Bruce Power
Innovation at work

What Net Zero 2027 means for Bruce Power

Bruce Power produces large amounts of emissions-free electricity every day and is responsible for the avoidance of about 19 million tonnes of greenhouse gases (GHGs) a year.

Nuclear was critical to Ontario's phase out of coal and continued system reliability, and the company is taking the next step to ensure it minimizes, and where not feasible, offsets the emissions from routine undertakings such as its safety standby generators and vehicle fleet. This includes machinery and equipment and the associated energy consumption for administrative support buildings, in an effort to achieve Net Zero GHG emissions by 2027.

Bruce Power's commitment to achieving Net Zero GHG emissions by 2027 will account for all direct and indirect GHG emissions that occur from sources that are owned or controlled by our company. For example, emissions from combustion in owned or controlled generators, boilers, furnaces, and vehicles; or emissions from chemical production in owned or controlled process equipment.

In addition, we will account for indirect GHG emissions from the generation of purchased electricity or energy (e.g. heating steam) consumed by our company. Other emissions, which are a consequence of the activities of our company, but occur from sources not owned or controlled by our company, will be further assessed to ensure we understand where we can influence improvements. This will be counterbalanced by investments being made to increase clean electricity output from the Bruce Power site, displacing GHG emissions from the electricity sector in Ontario.

It is estimated the increased clean electricity output (Figure 1, lifecycle emissions comparison chart included below) will be enough to reduce GHG emissions equivalent to removing 100,000 cars from the road.

Over the next year, as we gain momentum in our first phase of this ambitious commitment and gain better understanding of our areas of influence to further reduce emissions, we will announce further commitments to drive these nationwide reductions to support the Net Zero 2050 goals of the Canadian federal government.

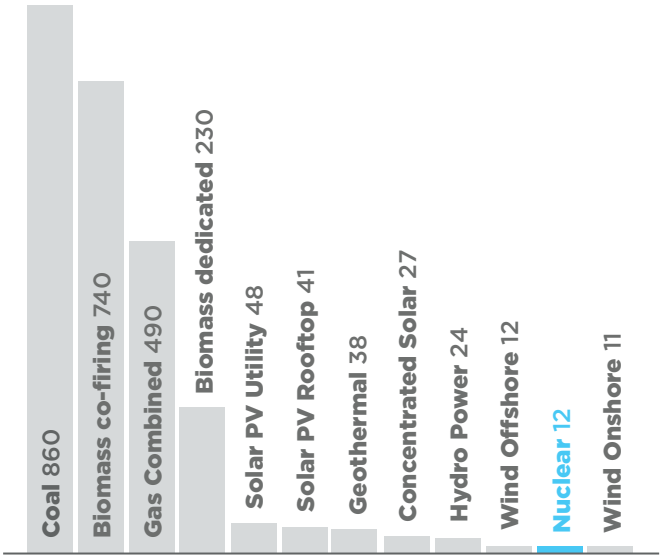

Figure 1 – Lifecycle emissions of electricity supply technologies (gCO_2eg/KWh)

