NET ZERO PLAN

Calko Group, 1450 Louvain Ouest, Montreal, Quebec

Prepared for: Calko Group

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April 21, 2025

Project No.: 103-25

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1. Introduction

Calko Group (Calko) is participating in Canada's Net-Zero Challenge as a small-to-medium enterprise (SME) with approximately 70 employees across its Canadian operations. The Net-Zero Challenge is a voluntary federal initiative designed to support companies in setting and achieving a target of net-zero greenhouse gas (GHG) emissions by 2050. By joining the Challenge, Calko Group is demonstrating its commitment to climate leadership and aligning its operations with Canada's national climate goals.

Participation in the Challenge involves several key steps: signing a formal Commitment Letter, submitting a Preliminary Net-Zero Plan (summarizing a baseline GHG inventory) within 12 months, and a Comprehensive Net-Zero Plan within 24 months. Companies are also expected to report on their progress annually and update their net-zero plans at least every five years to ensure continued accountability and improvement. Calko has opted to participate at the Bronze level, an approach that reflects the company's current capacity while laying the groundwork for future progress. This commitment represents an important move toward embedding sustainability more deeply into Calko's operations.

1.1 Description of Calko Group

Calko Group is a textile manufacturing company established in 1954 that produces industrial wear, first aid products, personal protective equipment (PPE), sportswear, and various types of fabrics. The company operates globally and offers services including research and development, sourcing, customization, production, and drop shipping, with facilities equipped with over 500 sewing machines and equipment.

While the company operates globally, the scope of the Net Zero Challenge includes only the Canadian facilities located in Montreal and Concord, both of which are leased. The Montreal facilities house the main office and handle multiple stages of production, including knitting, fabric finishing through steaming or tumbling, cutting and sewing, folding and packing, and shipping. The Concord location includes an office and focuses on the braiding of laces, applying wax to the laces, banding them in pairs, packing, and shipping.

1.2 Net Zero Commitment

Calko Group is committed to achieving net-zero greenhouse gas emissions by 2050 as part of the Government of Canada's Net-Zero Challenge. This reflects the company's ongoing efforts to work toward aligning its operations with Canada's climate targets and reduce its environmental

impact. This pledge was formalized in May 2023 through the Net-Zero Challenge Commitment Letter, signed by Joanna Gliatis, Vice President of Operations.

The scope of this commitment includes all of Calko Group's Canadian operations and covers Scope 1 and Scope 2 emissions only, in line with the Scope 3 emissions exemption for SMEs.

2. Baseline GHG Inventory Summary

Calko's baseline GHG inventory was conducted using utility data from 2021. It includes only emissions from operations fully controlled by the company within Canada, using the operational control approach. The facilities included in the inventory are located at 1450 Rue de Louvain O, Montreal, QC (total area of 34,749 ft^2), and 606 Rivermede Rd, Unit 5, Concord, ON (total area of 13,712 ft^2). The activities included in the inventory are stationary combustion and electricity usage at both facilities. Activities excluded from the inventory are mobile combustion, as Calko Group does not own or lease any vehicles, and fugitive emissions, which were deemed insignificant for the company's Canadian operations. Domestic hot water is heated electrically at both facilities. Natural gas is used for heating at both facilities. One dryer is operated using natural gas at the Montreal location.

The following **Tables 1 and 2** summarize the absolute emissions by scope and facility as well as the % of Scope 1 and 2 emissions by facility. The GHG inventory shows that the Montreal facility accounts for the majority of emissions, contributing over 70% of total emissions across both sites. Ninety-six percent (96%) of the GHG emissions from the combined Montreal and Concord facilities are from Scope 1 sources, indicating that stationary combustion (i.e., space heating using natural gas) is the dominant activity. Scope 2 emissions remain relatively low at both locations, largely due to the low-carbon electricity grids in Quebec and Ontario, which significantly reduce emissions from electricity consumption. Given that 96% of GHG emissions are Scope 1, mitigation measures should focus on reducing natural gas used for heating in both facilities as much as possible.

