



IBISKA'S PATHWAY TO NET-ZERO

NET-ZERO CHALLENGE – COMPREHENSIVE PLAN

**PRESENTED BY:
IBISKA TELECOM INC.**

FEBRUARY 14, 2025

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Environment and
Climate Change Canada

Environnement et
Changement climatique Canada

Canada

NET-ZERO CHALLENGE COMMITMENT LETTER

By completing this Commitment Letter you are voluntarily agreeing to provide the personal information requested below (company name, name and title of signatory) to Environment and Climate Change Canada. This information will be used solely by and for the Net Zero Challenge program and will be appropriately safeguarded.

I am pleased to confirm that IBISKA Telecom Inc is committing to join the Net-Zero Challenge and setting a goal to achieve net-zero emissions by 2050.

By signing this letter and properly selecting one of the three participation streams below, we agree to fulfill the following requirements of the Challenge:


1. Develop a preliminary net-zero plan within 12 months of joining the Challenge, and a comprehensive net-zero plan within 24 months of joining the Challenge;
2. Set at least two interim emissions reduction targets consistent with achieving net-zero by 2050, or at least one interim emissions reduction target consistent with achieving net-zero by 2040 (no interim emissions reduction target is required for achieving net-zero by 2030 or earlier);
3. Report on progress annually and review and update the net-zero plan at least once every five years; and
4. Submit the Participation Checklists to the Net-Zero Challenge, to ensure that the minimum requirements are met and to determine placement in the appropriate participation tier

Stream 1 – Large industrial emitters: my company commits to develop and implement a plan to achieve net-zero GHG emissions by 2050 across scope 1 and 2 emissions, and to consider the inclusion of the most relevant scope 3 emission categories to our company in the net-zero plan.

Stream 2 – Financial institutions: my company commits to develop and implement a plan to achieve net-zero GHG emissions by 2050 across scope 1 and 2 emissions as well as our scope 3 emissions related to our investing and/or lending portfolios (scope 3 category 15).

Stream 3 – All other companies: my company commits to develop and implement a plan to achieve net-zero GHG emissions by 2050 across scopes 1 and 2 emissions, and to include the single most relevant scope 3 emission category to our company in the net-zero plan (note that small- and medium-sized enterprises are exempt from the scope 3 requirement).

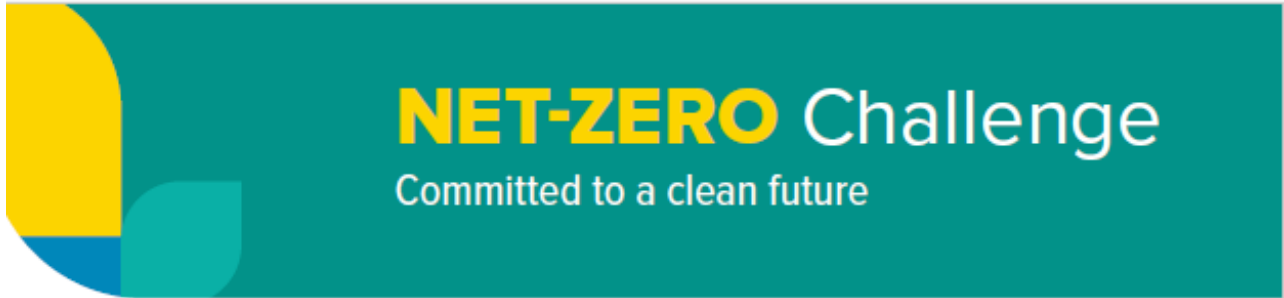
In doing so, we are proud to be recognized by the Net-Zero Challenge, and to join businesses throughout Canada that share the same ambition.

Signature: 

Date: Feb 17, 2023

Name of Signatory: Narindar Khabra

Position or Title of Signatory: President



CONFIRMATION OF PARTICIPATION

Congratulations on joining the **NET-ZERO CHALLENGE!**

This document confirms that IBISKA Telecom Inc is a participant in Environment and Climate Change Canada's **NET-ZERO CHALLENGE**.

The **NET-ZERO CHALLENGE** is a voluntary initiative that aims to encourage businesses to develop and implement credible and effective plans to transition their facilities and operations to net-zero emissions by 2050.

To remain in the **NET-ZERO CHALLENGE** your company must continue to meet the participation requirements as outlined in the [Technical Guide](#). This will ensure that your company maintains active participation. You may contact the **NET-ZERO CHALLENGE** program directly at any time to seek clarification or guidance.

This document may be updated and reissued with new participant information, as necessary.

Name of Company/Business: IBISKA Telecom Inc

Current Participation Tier: Committed

Date: February 17, 2023

Please keep this confirmation document for your records.

All the best!

JOHN MOFFET

Assistant Deputy Minister / Sous-ministre adjoint
Environmental Protection Branch / Direction générale
de la protection de l'environnement

Environment and Climate Change Canada
Environnement et Changement climatique Canada

NET-ZERO CHALLENGE

Environment and Climate Change Canada
defizeronet-netzerochallenge@ec.gc.ca

From: Defi Zeronet / Netzero Challenge (ECCC) <defizeronet-netzerochallenge@ec.gc.ca>
Sent: Thursday, February 15, 2024 9:21 AM
To: David Hale <dhale@ibiska.com>
Subject: RE: Net-Zero Challenge: IBISKA Telecom Inc. Registration

Hi David,

The edit is perfect – thank you so much!

This email is to inform you that Ibiska's Preliminary Checklist **has been accepted** and meets the minimum requirements of the Challenge.

