

# We care about climate change

At TransCanada, we are committed to protecting the environment. Not just because we have to, but because we want to.



*TransCanada is committed to developing effective solutions to manage greenhouse gas emissions and air quality issues.*

**We care about climate change. And as an energy infrastructure company, we recognize our role in the larger energy system, including our own emission of greenhouse gases (GHGs). We are working hard to manage emissions and reduce the carbon intensity of our operations in ways that meet, or often exceed, what is required.**

## Investing in a balanced energy future

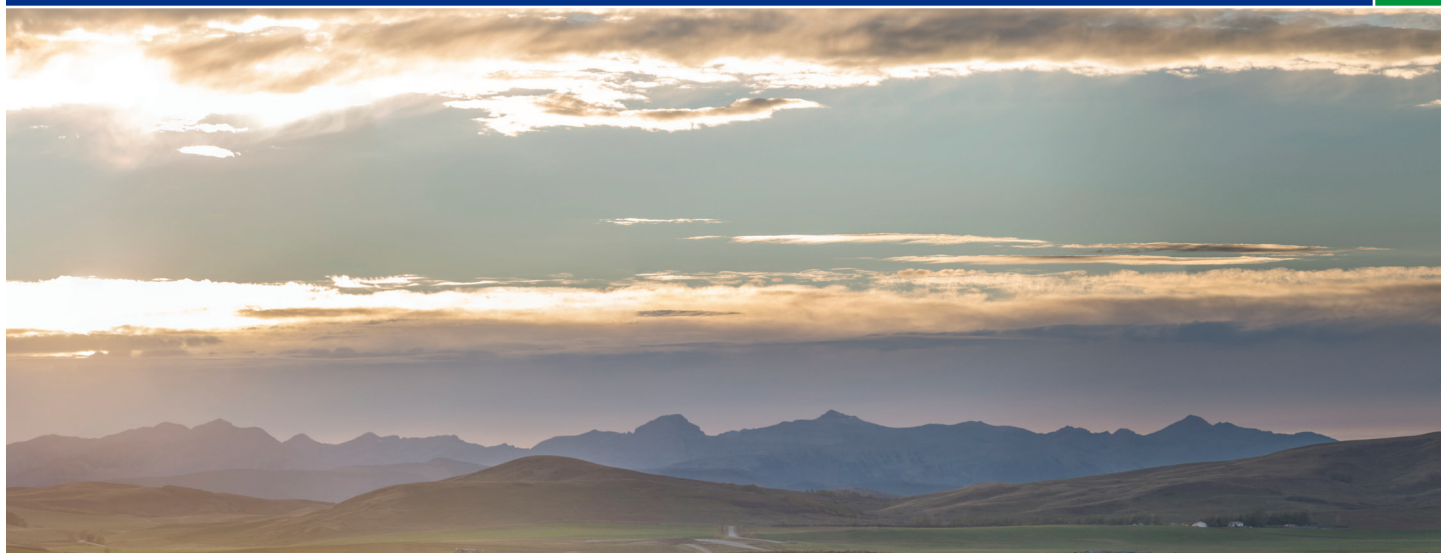
TransCanada's extensive natural gas pipeline network, which delivers more than 25 per cent of North America's supply, is among the most efficient and technologically advanced pipeline systems in the world. The majority of our compressor stations use natural gas to generate the power needed to move gas through the pipeline, and we have pioneered new technology and practices to limit emissions and reduce fuel consumption at our facilities.

To date, TransCanada has invested more than \$5 billion in emission-less energy sources, accounting for over one-third of the 10,700 megawatts of power we produce. Our emission-less portfolio includes nuclear, wind, hydro and solar power generation facilities.

TransCanada is also an industry leader when it comes to building and operating highly efficient, natural gas-fired power plants across North America. We are playing a key role in Ontario's successful elimination of coal-fired power generation through our 48.5 per cent ownership of the Bruce Power nuclear facility.

Here are just a few examples of TransCanada's technological innovations that have helped to curb GHG emissions:

- We introduced pull-down compressor units to capture and recycle natural gas that would have traditionally been released through venting or flaring.
- We've funded the development of a supersonic ejector that can capture emissions of methane from a dry-gas seal that would have previously been vented into the atmosphere, and re-inject it into the natural gas pipeline.
- We've partnered with Rolls-Royce to conduct trials on a new generation of gas turbine, which provides more power to move oil and gas through our networks of pipelines as well as greater fuel efficiency.



*TransCanada has a multi-decade legacy of investing in research and innovation to manage GHG emissions in the areas of methane management, energy efficiency and carbon capture.*

## Where do TransCanada's GHG emissions come from?

**Direct emissions:** result from the operation of our facilities

Natural gas pipelines	Most of these emissions result from the combustion of natural gas used as a fuel source by our natural gas pipeline system. Natural gas is the primary fuel used by turbines and reciprocating engines that drive compressors located along the pipeline. Compressors "push" the gas through the pipeline. CO <sub>2</sub> is also emitted by natural gas-fired boilers that provide heat for compressor stations, and by the infrequent use of auxiliary or backup generators that provide the stations with electricity during service interruptions.
Liquids pipelines	There are very low GHG emissions from pumping operations. Pumping stations are mainly electrically-driven and therefore have no emissions from normal pumping operations. However, similarly to natural gas pipelines, there are auxiliary power units used during power outages which generate some GHG emissions.
Power facilities	Many of our power facilities, including the hydro, wind, solar and nuclear facilities generate no direct GHG emissions. Natural gas combustion is the main source of GHG emissions at our natural gas-fired power plants.

**Indirect emissions:** produced by companies that generate electricity used by our facilities

For all our facilities that consume electricity, the amount of indirect emissions varies according to the fuels used for the electrical generation.

Natural gas pipelines	Compressor stations connected to the electrical grid will generate indirect emissions.
Liquids pipelines	Pumping stations, which push oil along the pipeline, connected to the electrical grid will generate indirect emissions.
Power facilities	Some of our power facilities, in addition to generating electricity, purchase power from the electrical grid. This purchased electricity will generate indirect emissions.

## Performance and recognition

We measure and transparently communicate on our performance each year in our Corporate Social Responsibility report. In 2017, TransCanada's achievements in environmental, social and economic performance were recognized with a gold class distinction in RobecoSAM's globally recognized Sustainability Yearbook 2017 publication. For the second year in a row, in 2016 TransCanada achieved a score at the 100th percentile on the Dow Jones Sustainability Index (DJSI) and rankings on DJSI's North America and World indices. We were also named to Corporate Knights' list of Best 50 Corporate Citizens in Canada.

TransCanada has also publicly documented climate change-related activities for nearly 20 years. We have voluntarily reported to the London-based CDP (formerly the Carbon Disclosure Project) since 2006. In 2016, TransCanada received a B score from CDP for our actions to disclose carbon emissions and our strategy to mitigate the business risks of climate change.

To read more about environmental stewardship, protection and performance at TransCanada, including our GHG emissions, please see **TransCanada's 2015 CSR Report** available at [www.transcanada.com](http://www.transcanada.com) and TransCanada's 2016 CDP report.

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