percentage increase in annual total compensation for all employees (excluding highest paid) ¹	No increase in 2019 for the highest paid incumbent.
	¹ Indicators 102-38, 39 - values stated are reported within the following parameters: Only employees active throughout 2019 (i.e., no leaves, new hires, terminations or Board members) On-call casual employees excluded.	

Ethics and integrity

102-17	Internal and external mechanism for reporting concerns about unethical and unlawful behaviour:
	<p>Concerns can be anonymously expressed through a confidential third-party confidence line available 24/7. There were fourteen reports to the Safety and Ethics Helpline over the course of 2019. A summary of all reports is provided to the Board of Directors Governance Committee on a semi-annual basis. Full investigation of all reports made in 2019 were conducted with oversight by ENMAX's Legal Counsel and Assistant Corporate Secretary.</p> <p>In accordance with the Business Ethics Policy, the Directors and Officers of ENMAX are also required to disclose conflicts of interest and declare outside business interests on an annual basis. This assists in ensuring Directors exercise independent judgment when considering transactions and agreements. The Board ensures that a Director does not participate in discussions or vote on matters when he or she is</p>

	conflicted. Members of the public can obtain a written copy of our Business Ethics Policy by contacting the Corporate Secretary at governance@enmax.com or view a copy on our website .
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3.0 STAKEHOLDER ENGAGEMENT

As we plan and manage our operations, we take a solutions-focused approach based on open two-way dialogue that promotes consultative and respectful relationships with our stakeholders. We keep stakeholders informed through tools such as our website, social media, newsletters, in-person meetings and open houses.

The Alberta Utilities Commission (AUC) mandates stakeholder engagement for transmission and generation projects. ENMAX strives to exceed AUC requirements because we believe transparent, two-way dialogue helps reach a mutually beneficial outcome. We take a consultative approach contacting potential stakeholders in advance of all construction or upgrade projects.

102-40	Stakeholder groups engaged	The stakeholder groups engaged include, but are not limited to: <ul style="list-style-type: none"> • Customers and potential customers • Employees and potential employees • Community residents, including indigenous communities • Our Shareholder and Board of Directors • Federal, provincial and municipal governments • Non-government organizations, non-profit organizations and special interest groups
102-43 102-44	Approaches to stakeholder engagement and key topics raised	Learn about our approach to stakeholder engagement and key topics raised by following these links: Materiality and Stakeholder Engagement ; Generation Stakeholder Relations

4.0 REPORTING PRACTICE

102-45	Entities included in organization's consolidated financial statements/equivalent documents; report where certain entities are not covered by the report	ENMAX Group of Companies , Alberta Canada
102-46	Process for defining report content and boundary	Materiality and Stakeholder Engagement ENMAX Group of Companies
	Specific limitation on the scope or boundary of the report and basis for reporting on non-wholly owned operations	Information of non-wholly owned operations provided as part of our generation portfolio.
102-47	List all the material aspects identified in the process for defining report content	Refer to our 2019 Sustainability Report and Materiality and Stakeholder Engagement
102-48	Explanation of information re-statements	None to report
102-49	Significant changes in the scope, boundary or measurement methods applied in the report	None to report overall, indicator specific changes are noted alongside as appropriate.
102-50	Reporting period	January through December 2019
102-51	Date of most recent previous report	2018 CR-GRI report, May 2019
102-52	Reporting cycle (annual, biannual, etc.)	Annual
102-53	Contact point regarding this report	sustainability@enmax.com

102-54	Claims of reporting in accordance with GRI standards	This report has been prepared in alignment with the GRI Sustainability Reporting Standards and the GRI G4 sector disclosure for Electric Utilities.
102-55	List of GRI Indicators addressed	As per this document
102-56	External assurance	ENMAX engages the London Benchmarking Group Canada to support us in the management, measurement and reporting of impact with respect to our community investment, including employee volunteering and in-kind programs.

5.0 ORGANIZATIONAL PROFILE

102-1	Name of the Organization	ENMAX Corporation
102-2	Activities, brands, products and services	Learn more about ENMAX Corporation here and our brands, products and services here
102-3	Location of organization's headquarters	Calgary Alberta
102-4	Location of operations	Edmonton and Calgary Alberta, Canada
102-5	Ownership and legal form	ENMAX Corporation is wholly owned by The City of Calgary
102-6	Markets served	Alberta
102-7	Scale of the reporting organization	About us, 2019 Financial Report

6.0 WORKFORCE PROFILE

102-8	Total number of employees (year-end December 2019): 1,797
	Number of Employees covered by a Collective Bargaining agreement: 1,088
	Percentage of Employees covered by a Collective Bargaining agreement: 61%

	Full-time Regular	Part-time Regular	Total Regular	Full-time Limited Term	Part-time Limited Term	Total Limited Term	Total All
IBEW ²	392	0	392	9	0	9	401
CUPE ³	607	51	658	14	15	29	687
MP ⁴	683	4	687	13	1	14	701
Board of Directors ⁵	8	0	8	0	0	0	8
Total - all	1,690	55	1,745	36	16	52	1,797
Percentage male	67%	20%	66%	61%	31%	52%	65%
Percentage female	33%	80%	34%	39%	69%	48%	35%

² IBEW – International Brotherhood of Electrical Workers, Local 254

³ CUPE – Canadian Union of Public Employees Local 38

⁴ MP – Management professional

⁵ Board of Directors count does not include The City of Calgary council members

Proportion of senior management hired from the local community	2019	2018	2017
	100%	100%	80%