Next steps: Within 24 months of signing the Commitment Letter (by **February 17, 2025**), kindly submit your Comprehensive Checklist (see attached). Please refer to the [Technical Guide](#) for development of your Comprehensive Net-Zero Plan.

- Please note that the information presented in the Comprehensive Checklist will determine the company's participation tier in the Challenge.

If you have any questions, please do not hesitate to contact us.

Best,
Bev & the NZC team

Bev Hinterhoeller

she, her | elle, la

Policy Analyst | Analyste des politiques

Environment and Climate Change Canada | Environnement et Changement climatique Canada

Beverley.Hinterhoeller@ec.gc.ca

NET-ZERO CHALLENGE: AN OVERVIEW

Context

The science shows that it is vital that the world does more to address climate change and to try to keep the Paris Agreement target of limiting temperature increase by 1.5°C within reach. Understanding the urgency to act, the Government of Canada is committed to reducing Canada's emissions by 40-45% from 2005 levels by 2030 and putting Canada on a path to reach net-zero emissions by 2050. However, achieving net-zero emissions requires support from all parts of our society, including the private sector, which is why IBISKA has joined the challenge of becoming Net-Zero by 2050.

What Does Net-Zero Mean?

Net-Zero emissions refer to a state where emissions of greenhouse gases (GHG) due to human activities and removals of these gases are in balance over a given period. This balance can be achieved by both reducing the amount of GHG emissions to as close to zero as possible and offsetting those remaining emissions through actions that remove GHG from the atmosphere, such as tree planting or deploying technologies such as direct air capture.

How does IBISKA fit in?

IBISKA has been concerned about the impact our company has on the environment long before this was a topic of discussion in our Industry. In 2008, IBISKA hired a Sustainability Consultant to assist in developing an analysis of our company's environmental impact and to design an actionable Sustainability Action Plan. This reflection led us to adopt a strong focus on IBISKA's responsibility as a "Corporate Citizen" towards our community and the environment in which we operate. Our company implemented changes to our office environment and our operations to reduce environmental impacts and our carbon footprint. Although IBISKA never tracked these reductions in terms of tonnes of Carbon Dioxide Equivalent (tCO₂ eq), we did implement many of the proposed changes in our everyday practices and, in turn, as an organization we have become more environmentally conscious.

With growing global environmental and climate change concerns, IBISKA was very happy to join the Environment and Climate Change Canada's (ECCC's) Net-Zero Challenge in early 2023. Since joining the challenge, IBISKA struck a committee that is spearheading our commitment to Net-Zero by 2050 and enlisted the support of Professor James Meadowcroft (Carleton University) and Lorne Johnson (Ivey Foundation), well known subject matter experts in the field. So far, James and Lorne have provided invaluable information/education to our team as well as technical guidance in developing our baseline, preliminary and comprehensive plans. Our team is highly motivated to work towards achieving our net-zero goal through the setting of achievable targets and the documentation of actions to be taken in order to achieve these targets.

IBISKA is eager to taking the next steps with this program and invest time and energy doing our part for the environment!

IBISKA NET-ZERO ANNOUNCEMENT

IBISKA commits to being net-zero across its Scope 2 and Scope 3 emissions by 2050.

We are pleased to announce that in February 2023, IBISKA joined Environment and Climate Change Canada's (ECCC's) Net-Zero Challenge, which requires companies to develop and implement a plan to reach net-zero greenhouse gas emissions by 2050 in accordance with the Paris Agreement.

Since joining the Net-Zero challenge, IBISKA has established our baseline Greenhouse Gas (GHG) emissions, evaluated our current year, and assessed our biggest emission categories in order to chart IBISKA's pathway to Net-Zero. Working with sustainability resources IBISKA has set interim targets for 2035 as well as reduction and mitigation strategies.

Significant action is crucial to reduce global emissions quickly enough to avoid worst-case-scenario climate outcomes. We are confident that, together, IBISKA can do our part and reach Net-Zero by 2050.

***Note:** IBISKA previously committed to becoming Net-Zero by 2040, but after evaluating our Scope 2 emissions and the feasibility in reducing these emissions, IBISKA has come to the conclusion that becoming Net-Zero by 2040 does not align with the external factors the company has to work with in order to achieve Net-Zero. Therefore, we are adjusting our commitment to becoming Net-Zero by 2050.*

Visit our [website](#) or follow us on [Social Media](#) for our latest updates.

GREEN HOUSE GAS (GHG) EMISSIONS INVENTORY

Baseline

IBISKA set our GHG emissions inventory baseline for the period of May 1, 2022, to April 30, 2023. This time period was the first 12-month period post-COVID where IBISKA's operations started to adopt its *new normal*.

Organizational Boundaries

As a Canadian-based company, with headquarters in Ottawa Ontario, IBISKA's GHG emissions inventory is calculated based on our geographical location as follows:

99 Bank Street, Suite 405
Ottawa, Ontario
K1P 6B9 Canada

Building size: 966,461 square feet

Suite size: 3,552 square feet

IBISKA's office is located in a Leed Certified building run by BentallGreenOak (BGO) property management. This building has the distinction of being the first building in the National Capital Region to be awarded both Leed-EB Platinum and Boma Best Platinum certifications, the highest green building certifications attainable in Canada.

For more information on building and property management environmental impacts please see links below:

- For more information on building specific environmental measures visit <https://slfcottawa.com/about/>
- For more information on BentallGreenOak corporate Net-Zero commitments as well as their published Sustainable Investing report visit <https://bgo.com/sustainable-investing>

Scope 1, 2 and 3 emissions

What are Scope 1, 2 and 3 emissions?