Table 1 - Absolute Emissions by Scope and Facility

Facility	Scope 1 emissions (Tonnes of CO2e)	Scope 2 emissions (Tonnes of CO2e)	Total (Tonnes of CO2e)
Montreal	56.6	0.4	57.1
Concord	21.4	2.6	24.0
Total	78	3.0	81.1

Table 2 - % Scope 1 and 2 Emissions by Facility

Facility	% Scope 1	% Scope 2
Montreal	99.2	89
Concord	0.8	11
Both	96	4

3. Review of Leases

Leases and lease amendments were reviewed for the Montreal and Concord facilities to understand what measures and modifications Calko could perform on the HVAC systems to make them more energy efficient. The leases for the Montreal facilities indicated that, while the tenant is responsible for the maintenance and repair of the HVAC system, it is strictly forbidden for the tenant to install or permit the installation or use of any air conditioning, compressor or refrigeration system or any other device that requires a water supply. The Montreal leases expire April 30, 2028.

The lease for the Concord location only specified that the landlord would ensure that the HVAC system be in good working order at the beginning of the lease. There was no indication in the lease that the tenant could modify the HVAC system. This lease is up for renewal on May 31, 2029.

4. Scenario Analysis

4.1 Scenario Alignment and Assumptions

Calko Group has chosen to align their scenario analysis with the International Energy Agency's (IEA) Net Zero by 2050 Scenario (NZE), which provides a global pathway for reducing carbon dioxide emissions to net zero by 2050, in line with limiting global warming to 1.5°C. The scenario outlines how the energy sector can rapidly decarbonize through the widespread adoption of energy efficiency technologies, electrification, clean power, and behaviour change. Crucially, the IEA emphasizes that all technologies needed to achieve the required emissions reductions by 2030 already exist today (IEA, 2021).

This scenario aligns closely with Canada's Net-Zero Challenge, which encourages businesses like Calko Group to reach net-zero emissions by 2050. Given that Calko's Scope 1 and 2 emissions come primarily from natural gas use and electricity consumption, the IEA scenario suggests that companies in similar sectors can decarbonize through electrifying space and water heating, improving energy efficiency, and sourcing low-carbon electricity—all of which are technologies that already exist and are emphasized in the IEA's pathway to net-zero. Our scenario analysis focuses on identifying specific short, medium, and long-term actions that Calko Group can take to meet this target.

5. Target Selection

A scenario analysis was conducted to understand the cost associated with various available target options. Calko opted to select an absolute GHG reduction target of **18.6% by 2030**, relative to the 2021 baseline year. This reduction target corresponds to an annual reduction in combined Scope 1 and 2 GHG emissions of **2.1%.** These minimum ambition targets were calculated using Equations 1 and 2 in the Net-Zero Challenge Technical Guide (ECCC, 2022).

6. Near-term Mitigation Measures

6.1 Scope 1 Mitigation Measures

Because Calko does not appear to have the authority to modify or replace the HVAC system supplying the space heating at the Montreal and Concord facilities, mitigation measures should focus conserving natural gas used for heating. Currently, according to Calko representatives, the Montreal facilities are always kept at 72F, and the Concord facility is maintained at 73F during the day and 70F at night. By adjusting the thermostats at all facilities down to 71F during the day and 68 F during the nights, weekends, and holidays, it estimated that at least 5% natural gas and Scope 1 emissions could be saved, along with a 5% savings in natural gas expenses.

To augment any GHG emission reductions from adjusting the thermostats at all the facilities, renewable natural gas (RNG) should be purchased to offset the natural gas used at both locations. RNG is biogas that is upgraded to pipeline-quality methane, produced from organic waste sources like landfills and farms, and used as a low-carbon alternative to fossil natural gas.