Electric Utility Sector Supplement – General Disclosures

EU1 - Installed capacity by source and regime, December 31, 2019						
Facility	Installed Capacity (MW)	Owned (MW)	Controlled (MW)	Fuel type	Control detail (%)	Regime
Calgary Energy Centre	320	320	320	natural gas	100%	Alberta
Crossfield Energy Centre	144	144	144	natural gas	100%	Alberta
Cavalier Energy Centre	120	120	120	natural gas	100%	Alberta
Balzac Energy Centre	120	60	0	natural gas	0%	Alberta
Shepard Energy Centre	860	645	645	natural gas	75%	Alberta
McBride Lake Wind Farm	73	73	0	wind	0%	Alberta
Taber Wind Farm	81	81	81	wind	100%	Alberta
Kettles Hill Wind Farm	63	63	63	wind	100%	Alberta
Total⁶	1,781	1,506	1,373			

⁶ 11% of Alberta's 2019 installed generation 16,405 MW

EU2 - Net energy output (MWh)			
Facility	2019	2018	2017
Calgary Energy Centre	1,919,116	1,743,944	1,135,014
Crossfield Energy Centre	200,824	233,239	94,299
Cavalier Energy Centre	665,403	622,883	435,033
Balzac Power Station	228,215	244,492	84,977
Shepard Energy Centre	4,295,469	4,411,896	4,691,900
McBride Lake Wind Farm	195,253	205,453	212,932
Taber Wind Farm	207,843	211,749	228,557
Kettles Hill Wind Farm	167,673	187,028	192,336
District Energy Centre	10,018	8,412	--
Total	7,889,814	7,869,096	7,075,048

EU4 - Transmission and distribution infrastructure			
	2019	2018	2017
Transmission system lines – aboveground (km)	307	307	300
Transmission system lines – underground (km)	15	15	15
Distribution system circuit lines – aboveground	2,312	2,303	2,324
Distribution system circuit lines – underground	6,104	5,982	5844
Downtown network cable – 13kV & 25 kV	416	400	378
Downtown network cable – secondary	754	744	735
Total km wire in Calgary	9,908	9,751	9,596
Number of distribution transformers	54,258	53,540	52,644
Number of utility poles	61,408	61,413	61,699

EU5 - Allocation of CO2e emission allowances

In 2019, ENMAX Energy's compliance obligation for our natural gas-fuelled generation portfolio was approximately 200,000 tonnes of greenhouse gases (GHG). ENMAX is intending to use a combination of offset credits and contributions to the Climate Change Emissions Management Fund in accordance with Alberta's Technology Innovation and Emissions Reduction Regulation (TIER), which replaced the Carbon Competitiveness Incentive Regulation on January 1, 2020.

ECONOMIC DISCLOSURE

Organizational responsibility - The Executive Vice President, Finance, Information Technology and Chief Financial Officer is responsible for ENMAX's financial management and reporting, enterprise risk management, treasury, internal controls and auditing, and taxation matters.

Economic performance – To meet the energy needs of our customers and provide dividends to our Shareholder, ENMAX must be financially strong. We also generate value through the jobs we create, the materials we purchase, our community investment and the annual dividend we pay to our Shareholder. For details on our financial performance including associated risks and impacts please refer to our [2019 Financial Report](#).

201	ECONOMIC PERFORMANCE			
201-1	Direct economic value generated and distributed (millions of dollars, and rounded) ⁷	2019	2018	2017
	Revenue	2,525	2,379	1,970
	Total assets	6,744	5,582	5,571
	Clean revenues ⁸	56	36	16
	Adjusted EBITDA	452	435	424 ³
	Electricity sold to customers in Alberta (GWh)	19,250	19,668	19,977
	Electricity delivered in Calgary service area (GWh)	9,332	9,520	9,500
	Investment in Calgary's Transmission and Distribution (T&D) System and other assets	305	228	290
	Total Employee compensation	249	260	253
	Community investments ⁹	3.5	3.8	3.6
	Dividend payment to The City of Calgary ¹⁰	50	40	48
	Results of surveys measuring customer satisfaction (% satisfaction)	86	86	82
	⁷ Refer to our 2019 Financial Report for details and explanation of our 2019 economic performance. ⁸ Clean revenue reported is the total revenue from our wind farms and solar aspects. We also report this metric with Corporate Knights. ⁹ ENMAX engages the London Benchmarking Group Canada (LBG) to review our community investment performance. LBG's assessment includes ENMAX's cash donations, donations in kind and employee volunteer time, resulting in a more holistic view of our overall community contribution. According to LBG criteria, ENMAX invested approximately \$3.5 million in Alberta communities in 2019. We achieved our 2019 objective for Community Investment to ensure the percentage of our pre-tax profits invested in charitable and non-profit organizations meets the Imagine Canada criteria of one per cent over a five-year rolling average. ¹⁰ In March 2020 ENMAX declared \$54 million in dividends to be paid to The City of Calgary in 2020, an increase of 8 per cent over 2019. Overall, ENMAX has contributed more than \$1.1 billion in dividends since 1998.			
201-2	Financial implications and other risks and opportunities due to climate change	2019 Financial Report		
201-3	The organization's defined benefit plan obligations	2019 Financial Report		
201-4	Financial assistance received from government	2019 Financial Report		

202	Market presence	2019	2018	2017
202-2	Proportion of senior management hired from the local community	100%	100%	80%

203	Indirect economic impacts	
203-1	Infrastructure investments	Generation and Wires; 2019 Financial Report
203-2	Significant indirect economic impacts	2019 Financial Report