Throughout this report, we refer to Scope 1, 2 and 3 emissions. Each scope represents a different category of greenhouse gas emissions that make up our overall GHG footprint or profile. We used guidance from the *Greenhouse Gas (GHG) Protocol*, the *Science Based Targets initiative*, *Canada's Greenhouse Gas Reporting Program (GHGRP)*, the *Strategic Assessment of Climate Change*, and the *Federal Greenhouse Gas Offset System* to define these scopes:

- **Scope 1 emissions** are direct emissions (i.e., greenhouse gases released into the atmosphere from our sites). Typically, these include fuels combusted for space heating or hot water heating. See Table 1 below for more information.

- **Scope 2 emissions** are indirect emissions associated with the purchase of electricity, steam, or district heating or cooling for spaces that are operated for IBISKA’s use.
- **Scope 3 emissions** are indirect emissions not directly controlled by a company but related to activities that are upstream or downstream from its operations (see Table 3 below). For IBISKA, upstream emissions are mainly comprised of emissions produced from business travel and employee commuting.

Scope 1:

As an office-based organization, IBISKA does not produce any Scope 1 emissions as identified in the table below. IBISKA’s operations are strictly in providing IM/IT services and does not operate any GHG emitting production, processing, or transportation activities.

Table 1:

Type of Activity	Description
Generation of electricity, heat, or steam	Emissions from fuel combustion in company owned/controlled stationary sources (e.g., boilers, furnaces, turbines).
Physical or chemical processing	Emissions from manufacture or processing of chemicals and materials (e.g. cement, petrochemicals) and waste processing.
Transportation of materials, products, waste, and employees	Emissions from the fuel combustion in company owned/controlled mobile combustion sources (e.g., trucks, trains, ships, airplanes, buses, and cars).
Fugitive emissions	Emissions from intentional or unintentional releases (e.g., equipment leaks from joints, seals, packing, and gaskets; methane emissions from coal mines and venting hydrofluorocarbon (HFC) emissions during the use of refrigeration and air conditioning equipment; and methane leakages from gas transport).

IBISKA will not be reporting any Scope 1 emissions.

Scope 2:

IBISKA’s Scope 2 GHG emissions include electricity and natural gas consumption which is provided and controlled directly by BGO property management. Building electricity is sourced from Hydro Ottawa, and natural gas is combusted directly on site to operate the building’s boiler heating system (during extreme cold spells).

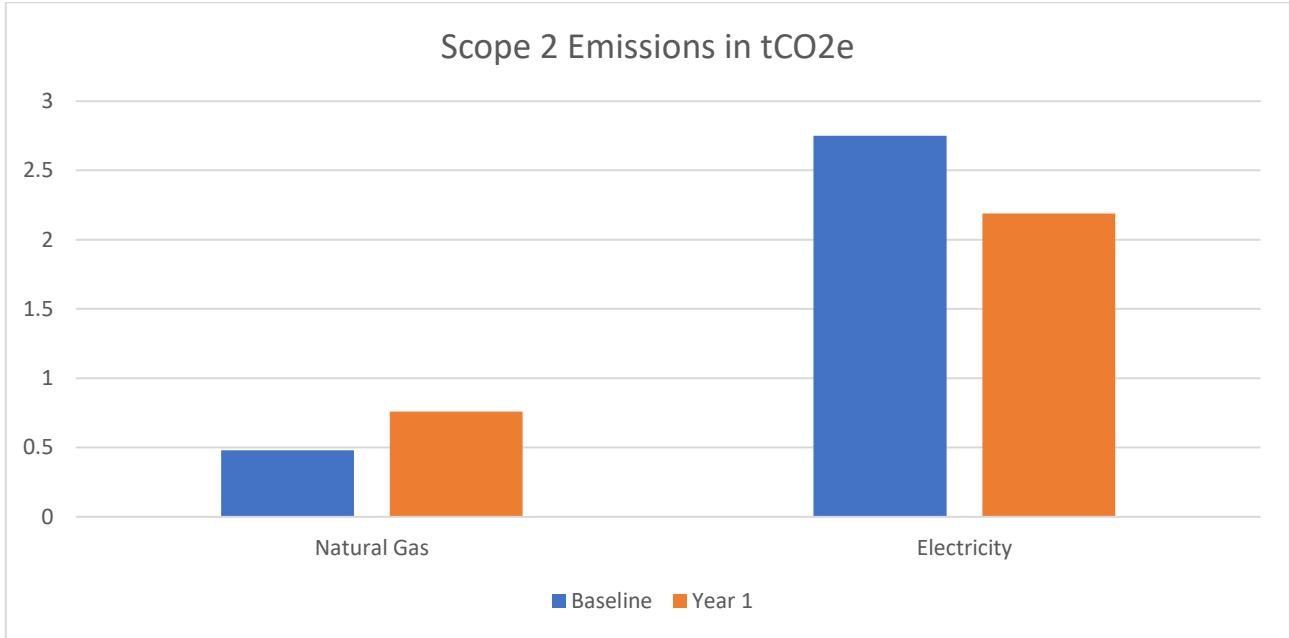
IBISKA’s annual electrical and natural gas consumption for our baseline period and our most recent annual GHG emissions (Year 1) from May 1, 2023 to April 30, 2024 are summarized in Table 2 and Graphs 2.1 and 2.2 below:

Table 2:

Scope 2	Baseline Period <i>May 1, 2022 to April 30, 2023</i>	Year 1 <i>May 1, 2023 to April 30, 2024</i>
Natural Gas Consumption*	236.31 m ³	375.33 m ³
Electrical Consumption	11,871 kWh	9,481 kWh
TOTAL in tCO2e	3.23	2.95

