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NET ZERO: WHAT IT IS AND HOW TO ACHIEVE IT

Net zero refers to achieving a balance between the greenhouse gases emitted into the atmosphere and those removed from it. The target is to reduce emissions to as close to zero as possible. Remaining emissions are then offset via initiatives like carbon capture and reforestation.

INTRODUCTION TO NET ZERO

Greenhouse gas emissions are driving global temperature rises, leading to severe environmental, social and economic impacts. To address these impacts, we must reduce greenhouse gas emissions. The net-zero initiative is the leading way to do so.

Net zero aligns with international goals to limit global warming to 1.5°C above pre-industrial levels, as outlined in the 2015 Paris Agreement, a global pact in which countries committed to limit global warming.

GOVERNMENT INITIATIVES

Many governments, businesses and organizations have adopted net-zero targets. The list includes the United Kingdom, United States, China, Japan, India and many others. Behind these commitments are ambitious goals like transforming energy systems and decarbonizing economies. Achieving these targets depends on how governments implement policies, adopt green technologies and ensure accountability.

In June 2021, the Government of Canada set a goal of achieving net zero by 2050. The act requires public consultation to help guide the government's efforts.

Canada also developed the net-zero Advisory Body in February 2021, which provides independent advice to the Minister of Environment and Climate Change on achieving that target.

The Government of Ontario has not set a net-zero target but does have climate targets. These include reducing greenhouse gas emissions by 80 per cent below 1990 levels by 2050.¹

CORPORATE INITIATIVES

Many of the world's largest have set net-zero targets in response to growing pressure from investors, consumers and regulatory bodies. These companies include Microsoft, Apple, Google, Unilever, Wal-Mart, IKEA, GM and Amazon.

Although the Government of Ontario has not set a formal net-zero goal, companies and organizations in the province may still pursue net-zero strategies for several reasons, including global market pressures, consumer demand, investment attraction, risk mitigation and the desire to be a corporate social responsibility leader.

OTHER KEY PLAYERS

Financial Sector

Investors are increasingly prioritizing Environmental, Social and Governance (ESG) criteria. As part of that, they're pushing for net-zero commitments from the companies in which they invest. Investors care about net-zero commitments for reasons primarily linked to financial risk management, growth opportunities and the sustainability of their investments.

Civil Society

Civil society drives climate action through advocacy, education and collaboration with businesses, governments and international organizations. Civil society includes non-governmental organizations (NGOs), community groups, activists, educational institutions and individuals. Their involvement in the net-zero movement is multifaceted, helping to shape policies, influence corporate practices and promote public awareness.

Science Based Target Initiative (SBTi)

The SBTi is a global partnership between the Carbon Disclosure Project (CDP), the World Resources Institute and the World Wildlife Fund. It enables companies to set ambitious greenhouse gas emissions targets that are consistent with the goals of the Paris Agreement and the latest climate science.

The SBTi's net-zero standard is the result of extensive consultation and trials. An updated version was released in March 2024. It can be found at:

<https://sciencebasedtargets.org/resources/files/Net-Zero-Standard.pdf>

ACHIEVING NET ZERO

In Ontario, achieving net zero involves reducing greenhouse gas emissions to as close to zero as possible (90% reduction from baseline suggested by SBTi) and then offsetting remaining emissions through measures like carbon capture or removal offset projects.

There are several steps in the process:

1 Measure Your Emissions

Measure your current greenhouse gas emissions using the Greenhouse Gas Protocol's Accounting and Reporting Standards. This involves calculating emissions from direct sources (Scope 1), indirect emissions from energy use (Scope 2), and other indirect emissions throughout your value chain (Scope 3). See <https://ghgprotocol.org/corporate-standard>

Set a Base Year

Establish a baseline year against which all future reductions will be measured. This helps track progress over time. The Scope 1, 2, and 3 emissions inventories for the year must be accurate and verifiable. The baseline year's emissions should be characteristic of a company's typical greenhouse gas inventory.

2 Set Clear Targets

Align your net-zero targets with scientific recommendations to ensure your efforts are meaningful. Set an absolute emissions reduction target or an intensity-based target. The SBTi net-zero methodology is the best way to ensure alignment with scientific recommendations.

Near-Term and Long-Term Goals

Establish clear milestones, such as reducing emissions by a certain percentage by 2030, and achieving full net-zero by 2050. Near-term targets are crucial because they motivate immediate actions and milestones while working toward the longer-term goal of achieving net zero. The SBTi Corporate Net-Zero Tool can be used to set long-term targets.

3 Develop a Strategy

Identify areas where emissions can be reduced, such as energy-efficiency improvements, switching to renewable energy, electrifying transportation and adopting low-carbon technologies.

Technology and Innovation

Invest in low-carbon technologies, process improvements and innovative solutions that can significantly reduce emissions.

Prioritize Energy Efficiency

Implement energy efficiency measures across buildings, industrial processes and transportation to reduce energy consumption and greenhouse gas emissions. These measures are some of the quickest to identify, most cost effective to implement and can result in lower energy bills.