205	Anti-corruption			
205-2	Percentage of employees trained in organization's anti-corruption policies and procedures	All employees, including our contractors as assigned, are required to complete annual training on the ENMAX Principles of Business Ethics Policy, Safe and Respectful Workplace and Code of Conduct.		
		2019	2018	2017
205-3	Number of incidents of corruption	0	0	0
	Number of legal cases regarding corrupt practices	0	0	0
206-1	Number of significant legal actions for anti-competitive, anti-trust behavior	0	0	0
	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance	0	0	0

Electric Utility Sector Supplement – Economic Disclosures

EU6	Long-term and short-term electricity availability and reliability We track our reliability performance by monitoring the average number of power service interruptions of one minute or more experienced by a customer in a year (System Average Interruption Frequency Index - SAIFI) and the average duration of a power service interruption experienced by a customer throughout a year (System Average Interruption Duration Index - SAIDI).			
EU8	Research and development activity on providing reliable electricity and sustainable development Refer to our 2019 Sustainability Report here .			
EU10	Planned capacity against projected electricity demand - <u>Shepard Energy Centre</u> (Shepard), our joint venture with Capital Power, in southeast Calgary is Alberta's largest natural gas-fuelled power facility. Shepard features the latest technology and was internationally ranked as one of the top natural gas-fuelled plants in September 2015. It provides over 860 megawatts (MW) of natural gas-fuelled energy to the provincial power grid, while producing about half the carbon emissions per MW of a conventional coal-fired plant in Alberta. <u>Calgary Energy Centre</u> and <u>Crossfield Energy Centre</u> , ENMAX Energy's existing natural gas-fuelled facilities, lie on the outskirts of Calgary. Together, these facilities have the capacity to produce 464 MW. Calgary Energy Centre is a combined-cycle generation facility, and Crossfield Energy Centre is a peaking facility designed to produce electricity for Alberta's grid during high power consumption periods. By locating these facilities close to where power is most needed, they help make Alberta's system more efficient. Two additional natural gas-fuelled electricity generation assets, <u>Cavalier Energy Centre</u> and <u>Balzac</u> support our strategy of having flexible, efficient gas-fuelled generation plants to meet the growing electricity needs of our customers across Alberta.			
		2019	2018	2017
EU12	Alberta Electric System Operator (AESO) aggregated average system-wide provincial transmission loss ¹¹ (%)	2.75	3.84	3.60
	Distribution losses as a percentage of total energy ¹²	2.36	2.32	2.38
<p>¹¹ During the transmission of electricity, some energy is lost from the transmission system, usually in the form of heat. This lost energy is known as transmission losses. AESO recovers the cost of transmission losses from generating facilities and other services by establishing a percentage loss factor, for each generating facility or service, that reflects its location and contribution to transmission losses. ENMAX Power's portion of the overall transmission system losses is considerably below the system-wide average because, as an urban utility, ENMAX Power's lines are very short compared to those with more rural operations.</p> <p>¹² Distribution losses are calculated based on a percentage of the total energy consumption. The loss multiplier value is provided by each wire owner and has been approved by their respective regulator. Loss values represent the energy lost during the delivery of energy through the distribution system from substation to meter.</p>				

ENVIRONMENT DISCLOSURE

Organizational responsibility - Our Senior Vice President, People, Safety and Culture and Chief Human Resources Officer, supported by the Vice President Safety, Environment and Support Services, is responsible for our Environment Policy, its ongoing interpretation, as well as its integration into day-to-day practices. Business units and their respective executive team leaders are responsible for conducting their operations in accordance with the policy.

Training and awareness - A corporate-wide General Environmental Awareness Training is mandatory for all employees to complete every second year. The training reviews how our operations interact with the environment and how we mitigate adverse impacts. Our field staff regularly complete a more comprehensive environmental training that covers waste management, spill response, working around water bodies, avian nest management and other environmental aspects.

Monitoring and follow up - One of the critical ways ENMAX undertakes environmental due diligence and manages our overall environmental performance is through the continual strengthening of our Safety and Environment Management System, a framework to ensure that management of environmental objectives, risks and issues is systematically planned, implemented, checked for effectiveness and improved. Since 2002, ENMAX has maintained alignment with the International Standards Organization (ISO) standard 14001.

Materials				
301-1	Materials used (tonnes) (significant to operations)	2019	2018	2017
	Copper wire	1284	1094	930
	Aluminum	190	221	281
	Steel	2	7	33
	Transformers	553	667	358
	Wood poles	461	934	1,030
	PCB – in use, high level (tonnes)	0.0	0.0	0.0
	PCB – in use, low level (tonnes)	0.0	0.0	0.0
	Mineral oil (litres)	210,732	256,241	577,307
301-2	Materials used that are recycled input materials			
	Mineral oil (litres)	54,902	111,186	83,889
	Wooden pole material recovery program (New vendor currently being sourced)	0	287	305 poles
	Poles scrapped (tonnes)	61	134	142
	Total recovered (tonnes)	12	44	83
301-3	Total Tonnes recovered % (wooden poles)	20%	33%	59%

302-1 Energy Consumption¹³ (GWh unless otherwise noted)				
		2019	2018	2017
	Calgary Energy Centre	4,094	3,766	2,454
	Crossfield Energy Centre	564	654	267
	Cavalier Energy Centre	1,090	1,550	1,126
	Shepard Energy Centre	11,918	11,808	10,948
	District Energy Centre	95	79	55
	McBride Lake Wind Farm	1.8	1.7	1.7
	Taber Wind Farm	0.2	0.1	0.1
	ENMAX Kettles Hill Inc. Wind Farm	1.2	0.9	1.2

	Corporate Facilities, natural gas (GJ)	63,379	63,969	56,913
	Corporate Facilities, electricity (kWh)	10,267,132	9,774,760	10,085,232
¹³ Includes electricity and natural gas consumption of our owned generation, office, warehouse and various substations in Calgary.				
302-2	Energy consumption outside the organization (GWh) to operate our facilities	19,250	19,668	19,364
302-4	Reduction of energy consumption (kWh) through rooftop solar at ENMAX Place	45,744.44	45,405.92	51,975.46

EN7 Initiatives to provide energy efficient or renewable energy-based services

Energy efficiency - In December 2019, ENMAX launched *Winter Wise*, a campaign designed to help customers prepare for the seasonal drop in temperature and the increases in energy usage it typically brings.