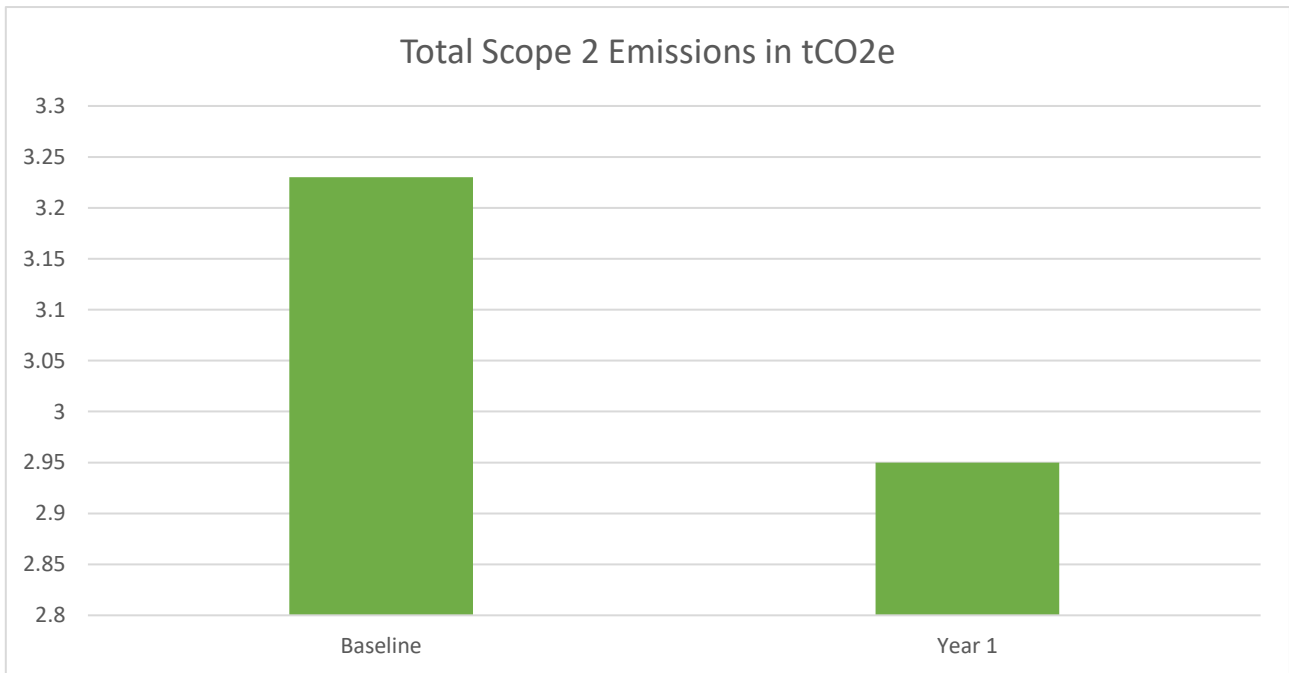
**Note: Natural Gas consumption is an estimate based on square footage of our office space. There is no office unit specific consumption available.*

Graph 2.1:



Graph 2.1 illustrates IBISKA’s emissions of both Natural Gas and Electrical consumption.

Graph 2.2:



Graph 2.2 illustrates IBISKA’s total Scope 2 emissions.

Analysis of Scope 2:

As illustrated above, IBISKA’s overall total emissions for **Scope 2 has declined by 0.28 tCO2e** from 3.23 tCO2e during our established baseline period (May 1, 2022 to April 30, 2023) to 2.95 tCO2e during Year 1 (May 1, 2023 to April 30, 2024). However, taking a closer look at our emissions, IBISKA’s natural gas consumption has increased while our electrical consumption has decreased.

Natural Gas Consumption increased by 45%

Electrical Consumption decreased by 22%

Overall emissions decreased by 9%

According to BGO property management, there has been no major changes in equipment that would contribute to the increase/decrease of Scope 2 emissions. However, there has been an increase in occupancy as more employees return to work in office which would contribute to the increase in the overall Natural Gas consumption as there are no unit specific meters.

On the other hand, the decrease in electrical consumption is a direct result of IBISKA’s operations as the data comes from our unit submeter. IBISKA has not implemented any changes in operations making it difficult to unpack and understand the reduction in electrical consumption and it may simply reflect a natural fluctuation in consumption.

Scope 3:

Even though Scope 3 emissions are hard to calculate and are beyond IBISKA’s direct means of control, upstream and downstream activities are major contributing factors of our overall emissions profile. Table 3 below illustrates all 15 upstream and downstream activities.

Table 3:

Upstream Activities	Downstream Activities
1) Purchased goods and services	9) Downstream transportation and distribution
2) Capital goods	10) Processing of sold products
3) Fuel- and energy-related activities	11) Use of sold products
4) Upstream transportation and distribution	12) End-of-life treatment of sold products
5) Waste generated in operations	13) Downstream leased assets
6) Business travel	14) Franchises
7) Employee commuting	15) Investments
8) Upstream leased assets	

IBISKA has chosen to focus on activities **6) Business travel** and **7) Employee commuting** as part of our Scope 3 GHG emissions inventory as these represent the vast majority of our Scope 3 profile.

IBISKA considers upstream activity 6) Business travel as the most relevant Scope 3 emissions category as it is something that is directly within our control. That being said, 7) Employee commuting is a significant portion of our overall profile which is why we decided to include both in our Scope 3 emissions inventory.