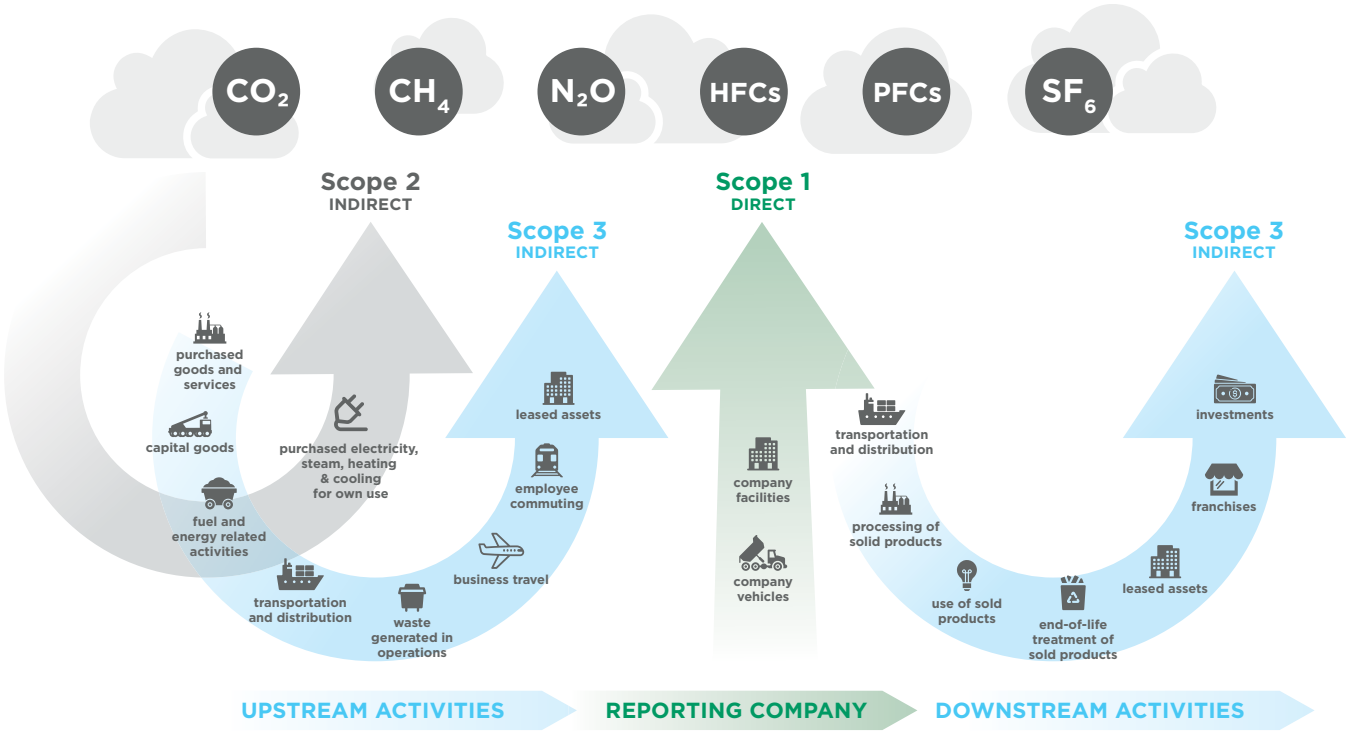

Figure 2 – Sources of emissions considered for each specific Scope of Bruce Power's direct and indirect emissions.
Source: World Resources Institute

Bruce Power's direct emissions (Scope 1) are primarily the result of running safety system tests on standby generators, and secondarily from the on-site vehicle fleet that supports operations. Our indirect site emissions (Scope 2) are the result of energy usage on site. These are the GHG emissions our Net Zero 2027 strategy will target.

Scope 1 GHG Emissions 2015 – 2020 (tons of CO2 (eq))					
2015	**2016**	**2017**	**2018**	**2019**	**2020**
~10,308	~9,003	~6,278	~8,766	~8,854	~7,862

Scope 2 GHG Emissions 2015 – 2020 (tons of CO2 (eq))					
2015	**2016**	**2017**	**2018**	**2019**	**2020**
~8,309	~7,334	~5,830	~5,091	~6,658	~7,105

How will Bruce Power achieve Net Zero by 2027?

Over the course of 2021, Bruce Power will work with an external third party to obtain enhanced insight into prioritizing emission-reduction projects that make the most sense from a business planning standpoint. Current ideas being scoped out include building efficiencies, changing portions of the company's vehicle fleet to electric, and exploring and actively supporting carbon sequestration in the region.

It is acknowledged that at some point the company will reach a plateau where existing technology does not make sense from a business case standpoint. At this point the company will pursue the purchase of high-quality offsets and removals, as well as renewable energy credits. In parallel to decreasing emissions, Bruce Power is partnering with the Nuclear Innovation Institute's Clean Energy Frontier to find local carbon-offsetting and removal options and innovations.