My Energy IQ™ is an ENMAX Energy initiative to assist our energy plan customers in their efforts to be more energy efficient. The program provides energy saving insights, tools and tips to our retail customers. Similarly, residential and small business customers on a retail plan have the option of purchasing *EcoLogo* Renewable Energy Certificates that support renewable energy initiatives, plus the option of selecting *green add-on* for natural gas that will contribute to the purchase of carbon offsets.

ENMAX has been investing in a cleaner future for more than a decade and pioneered investment in energy efficient systems that use renewable or waste energy, including *District Energy Centre*. Our district energy system produces hot water at a central plant and then distributes the energy through underground pipes to buildings connected to the system. Individual buildings do not need boilers and customers use the hot water to meet their space heating needs.

Combined Heat and Power (CHP), also commonly referred to as cogeneration, is a way to increase the efficiency of power plants. Standard power plants effectively use just 40 per cent of the fuel they burn to produce electricity while 60 per cent of the fuel used in the electric production process is wasted up the smokestack. The waste heat from a power plant can be used to heat buildings in a surrounding area through a district energy system. CHP is only possible when there is an area near the plant that has a need for the heat, such as a downtown area, a college campus, or an industrial development.

ENMAX partnered with The City of Calgary to establish a cogeneration system along the northeast exterior of the Village Square Leisure Centre. This is the first CHP unit to be integrated with a recreation facility in Calgary. We continue to work with The City of Calgary to integrate CHP systems like the one at the Village Square Leisure Centre at other leisure facilities. Read more [here](#) on The City of Calgary's recreation page.

One hundred per cent of the electricity used for The City of Calgary's Light Rail Transit (LRT) system is provided through a power purchase agreement by our wind farms and is the first LRT system in North America to use wind-generated electricity.

Renewable Energy - As micro-generation continues to expand in Alberta, solar remains the largest source of total installed capacity at over 69 MW¹⁴. ENMAX continues to be one of Alberta's leading solar retailers, with over 30 MW installed. In 2019 we grew our solar installations over 104 per cent. For additional information refer to our 2019 Sustainability Report [here](#).

We also have a strong portfolio in *wind energy*, through ownership and operation of two wind farms: Taber Wind Farm and ENMAX Kettles Hill Inc. ENMAX also has 50 per cent interest in McBride Lake Wind Farm. All three facilities deliver renewable power to the grid. For additional information follow this [link](#).

¹⁴ AESO Small Distribution-Connected Generation Resources in Alberta – Microgen & DG Report, April 2020; source: aeso.ca

303 Water

303-1 Total water withdrawal

Water sourced for our Energy Centres is recirculated for reuse at each facility prior to discharge, except at Cavalier Energy Centre, where water is reused for oil recovery processes.

		2019	2018	2017
	Total fresh and/or potable water withdrawal Energy Centres and Corporate facilities (owned and controlled)	2,092,710	1,975,324	1,499,015

	Calgary Energy Centre (m ³)	1,546,912	1,403,147	1,019,810
	Calgary Energy Centre's total water volume purchased from The City of Calgary is sourced from the Bow River and is largely used to condense steam. Water not evaporated in the cooling tower is recirculated an average of six times prior to discharge back to the City's sanitary sewer system.			
	Crossfield Energy Centre (m ³)	2,693	9,247	5,396
	Crossfield uses water to cool combustion air for its natural gas turbines to enhance power production. Used water is stored in an on-site tank and later trucked to a disposal facility.			
	Cavalier Energy Centre (m ³)	517,319	523,103	433,329
	Water discharged from Cavalier is primarily discharged to a pressure-maintenance reservoir that aids in the recovery of oil for an upstream oil producing company.			
	Shepard Energy Centre (m ³)	275	432	324
	Shepard Energy Centre reclaimed water use (m³)	5,518,681	5,535,675	5,624,039
	Shepard Energy Centre sources reclaimed wastewater to condense steam, purchased from The City of Calgary. This eliminates the use of fresh water for cooling. The wastewater is transported 14 km through an underground pipeline from the <u>Bonnybrook Wastewater Treatment Plant</u> . Water not evaporated in the cooling tower is recirculated multiple times prior to discharge back to The City of Calgary's sanitary sewer system (see 303-2 below).			
	Corporate Facilities, Calgary (metered sites)	25,511	39,395	40,156
	Total water use (fresh/potable and reclaimed)	7,611,391	7,510,999	7,123,054
303-2	The majority of the water withdrawal for our facilities is sourced via permit from The City of Calgary from the Bow River, except at Crossfield Energy Centre where the water source is the Red Deer River.			
303-3	Reclaimed water use Shepard Energy Centre sources reclaimed water exclusively for production, the first use of reclaimed water for power production in Alberta. ENMAX prioritizes continuous improvement within our operations and in 2019, engineering innovations reduced the amount of wastewater disposed at Shepard by 29 per cent, saving nearly 500 million litres of water and \$1.5 million each year.			