6.2 Scope 2 Mitigation Measures

Despite Scope 2 emissions only representing 4% of Calko's overall GHG emissions, the Net Zero Challenge requires that at least one measure be taken to reduce these emissions. As such, it is recommended that Calko purchase Renewable Energy Certificates (RECs) to partially offset electricity use. RECs represent proof that one megawatt-hour (MWh) of electricity was generated from a renewable source, allowing buyers to claim renewable energy use even if they do not use the renewable energy on-site.

Table 3 summarizes the estimated RNG and RECs to purchase for the next 5 years. Both RNG and RECs can be purchased from Bullfrog Power, at current rates of $0.1875/m3 and $25 MWh, respectively. The cost of the RNG and RECs can be offset to some degree through natural gas and electricity savings achieved through conservation measures. The RNG amounts may need to be adjusted annually based on the amount of natural gas conserved through thermostat adjustments and changes in weather patterns from one year to another. The RNG and RECs to be purchased should be evaluated during the annual GHG inventory and progress reporting.

Table 3 – Estimated RNG and RECs to Purchase Annually

Year	Required % GHG Reduction from 2021 Baseline	Estimated RNG to Purchase (m^3)	RECs to Purchase (MWh)
2025	8.3	3000*	5
2026	10.3	2200	5
2027	12.4	3100	5
2028	14.5	3900	5
2029	16.5	3700	5
2030	18.6	5500	5

**Because the winter of 2025 was exceptionally cold, this number was increased by 25% and only assumes conservation measures for Q4 of 2025.*

In addition to the main measures of purchasing RNG and RECs, the following are additional recommendations to conserve natural gas and electricity:

- Open a dialogue with the landlord about your need for a more energy efficient building and inquire when they are expecting to upgrade the HVAC to electric heat pumps. If that is not likely soon, are they amenable to implementing energy efficiency measures such as HVAC recommissioning, installing an energy recovery ventilator (ERV), air or duct sealing or adding additional insulation?

- Ensure that natural gas-powered dryers at the Montreal facility are fully loaded and regularly maintained to optimize the use of gas and lower associated Scope 1 emissions, which is anticipated to also reduce operating costs. At the end of life, consider replacing the natural gas dryers with electric heat pump dryers.

- The operation of textile manufacturing equipment and office equipment and lighting should be optimized (i.e., only used when needed, avoid peak electricity rate times where possible, and properly maintained). Compressed air systems are typically a large source of wasted electricity as they frequently leak; so, maintenance of these systems should be prioritized.

- Consider installation of additional LED lighting, if permitted by landlord. This will further reduce Scope 2 emissions and save electricity costs. Incentives to offset the capital cost of LEDs are frequently available, and payback periods are typically in the 1-3 year range.

- Consider having an energy audit conducted to identify more specific energy efficiency measures. The recommendations will be helpful in reducing your electricity costs and will supply useful HVAC information to support your dialogue with the landlords in advance of lease renewals in 2028 and 2029. Note that Enbridge offers energy audits in Ontario. Energir in Quebec offers up to 50% of the cost for audits to a maximum of $50,000.

7. Mitigation Strategies for Medium- and Long-term GHG Reductions

The following are the recommended strategies for the 2030-2050 timeframe and should be revisited in 2030 in the updated net zero plan and every five years thereafter:

1. Continue to adjust thermostats and purchase RNG and RECs to offset Scope 1 and 2 emissions.
2. Take advantage of any energy efficiency upgrades that the existing landlords are willing to implement.
3. Consider moving to energy efficient and electrically heated buildings if the landlords are not planning to upgrade the HVAC systems and sufficiently insulate the buildings in the future.
4. Once the heating is electrified, consider roof-top solar, especially for the Concord facility.
5. Once GHG emissions are reduced as far as possible, offset the residual emissions with high quality Gold Standard offsets.