The IESO's Save on Energy programs also provide incentives for energy efficiency. See <https://saveonenergy.ca>

Transition to Renewable Energy

Invest in renewable energy sources like wind, solar and hydroelectric power to replace fossil fuels. Ontario has a relatively clean electricity grid with a mix of nuclear, hydroelectric and renewable energy, which reduces the carbon intensity of electricity consumption. However, some fossil fuel-based power, such as natural gas, is still in use.

Electrify Transportation and Industry

Transition to electric vehicles (EVs) and promote the electrification of industrial processes to reduce reliance on fossil fuels. Ontario's transportation sector is a significant source of emissions, and EV infrastructure is expanding, supported by provincial and federal incentives.

ACHIEVING NET ZERO (CONT'D)

4 Reduce Emissions Across All Scopes

In addition to the measures outlined above, it's important to engage other stakeholders to reduce emissions.

Engage Employees and Communities

Foster a culture of sustainability by engaging employees, suppliers and communities in your net-zero efforts. Provide education and other incentives to encourage sustainable practices.

Collaborate with Partners

Work with government bodies, industry associations and other businesses to share best practices, leverage resources and drive collective action.

5 Monitor Progress and Report Transparently Track Progress

Continuously monitor progress toward your net-zero goals. Use the SBTi Net-Zero Tool to track your emission reductions. Use key performance indicators (KPIs) to assess the effectiveness of your emissions reduction strategies.

Report Transparently

Publicly disclose your emissions data and progress toward net-zero goals. Vehicles for doing this include sustainability reports and carbon disclosure initiatives like the CDP and the Task Force on Climate-Related Financial Disclosures (TCFD).

6 Neutralize Remaining Emissions

For emissions that cannot be eliminated (the remaining 10 per cent or so), a company can invest in verified carbon offset projects. Initiatives that increase carbon sequestration include afforestation, reforestation, soil carbon management, direct air capture, biochar and bioenergy with carbon capture and storage (BECCS). Removal offsets are crucial because they go beyond preventing emissions and actively remove existing carbon from the atmosphere, which is essential for achieving net-zero.

ONTARIO NET-ZERO EXAMPLES

The Government of Ontario provides various programs and frameworks that support the transition to net zero. These promote energy efficiency, transportation electrification, clean technologies and industrial conservation.

Ontario-based companies are increasingly setting ambitious net-zero targets. These targets involve a mix of emissions reductions, renewable energy adoption and carbon offset projects, reflecting the province's unique industrial landscape and regulatory environment.

Ontario Power Generation (OPG) has committed to being net zero by 2040.

"Having delivered the world's single largest climate action to date by closing our coal stations, OPG will continue to be a climate leader by investing in and implementing CO₂ reductions and offsets to achieve net-zero carbon emissions by 2040."²

Enbridge Gas has committed to being net zero by 2050.

"These targets were informed by using guidance and methodology recommended by the Science Based Targets initiative (SBTi), which drives ambitious climate action in the private sector. They're aligned with the goals of the Paris Agreement to keep global temperatures well below 2° C above pre-industrial times while pursuing mean to limit the increase to 1.5° C."³

Other Ontario companies with net-zero targets include Scotiabank, Brookfield Asset Management, Canadian Tire Corporation, Hydro One, Loblaw Companies Limited, Sun Life Financial, Rogers Communications and Manulife Financial.

CHALLENGES AND OPPORTUNITIES IN ONTARIO



Clean Electricity Grid

Ontario's relatively clean electricity grid (due to nuclear and hydroelectric power) offers a strong foundation for decarbonization, particularly for companies looking to electrify their operations.



Transportation

Ontario is a major transportation hub, so decarbonizing logistics and transportation is key. The province is expanding EV infrastructure and provides incentives for electric vehicle adoption.



Industrial Emissions

Ontario is home to heavy industries, including automotive manufacturing, steel production and mining, which are more challenging to decarbonize. Solutions like carbon capture and storage (CCS) or hydrogen-based energy might be required for these sectors.



Climate Risks

Ontario faces increasing climate-related risks such as extreme weather, floods, and heatwaves. Companies need to incorporate resilience and adaptation into their net-zero strategies to ensure business continuity.

THE ROAD TOWARDS NET-ZERO

Achieving net-zero is critical to mitigating climate change and requires coordinated efforts from governments, businesses and individuals. The transition to a net-zero economy offers challenges but also significant opportunities for innovation and growth.

A net-zero strategy for a company in Ontario needs to focus on reducing emissions in line with both global standards like the SBTi and local realities. By leveraging Ontario's clean energy resources, government incentives and regulatory frameworks, companies can achieve their net-zero goals while also fostering innovation, operational efficiency and social responsibility.

¹ "Ontario's Climate Change Strategy," 2015, Government of Ontario Page 12.

² "Building a Brighter Tomorrow," 2020, Ontario Power Generation

³ "Pathways to Net-Zero Emissions for Ontario," 2022, Enbridge Gas