305 Air Emissions¹⁵				
305-1	Direct greenhouse gas emissions (tCO₂e)	2019	2018	2017
	Corporate (incl Fleet, SF ₆ -EPC, Facilities nat. gas)	8,729	7,925	7,080
	Generation (owned and controlled) (includes SF ₆)	3,353,233	3,253,680	2,699,535
	Total direct greenhouse gas emissions	3,361,962	3,261,605	2,708,616
	The increase in our direct GHG emissions is largely due to the increase in overall energy production as coal-fired generation is progressively displaced in the province. In using natural gas for energy production, we are lowering overall Alberta GHG intensity per MW produced, meaning if the energy output was coal-fired, GHG emissions would be greater. The increase in GHG emissions from 2017 to 2018 reflects the year the Carbon Competitiveness Incentive Regulation, now the Technology Innovation and Emissions Reduction Regulation, was introduced in Alberta, raising the cost of production on coal generators while lowering the cost on natural gas generation. This resulted in decreased coal-fired generation in favour of natural gas-fuelled generation. As a large natural gas-fuelled energy generator, our GHG emissions increased. Since the termination of our Battle River and Keephills Power Purchase Arrangements in 2016, our fleet is comprised exclusively of renewable energy wind farms and modern natural gas-fuelled generation.			
305-2	Indirect greenhouse gas emissions (tCO₂e)			
	Corporate Facilities (electricity only)	7,803	7,429	7,967
	Generation (owned and controlled)	5,023	6,005	9,130
	Total indirect greenhouse gas emissions	12,826	13,434	17,097
	¹⁵ ENMAX reports GHG emissions on a facility basis in alignment with the World Resource Institute Greenhouse Gas Protocol. ENMAX is reporting Scope 1 and 2 emissions for natural gas and electricity consumption for owned and controlled buildings and generation, and have classified non-controlled facilities as Scope 3, other indirect emissions.			
305-3	Other relevant indirect greenhouse gas emissions by weight (tCO₂e)	2019	2018	2017
	Balzac Energy Centre ¹⁶	102,681	107,487	37,641
	McBride Lake Wind Farm ¹⁷	1,442	1,068	1,067
	Total other indirect GHG	104,123	108,555	38,708

	16,17ENMAX is reporting other indirect emissions as emissions that are consequences of the activities of the reporting organization but are generated at sources owned or controlled by another organization.		
305-4	GHG emissions intensity (tCO ₂ e/MWH)	0.37	0.35
305-5	Reduction of GHG emissions		
	Facilities tCO ₂ e of emissions avoided	37.51	42.62
	Initiatives to reduce greenhouse gas emissions	2019 Sustainability Report	

305-7	Nitrogen oxide (NO _x) emissions (tonnes)	2019	2018	2017
	Calgary Energy Centre	305	273	169
	Crossfield Energy Centre	50	54	24
	Cavalier Energy Centre	381	404	270
	Shepard Energy Centre ¹⁸	870	921	736
	District Energy Centre	6	5	4
	¹⁸ Our Shepard Energy Centre and Calgary Energy Centre apply selective catalytic reduction technology to reduce our NO _x emissions.			

306	Effluents and waste			
306-1	Total water discharge (m ³)	2019	2018	2017
	Calgary Energy Centre	196,537	174,141	156,043
	Crossfield Energy Centre	148	185	291
	Cavalier Energy Centre	13,400	11,779	8,922
	Shepard Energy Centre	1,194,769	1,221,679	1,678,996
306-2	Total weight of waste ¹⁹ by type and disposal method – ENMAX Power Delivery and Power Supply			
	Recycled solids (tonnes)	210	1116	1383
	Recycled liquids (litres)	146,090	240,020	233,620
	Solids landfill (tonnes)	1000	4,117	3,531
	Liquids disposed offsite (litres)	15,883	12,716	2,1520
	Organics composted (%)	41%	78%	72%
	¹⁹ The 2019 waste inventory encompasses only ENMAX Power Services and ENMAX Energy Centres			

306-3	Total number and volume of significant spills ²⁰	2019	2018	2017
	Total number	1	0	0
	Total volume (litres)	552	0	0
	²⁰ July 2019 – one release >500 litres, non PCB transformer oil due to a failed pad mount transformer. Release was reported to Alberta Environment Protection. ENMAX fully remediated the site in December 2019. All significant spills are spills ≥ 500 L in alignment with industry standards (including CEA) for sustainability reporting. At ENMAX all releases to the environment are reported to our Environment personnel, who report to Alberta Environment and Parks (AEP) any release in excess of one gram of Polychlorinated Biphenyl (PCB) concentration from in-service equipment or two parts per million or greater of PCB from stored equipment, any release that has the potential to cause an adverse effect, or any release that has the potential to contravene an AEP facility operating approval.			
306-4	Weight of hazardous waste taken out of service and/or destroyed	0.55 tonne of low-level PCB		
306-5	Water bodies affected by water discharges and/or runoff	At our energy centres, wastewater not evaporated is discharged back into the municipality's sewer system for treatment.		
EN27	Initiatives to mitigate environmental impacts of products and services	Sustainability; District Energy; Wind Power		

307 Environmental compliance		2019	2018	2017
307-1	Non-compliance (fines, sanctions) with environmental laws and regulations. Refer to EU5 for compliance costs associated with our Generation, including PPAs.	0	0	0

308 Supplier environmental assessment	
308-1	Our Supply Management team engages a third-party assessment provider which conducts an environmental assessment on all vendors that are deemed safety sensitive, including a requirement to submit all supporting documentation for verification. All vendor requests for proposal incorporate ENMAX's environmental responsibilities document. ENMAX's Supply Chain Management Policy states that vendor and product selection is based on best value, taking into consideration the environmental cost of inputs, manufacturing processes, waste products, disposal, recycling, and health and safety concerns. Environmental preferred materials or services will be procured where practical.