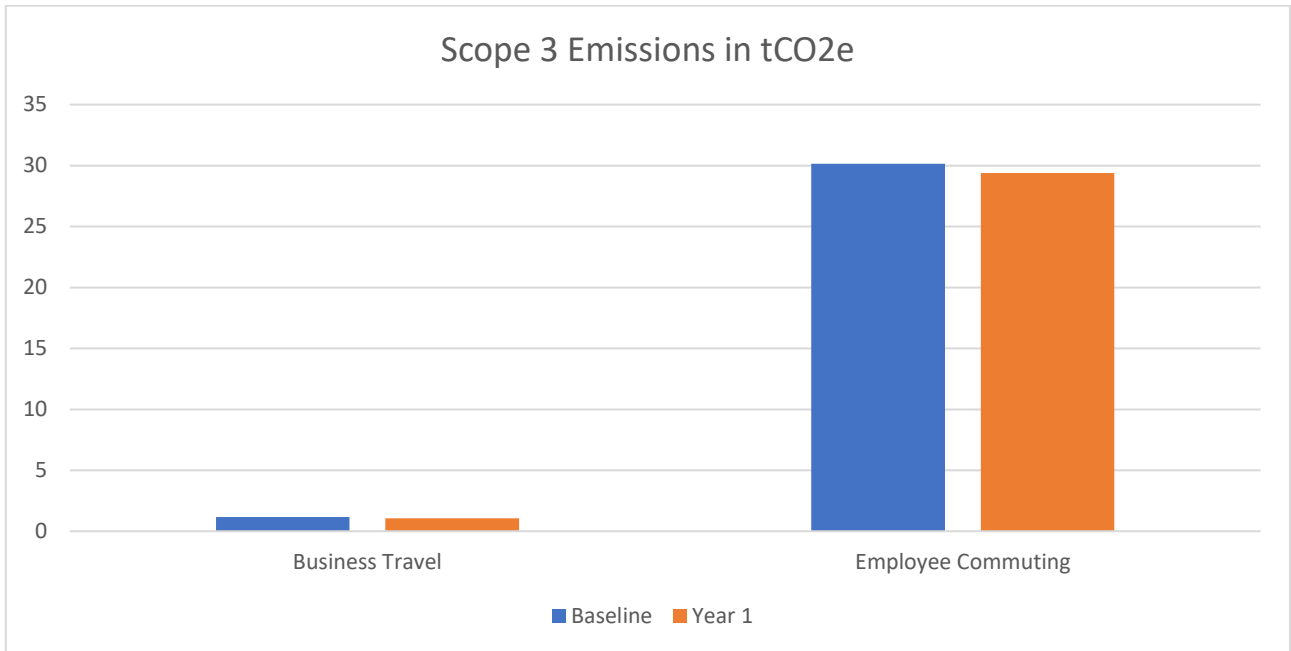
In order to provide best estimates of these GHG emissions, IBISKA created a commuting survey and distributed it to all employees (see Attachment 1 – Commuter Survey, of this document for more

information). With the information gathered, IBISKA was able to estimate GHG emissions for Scope 3 upstream activities which is summarized in Table 4 and Graphs 4.1 and 4.2 below.

Table 4:

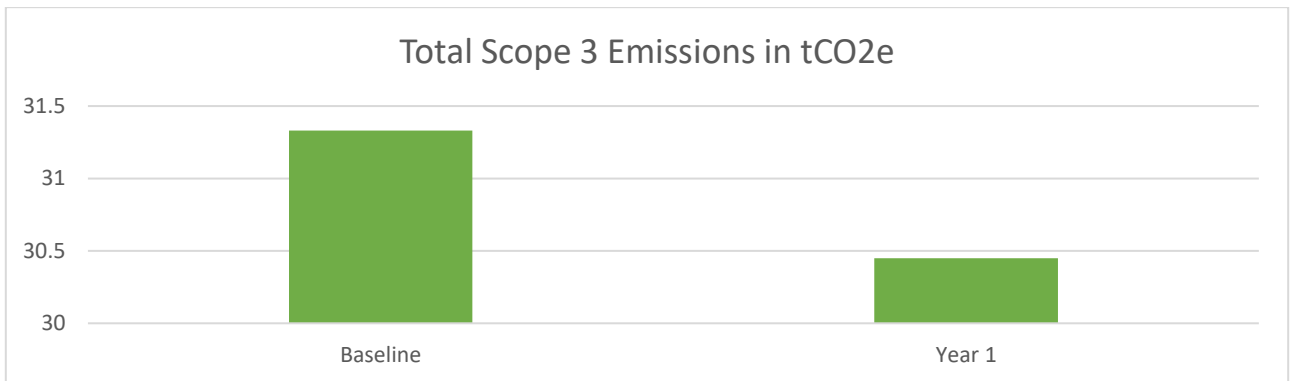
Scope 3	Baseline Period <i>May 1, 2022 to April 30, 2023</i>		Year 1 <i>May 1, 2023 to April 30, 2024</i>	
	km/year	tCO2e	km/year	tCO2e
Business Travel	4,750	1.17	5,122	1.07
Employee Commuting	181,066.60	30.16	182,161.40	29.38
TOTAL	185,816.60	31.33	187,283.40	30.45

Graph 4.1:



Graph 4.1 illustrates IBISKA’s emissions for Business travel and Employee commuting.

Graph 4.2:



Graph 4.2 illustrates IBISKA’s total Scope 3 emissions.