8. Use of Offsets

To address residual emissions that remain after all possible reduction measures have been implemented, Calko can utilize high-quality carbon offsets as part of its long-term net-zero strategy. Offset credits can be generated by projects that avoid releasing emissions to the

atmosphere, such as landfill methane destruction, as well as from projects that remove carbon from the atmosphere, such as nature-based solutions (e.g. reforestation) or technology-based solutions (e.g., direct air capture and storage of carbon).

While offset use is not the primary strategy for achieving net-zero, their use is recommended in the later years to compensate for emissions that are infeasible to eliminate. Planetair offers Gold Standard-certified carbon offsets at a current cost of $30 per tonne of CO_2e, aligning with the general guidelines outlined in Canada's Net-Zero Challenge. Gold Standard-certified carbon offsets require that the offset credits represent projects that are additional, quantified, verified, unique, and as permanent as possible. Each tonne of CO_2e offset through Planetair is tracked and retired to ensure credibility and prevent double counting.

9. Net Zero Challenge Stages

Once the Comprehensive Net Zero Plan Participation Checklist, based on this net zero plan, is submitted, Calko will enter the Planner stage of the Net Zero Challenge as shown in **Figure 1**. Submission of the first Annual Progress Participation Checklist advances the company to the Implementer stage, where it must continue reporting annually and update its net zero plan at the five-year mark. As interim and net-zero targets are achieved, Calko can progress through Achiever Level 1, Achiever Level 2, and eventually become a Net-Zero Achiever. Participation tiers (Bronze through Diamond) are awarded based on both ambition and implementation progress and are updated annually and displayed publicly on the Net-Zero Challenge website.

Figure 1 – Net Zero Challenge Stages

10. Reporting

Calko is required to submit an **Annual Progress Participation Checklist** to report on its GHG emissions and reduction progress. The first checklist must be submitted within 18 months of submitting the Comprehensive Net-Zero Plan Participation Checklist (due on **May 31, 2025**) and

then annually within 12 months of each previous submission. The first Annual Progress Participation Checklist is due on **November 30, 2026** for 2025 emissions. This progress reporting ensures transparency, accountability, and alignment with the company's stated interim and 2050 targets.

Annual reports must include:

- a statement reiterating the interim and net-zero targets
- an updated GHG inventory for Scope 1 and 2 emissions
- a comparison to baseline emissions and highlighting emission reductions
- use of any use of carbon offsets, the scope of the emissions they were used against, and the type of offsets
- a high-level summary of mitigation actions taken
- a high-level summary of progress towards the next interim target

All Annual Progress Participation checklist submissions are submitted to ECCC. ECCC also encourages the publication of your annual GHG progress report either on your website or in a sustainability report. Additionally, the net-zero plan must be re-evaluated and updated every five years to further refine the mitigation measures.

10.1 Reporting Schedule

The following table summarizes the reports due over the next 5 years:

Report	**Description**	**Due Date**
Annual Progress Participation Checklist	Annual GHG inventory and progress report for 2025	November 30, 2026
Annual Progress Participation Checklist	Annual GHG inventory and progress report for 2026	November 30, 2027
Annual Progress Participation Checklist	Annual GHG inventory and progress report for 2027	November 30, 2028
Annual Progress Participation Checklist	Annual GHG inventory and progress report for 2028	November 30, 2029
Updated Comprehensive Net-Zero Plan Participation Checklist	Updated Net Zero Plan	May 31, 2030
Annual Progress Participation Checklist	Annual GHG inventory and progress report for 2029	November 30, 2030

References

Environment and Climate Change Canada (ECCC), 2022. Net Zero Challenge Technical Guide. https://www.canada.ca/en/services/environment/weather/climatechange/climate-plan/net-zero-emissions-2050/challenge/technical-guide.html#toc8 Accessed April 21, 2025.

International Energy Agency. (2021). *Net Zero by 2050: A Roadmap for the Global Energy Sector*. https://www.iea.org/reports/net-zero-by-2050 Accessed April 21, 2025.