SOCIAL DISCLOSURE

Organizational responsibility - Our Senior Vice President, People, Safety and Culture and Chief Human Resources Officer is responsible for ENMAX's human resource functions encompassing labour practices, decent work, and human rights matters, including collective bargaining. Executive leaders of each business unit are directly responsible for implementation of policies and practices related to these areas supported by Human Resources Business Partners. Human rights considerations related to procurement practices are the responsibility of all Executive Team members, supported by the Director, Supply Chain Management. Our Senior Vice President People, Safety and Culture and Chief Human Resources Officer, with the support of the Vice President Safety, Environment, and Support Services has organizational responsibility for employee safety and security, including field personnel and operating facilities.

400 Employment		2019	2018	2017
	ENMAX's standard for compensation ensures that we are competitive within the market in which we work and compete for talent. Overall, we target our level of pay to be at the median (50th percentile), however, individual compensation levels may vary above or below this level based on qualifications and experience.			
401-1	Total number of new employee hires	198	183	166
	Employee turnover rate ²¹	8.2%	11.9%	7.0%
	²¹ Our reporting of turnover rate includes voluntary, involuntary and retirement. Our voluntary turnover rate for 2019 was 3.0 per cent.			
401-2	Benefits provided to full-time employees that are not provided to part-time employees			
	ENMAX believes benefit programs are a significant part of an employee's overall compensation and we offer competitive, innovative options that provide employees with meaningful choices and flexibility. Full time and part time employees receive similar benefits.			

402 Labour Management Relations	
402-1	Minimum notice period(s) regarding significant operational changes Minimum notice periods are not required for significant operational or organizational changes as part of our Unionized Collective Bargaining Agreements unless these changes result in the layoff of employees, in which case minimum collective agreement requirements would apply. However, ENMAX consults with union representatives in advance of policies or business initiatives that directly impact union members.

403 Occupational Health and Safety	
	We believe all injuries can be prevented and we aim for continuous improvement in our safety performance. We measure our Total Recordable Injury Frequency (TRIF) rate to track our safety performance and follow the Canadian Electricity Association's standard for recordable injury classification. TRIF represents the number of recordable injuries per 100 employees on an annualized basis and includes injuries that result in medical treatment beyond first aid, restricted work arrangements and/or time

	away from work. The lower the TRIF, the better our safety performance. ENMAX rewards employees for their role in keeping ENMAX safe, with TRIF comprising one of three Corporate measures for our Annual Variable Pay Program.						
403-1	Workers representation in formal joint management-worker health and safety committees	Our Safety Council includes the Field Resources Director, representatives from Overhead, Underground, Revenue Metering, ENMAX Power Services Corporation Field Services, Trouble Response, Field Resource Development, System Control Center, Meter Reading, Contracts and Inspection, Civil Works, Substation and Field Technical Services.					
		2019	2018	2017			
403-2	ENMAX employee total recordable injury frequency (TRIF)	0.94	0.71	1.00			
	ENMAX employee Lost time injury frequency rate (LTIF) ²²	0.20	0.13	0.27			
	²² ENMAX only had one lost time injury in 2019 (in early January 2019)						
403-4	Health and safety topics covered in formal agreements with trade unions						
	Topics include interpretation and direction on technical and occupational health and safety operational activities and practices for ENMAX. Learn more here						
	Health & Safety policies and requirements						
	It is an ENMAX standard that all contractors and subcontractors receive training on location emergency procedures, Alcohol and Drug Standard, Distracted Driver Standard, incident reporting standard, applicable safe work procedures, general safety responsibilities and specific hazards and controls. In addition, ENMAX ensures all contractors and subcontractors are competent to perform within their hired job scope.						
EU17	Hours worked by contractor and subcontractor employees involved in construction, operation and maintenance activities (as reported to ENMAX at time of writing; excludes prime contractor hours)	142,618²³	733,680	742,394			
	²³ Note that our 2019 reporting of contractor hours is for those in ENMAX Power Supply only						
EU18	Percentage of contractor and subcontractor employees who have relevant health and safety training						100

404 Training and development

	Each employee participates in performance measurement, goal setting, and evaluation. Development goals are also included within this process to help employees build the skills and experience they need for personal and career development. Best practices and standards for employee compensation, benefits and programs are continually monitored, and our programs are improved as necessary to maintain and retain our highly skilled workforce. All employees participate in mandatory training about safety, environment, respectful workplace, code of conduct and business ethics.						
		2019	2018	2017			
404-1	Average hours of training per year per participant (excludes mandatory training)	11	12	11			
	Our Leadership Development team manages the ENMAX Learning Centre, which provides employees with access to internal training in core business, professional and leadership skills, facilitated by highly trained and experienced professionals. Human Resources manage the Learning Management System (LMS) to provide technical system support to the organization.						