Analysis of Scope 3:

As illustrated above, IBISKA’s overall total emissions for **Scope 3 has declined by 0.88 tCO2e** from 31.33 tCO2e during our established baseline period (May 1, 2022 to April 30, 2023) to 30.16 tCO2e during Year 1 (May 1, 2023 to April 30, 2024). However, taking a closer look at our emissions, the total kilometers traveled was greater in Year 1 in comparison to the baseline period.

Business travel in tCO2e decreased by 9%

Employee commuting in tCO2e decreased by 3%

Overall total emissions decreased by 3%

Below we outline some of the possible factors which are contributing to this change in emissions.

- 1) Even though the number of IBISKA employees remained the same (32 employees), there was some turnover from the baseline period to the Year 1 period. This could therefore result in increase in the relative number of employees taking public transportation versus driving as part of their daily commute.
- 2) Employees may have purchased new vehicles, therefore contributing to a change in emissions as each vehicle type and size have different emissions. E.g.: some vehicles may have changed in size/class or employees may have gone from a gasoline vehicle to a hybrid/electric vehicle. Therefore, even if the kilometers driven during Year 1 was greater than the baseline year, overall emissions could be lower.

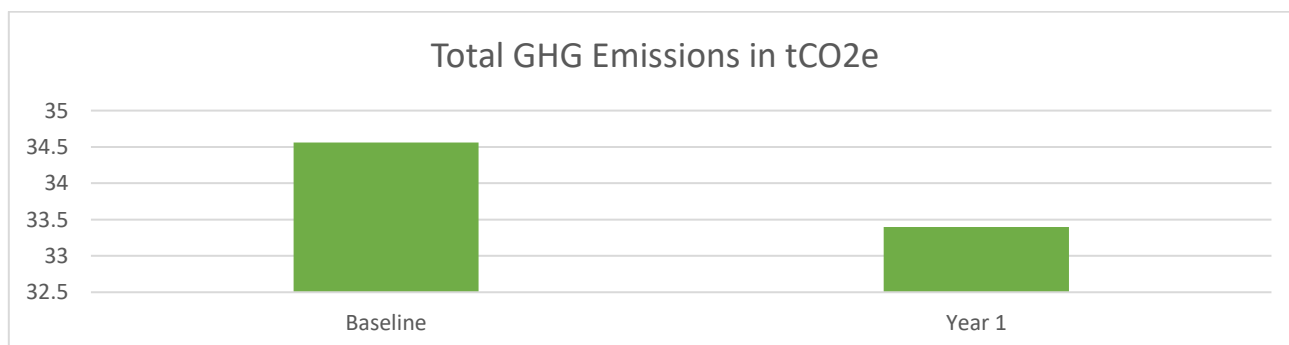
Overview of Scope 2 and 3 emissions:

Overall, there has been a reduction to IBISKA’s GHG emissions from our baseline period to Year 1, see Table 5 and Graph 5 below.

Table 5:

Scope	Baseline Period (tCO2e) <i>May 1, 2022 to April 30, 2023</i>	Year 1 (tCO2e) <i>May 1, 2023 to April 30, 2024</i>	Increase/Reduction in Scope (Percentage %)
Scope 2	3.23	2.95	-1%
Scope 3	31.33	30.45	-1%
Total	34.56	33.40	-1%

Graph 5:



Graph 5 illustrates IBISKA’s total GHG emissions for Scope 2 and 3.

Analysis of Overall Scope 2 and Scope 3 Emissions:

Even though IBISKA has not implemented any mitigation strategies to reduce our GHG emissions, we seem to already be on a trajectory of declining emissions for possible reasons discussed above. Total emissions have **decreased by 1.16 tCO₂e** from 34.56 tCO₂e during our baseline period (May 1, 2022 to April 30, 2023) to 33.40 tCO₂e during Year 1 (May 1, 2023 to April 30, 2024).

Total Scope 2 and Scope 3 Emissions decreased by 1%

This trajectory could be attributed to a variety of broader socio-technical trends that are discussed below in the scenario/pathway building section of this comprehensive plan.

CRITICAL ELEMENTS OF A NET-ZERO ENERGY SYSTEM

Net-Zero in Canada by 2050

Canada's commitment to achieving net-zero emissions by 2050 represents a profound shift from traditional approaches to emissions reductions. While incremental reductions focus on gradually lowering greenhouse gas (GHG) emissions through improvements to existing systems, achieving net zero requires an entirely new paradigm. It demands that emissions from human activities are balanced by the removal of an equivalent amount of carbon dioxide from the atmosphere. This transformational goal means reimagining Canada's energy system, not just optimizing the current one. It is about moving beyond GHG reductions to a state where emissions are either eliminated or offset entirely, ensuring Canada contributes to global climate stability.

Achieving net-zero compels us to envision what a fully decarbonized energy system could look like for Canada and then chart a pathway backward to the present. This forward-looking approach involves identifying the fundamental changes needed to create a sustainable energy system that aligns with Canada's unique economic, geographic, and social contexts. By understanding the end goal, a net-zero energy system, and considering the innovations, investments, and policies required, we can develop a coherent strategy to make this vision a reality. This approach is not merely about managing emissions but about building an energy future that is clean, resilient, and equitable.

A net-zero energy system for Canada will likely involve a multi-faceted strategy. First, decarbonizing electricity generation and expanding its capacity are foundational. By harnessing renewable energy and other low-carbon technologies, Canada can supply the clean electricity needed to power a growing share of energy end-uses, including transportation, heating, and industrial processes. Where electrification is not feasible or cost-effective, the development and deployment of net zero fuels, such as hydrogen and advanced biofuels, will be crucial to replace fossil fuels.