405 Diversity and equal opportunity

	Our Principles of Business Ethics Policy and Safe and Respectful Workplace Standard illustrate our commitment to a workplace environment that is based on safety, trust, honesty, integrity, respect and dignity.						
		2019		2018		2017	
405-1	Employee diversity (%)	Female	Male	Female	Male	Female	Male
		35	65	33	67	34	66

405-2	Salary ratio of men to female (%) (all)	99	101	105
<p>The methodology used to calculate the salary ratio of our female to male employees considers both the job family as well as the level of the role. Job family describes the subject matter or area of expertise and includes human resources, information technology, finance, legal, operations, administrative, and sales, among other work categories. To assess roles against similar roles in the organization, we look at the average difference of male and female salaries to the competitive value for the job band. As a result, the measure provided is the ratio of male and female salaries from the competitive objective for the band, rather than the ratio of the dollar amount of the salary. For Vice Presidents and Executives, the measure is the ratio of male to female salaries from the market match for the specific role.</p>				

2019 Ratio of basic salary of men to women detail ²⁴	Number of Females	Number of Males	Total All	Competitive Positioning Ratio Male to Female
Board of Directors	3	5	8	N/A
CEO	1		1	N/A
Executive Committee ²⁵	4	2	6	1.08
Vice Presidents ²⁵	3	15	18	98.5
Middle Management ²⁶	13	48	61	100.4
Individual Contributor ²⁶	515	949	1,464	97.8

²⁴ Union employees are not included as salary is determined by collective bargaining.

²⁵ Salary ratio calculated as per cent of market.

²⁶ Salary ratio calculated as per cent of competitive objective

406 Nondiscrimination				
<p>Employees and contractors can report incidents or concerns of discrimination in confidence through our Safety and Ethics Helpline, or anonymously to the Alberta Human Rights and Citizenship Commission. In 2019 no incidents of discrimination were brought to ENMAX's attention, including with respect to the rights of Indigenous people.</p>				
		2019	2018	2017
406-1	Total number of incidents of discrimination reported and actions taken. We have agreement in principle regarding the 2017 alleged incident of discrimination, which has now been brought to resolution	0	0	1

407 Freedom of association and collective bargaining				
407-1	Operations and suppliers in which the right of freedom of association and collective bargaining may be at risk			None
410	Security practices			
		2019	2018	2017
410-1	Percentage security personnel and third-party security personnel who receive formal training in human rights issues as they relate to legal rights and responsibilities in the communities in which we operate ²⁷	100	100	100
<p>²⁷ All contracted guards receive training on legal rights and responsibilities as they relate to security work from the Alberta Security College, an accredited in-house department of the Commissionaires. They also have in-house respectful workplace and dealing with persons with psychological handicaps training.</p>				

Electric Utility Sector Supplement – Social Disclosure – Workforce Management

EU15 Percentage of employees eligible to retire in five years (categorized job profiles)				
		2019	2018	2017
	Schedulers / Planners	0	0	20
	Coordinators/Power line worker/ Power Station Electricians	2	2	3
	Maintenance / Utility Workers ⁹⁹⁹⁹	0	0	2

Engineers	3	2	2
Management	2	5	7
Percentage of employees eligible to retire in ten years (sample job profiles)			
Schedulers / Planners	1	7	32
Coordinators/Power line worker / Power Station Electricians	11	5	11
Maintenance / Utility Workers	0	0	5
Engineers	9	5	4
Management	23	12	17

SOCIAL DISCLOSURE – PRODUCT RESPONSIBILITY

Organizational responsibility – Developing and marketing ENMAX Energy products is done with consideration to the needs and expectations of residential and small business customers, industrial, commercial and institutional accounts, energy marketing, and trading and commercial services.

Oversight of ENMAX’s regulated transmission and distribution business along with regulated market services is under the Senior Vice President, Power Delivery. The Vice Presidents of Power Delivery, Customer Service, and System Operations, and our Director of Field Services have oversight for ensuring safe and reliable product delivery to customers. Management of our energy generation and wholesale division resides with the Executive Vice President, Power Supply. Each business unit and its Executive team leader, supported by our Executive Vice President, Regulatory and Chief Legal Officer, is responsible for compliance with competition and privacy laws.

Anti-competitive behaviour and compliance

ENMAX is subject to the Code of Conduct regulation to ensure a level playing field for customers and competitive electricity retailers, in addition to the Inter-Affiliate Code of Conduct (IACC) which ensures utilities do not favour their affiliates. Both Codes of Conduct are overseen by the Alberta Utilities Commission (AUC) and each requires its own compliance plan, quarterly and annually report submissions, and compliance audits. To support these obligations, ENMAX has a Compliance policy, provides mandatory annual training for all employees and contractors, and has appointed a Conduct Committee for to manage compliance activities.

ENMAX participates in the wholesale electricity market in Alberta, and therefore must comply with market trading legislation and rules of AESO. AESO monitors Alberta electricity market participants to ensure participants follow all applicable requirements under the Alberta Reliability Standards (ARS), which ensure that a sufficient and continuous supply of electricity is available during both expected and unforeseen circumstances which could reduce the amount of total available electricity. These standards also help ensure reliable electricity is available throughout the North American bulk electric system, even in the event of unexpected equipment failures or other factors that could impact the amount of available electricity. The Market Surveillance Administrator has authority to issue specified penalties to market participants for non-compliance. The ARS applies to the operations of both ENMAX Power and ENMAX Energy.