Energy efficiency will also play a critical role in reducing the total energy demand, helping to minimize the scale of new clean energy infrastructure required. Beyond the energy sector, addressing non-energy emissions from waste, industrial processes, and agriculture is essential to achieving Canada's net-zero goal. Finally, for the residual emissions that cannot be eliminated, Canada must advance carbon removal technologies, such as direct air capture and nature-based solutions, to permanently remove greenhouse gases from the atmosphere.

Together, these pillars form the foundation of Canada's journey to net-zero, a holistic and ambitious strategy that requires bold action, sustained collaboration, and an unwavering commitment to innovation and equity.

What does this mean for IBISKA?

As a Small-Medium Enterprise (SME), IBISKA has no influence on how Canada plans to reach net-zero by 2050. However, IBISKA is capable of taking responsibility and actions for its own emissions and doing its small part to help our country achieve net-zero by 2050.

NET-ZERO SCENARIO/PATHWAY BUILDING

Assumptions

The following core assumptions make up IBISKA's pathways, targets, and mitigation strategies:

- IBISKA would rather build its net-zero plan and related mitigation strategies without having to resort to doing things like buying offset credits.
- IBISKA has no plans to dramatically change its business model including things like moving to things like AI based platforms (which are very electricity intensive).
- IBISKA has no plans to substantially grow or shrink its business.
- IBISKA is not considering transitioning to a model where all staff work at home nor vice versa.

Note: Adjustments will need to be made to the targets if these assumptions change over the years.

IBISKA's Pathways to Net-Zero

Building upon the above, the primary pathways that can support IBISKA achieving Net-Zero emissions will likely involve a combination of: 1) the electrification of the light duty vehicles used for business travel and daily commutes and/or increased transit use; 2) further decarbonization of Ontario's electricity supply to power office equipment and the office's lighting and cooling combined with the adoption of more energy efficient office equipment over time; and 3) the transition from commercial buildings using natural gas as the primary heating source to alternatives including heat pump (ground and air source), district energy systems or electric boilers.

Further details on each of these pathways and their present viability for IBISKA are discussed below.

A) Scope 2: Electricity

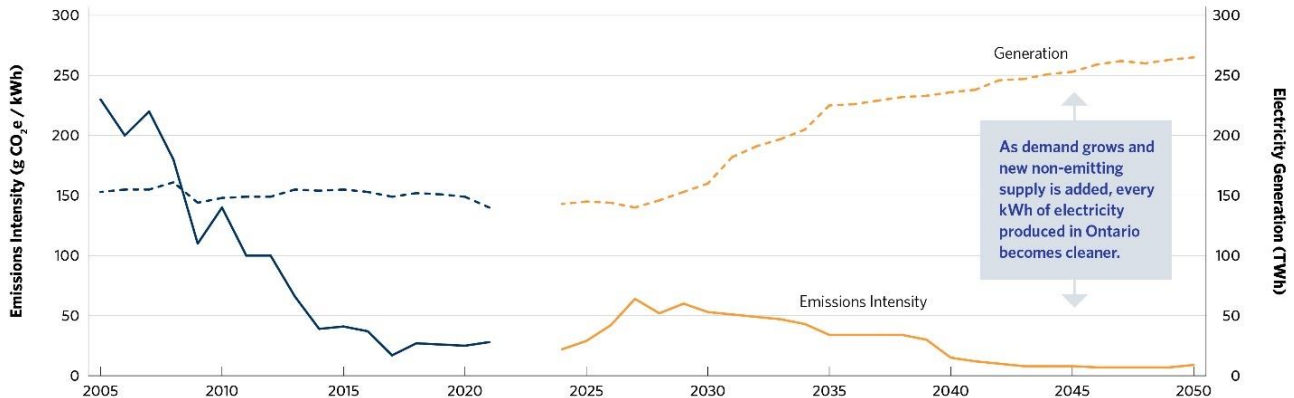
Objective: Reducing the emissions intensity of electricity used to power office equipment and building heating/cooling.

Discussion:

- The emissions intensity of Ontario's electricity supply has already declined significantly over the last two decades from approximately 220 grams of CO₂e per kilowatt-hour (g CO₂e/kWh) in 2005 to 35 grams of CO₂e per kilowatt-hour in 2022.ⁱ
- This 84% drop in emissions intensity is largely due to Ontario's phase-out of coal-fired electricity production and the shift to natural gas fired production and puts the province well below the 2022 national average of 100 g CO₂e/kWh.ⁱⁱ
- As seen below in *Figure 1*, forecasts from Ontario's IESO indicate that the emissions intensity of electricity is likely to increase somewhat between now and 2035 and then slowly decline to almost zero by 2045.ⁱⁱⁱ

Impact on IBISKA's emissions: MODEST; 2.75/34.56 or an 8% reduction from baseline emissions with the complete decarbonization of the Ontario electricity grid.

Ability of IBISKA to influence Ontario grid decarbonization: NONE.

Figure 1: Forecasts from Ontario's IESO on Carbon Emissions Intensity.**Carbon Emissions Intensity**

Source: Ontario's IESO 2024 annual planning outlook and emissions update

Scenarios/Pathways to reduce electricity usage at IBISKA:

1) Switching to energy efficient office equipment

Tactical Options:

- The adoption of more energy efficiency equipment in the office as it reaches its end of life. For example:
 - Energy star rated computers use 20% to 40% less electricity than standard models. Switching desktops to laptops also can significantly reduce energy use.
 - Energy star rated monitors use on average 7% less energy than standard models.^{iv}
 - Energy star rated internet-based phone systems can also result in up to a 40% energy savings compared to standard models.