Emergency Response Planning

413 Local communities		
413-1	Operations with local community engagement, impact assessments, and developing programs	Generation Stakeholder Relations; T&D Stakeholder Relations

Electric Utility Sector Supplement – local community disclosure

EU20	Approach to managing the impacts of displacement	ENMAX is required by law to defer all aspects of management to the Calgary Emergency Management Agency (CEMA).
EU21	<p>ENMAX employs the Incident Command System (ICS) to enable a coordinated response in emergency management.</p> <p>ENMAX Energy's Emergency Management Program includes both discussion-based and operations-based activities which vary from tabletop to full scale exercises. In 2019, full-scale exercises were held at Calgary Energy Centre, Cavalier Energy Centre, District Energy Centre and Shepard Energy Centre. A tabletop exercise was also held at each facility.</p> <p>ENMAX Energy activated its Emergency Response program twice in 2019 to respond to separate events at District Energy Centre and Calgary Energy Centre. Both incidents were handled appropriately and followed by After Action reports and lessons learned review. The program's focus for 2020 is to continue to increase familiarity of the program with all ENMAX Energy Centre employees and to have external agencies participate in exercises whenever possible.</p> <p>Throughout 2019, members of ENMAX Power's Incident Management Team participated in various Business Continuity and Emergency Management exercises including two exercises managed by the Calgary Emergency Management Agency (CEMA) and a Mutual Assistance exercise with EPCOR in Edmonton Alberta. ENMAX Power also collaborated with ENMAX IT Services in a joint Cyber Incident Response exercise, as well as GridEx V, a biennial exercise with utilities and government agencies from across North America that test response readiness to coordinated physical and cyber-attacks to the electricity grid. ENMAX Power continues to build and strengthen our relationships with North American electrical utilities to help ensure we are ready to offer and receive assistance if required.</p> <p>Trouble call response – In 2019, there were 377 outage-related incidents with an average response time of 52.7 minutes, and 5,746 non-outage related incidents with an average response time of 85.4 minutes. Response times include call acknowledgement, travel to site, and subsequent resolution of the outage situation.</p>	

414	Supplier social assessment Our procurement is performed in accordance with ENMAX's Principles of Business Ethics Policy free from real or perceived conflict of interest.	
	ENMAX uses a third-party service provider to assist with the collection and management of vendor related safety, environmental, risk, and financial information. All information is reviewed, verified and monitored to ensure ENMAX is conducting business with vendors that are compliant with our policies.	
416	Customer health and safety We ensure the infrastructure, systems and people are in place to provide reliable and safe service to our customers. We also respond to customer inquiries regarding electric and magnetic fields (EMF), including on-site EMF measurement.	
416-2	Incidents of non-compliance concerning health and safety impacts of products and services	0

417-1-3	<p>Product and service labeling compliance ENMAX's solar panel equipment is subject to labeling laws under the Consumer Product Safety Act and the Competition Act. We follow both internal and external service quality standards and use clear language on our bills and contracts.</p> <p>Sale of banned or disputed products ENMAX adheres to the rules related to marketing communications set out in the Code of Conduct Regulation, the Fair Trading Act, the Competition Act, among others. Marketing communications are</p>	
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	<p>reviewed for compliance with these rules by ENMAX's Legal Services group. In accordance with the Code of Conduct Regulation, reviews of compliance with these standards are undertaken quarterly and instances of non-compliance are reported to the Alberta Utilities Commission (AUC).</p> <p>Significant incidents of non-compliance with regulations and voluntary codes concerning marketing communications, including advertising, promotion and sponsorship – none identified.</p>
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418	<p>Customer privacy ENMAX's PIPA compliance structure includes a Privacy Policy, a <u>Personal Information Commitment</u>, and the designation of a Privacy Officer to establish and manage PIPA compliance issues. In 2019, ENMAX did not have any reportable privacy breaches to the Office of the Information and Privacy Commissioner of Alberta.</p> <p>Training and awareness - Every customer service representative in our Customer Care Centre receives in-depth market, business and service training when hired. They are also provided with regular training updates, as well as quality assurance reviews and coaching opportunities on a monthly basis.</p> <p>Monitoring and follow up – Any instances of disclosure of customer data without consent are contrary to the <i>Code of Conduct Regulation</i> and are reported to the AUC quarterly.</p>			
		2019	2018	2017
418-1	Number of substantiated complaints re breaches of customer privacy and losses of customer data	0	0	0
419-1	Products and services non-compliance fines	0	0	0

Electric Utility Sector Supplement – Social Disclosure – Product Responsibility

		2019	2018	2017
EU25	Number of public injuries	0	0	0
	Number of public fatalities	0	0	0
EU26	Percentage of population unserved in service area	0	0	0
EU27	Number of residential electricity disconnections	14,903²⁸	19,841	22,671
EU28	Power outage frequency (SAIFI) ²⁹	0.72	0.80	0.64
EU29	Average power outage duration (SAIDI) (hours)	0.42	0.54	0.47
	<p>²⁸ ENMAX reports these values quarterly and annually to the AUC ²⁹ ENMAX Power uses distribution automation (DA) technology to restore power quickly in the event of an outage. DA uses smart switches to isolate the power line where the outage occurred and then redistributes power from other areas in Calgary quickly. ENMAX Power estimates it saved 6.1 million customer outage minutes in 2019 (5.7 million in 2018). Electricity reliability is a key measure of our industry's success and is a high priority at ENMAX as we strive to be in the top quartile for our industry across Canada. The Canadian Electricity Association (CEA) compiles reliability performance from member utilities.</p>			
EU30	Average plant availability factor by energy source and by regulatory regime ³⁰	2019	2018	2017
	Calgary Energy Centre	95.5	90.6	92.2
	Crossfield Energy Centre	96.4	98.3	91.0
	Cavalier Energy Centre	96.5	98.1	97.5
	Shepard Energy Centre	90.6	92.2	96.8
	Overall (including wind generation)	93.3	93.4	95.3
	³⁰ Plant availability includes planned maintenance and forced outages			