Impact on IBISKA's emissions: *QUITE SMALL*; electric device consumption is a small proportion of current electric consumption which makes up only 8% of IBISKA's total emissions. The significance of energy efficiency measures for IBISKA's decarbonization decreases as grid intensity declines to zero. However, energy efficiency helps regional and national decarbonization efforts by reducing generation and grid improvements needed.

Ability of IBISKA to influence or adopt pathway: *HIGH*. IBISKA already uses energy star rated laptops, monitors, printers, and kitchen appliances such as dishwasher and refrigerator. IBISKA will continue to implement energy star rated equipment in the office as it reaches its end of life.

2) Reducing office use and size of office

Tactical Options:

- Increasing the use of home offices and reducing the size of the office over time as the lease is renewed.

Impact on IBISKA's emissions: *SMALL*; reduced energy consumption at the office could be offset by increased energy consumption at home offices.

Ability of IBISKA to influence or adopt pathway: *HIGH*. This would be an easy adoption for IBISKA; however, the company has already reduced office space significantly from pre-pandemic levels and reducing it more would not be feasible. IBISKA's office runs on a hybrid work environment model and the organization has no plans to move to working 100% remotely.

3) Switching to a more energy efficient building

Tactical Options:

- IBISKA is already located in a highly energy efficient building.
 - 99 Bank was the first Leed Platinum building in Ottawa and presumably these systems are relatively efficient compared to other buildings in the region.
- There are also no new commercial office buildings being built at present as existing supply far outstrips demand post-pandemic. As such, it is very unlikely there would be a newer more efficient building being built any time soon that IBISKA could move to.

Impact on IBISKA's emissions: *SMALL*; IBISKA's office is also located in Ottawa's first Leed Platinum building, presumably meaning lighting and heating/cooling systems are relatively efficient.

Ability of IBISKA to influence or adopt pathway: *LITTLE to NONE*; in the short term (Present to 2030/2035) there are no better building options for IBISKA to move to. This may change as the local commercial building market changes and transitions. IBISKA will monitor the market and make decisions depending on availability.

B) Scope 2: Natural Gas

Objective: Reducing the emissions from Natural Gas for office and building heating.

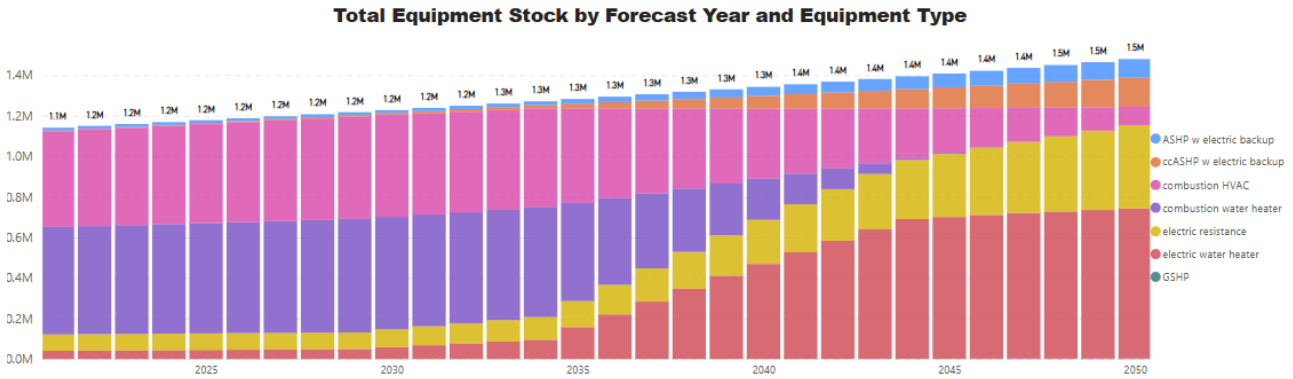
Current/Future Canadian Heating Systems:

- Move to air or ground source heat pump, baseboard heating, a clean district energy system or an electric water-based heating system.
 - **Figure 2** below shows the latest modeling forecasts of the stock of heating and cooling systems for commercial buildings in Canada provided by the Building Decarbonization Alliance.^v It is worth noting that the chart shows that natural gas heating systems including the combustion from water heaters as part of the overall building stock in Canada are only forecasted to start declining around 2035. The highest growth of new systems to be adopted in the coming years is presently forecasted to be electric water heaters which 99 Bank Street already installed in 2019.
- Local green building consultant (Theia partners) are aware of only one relatively new office building in the region that was built using a district energy system. They also stated that there is little to no retrofitting of existing buildings to heat pumps happening in the commercial office building space in Ottawa.

Impact on IBISKA’s emissions: *SMALL*; 0.48/34.56 or 1% current emissions with complete replacement of gas heating.

Ability of IBISKA to influence or adopt pathway: *LITTLE to NONE*.

Figure 2: Forecast of Total Heating and Cooling Equipment Stock for Commercial Buildings in Canada



Source: Building Decarbonization Alliance, shared on Nov 14, 2024

Scenarios/Pathways to reduce natural gas usage at IBISKA:

1) Pressure the building owner to switch to more energy efficient heating and boiling equipment

Tactical Options:

- Have discussions with the building manager for 99 Bank Street to encourage implementing newer/more efficient heating systems.

Note: Discussions with the building manager revealed that a number of natural gas saving measures have been adopted in recent years including:

- The addition of electric boilers (2019) and heat-recovery chillers (2009 – 2014) which means that the natural gas boilers are only used as back-up on extremely cold winter periods.
- The optimization of mechanical systems.
- The addition of electrical shedding sequences.
- HVAC is controlled by a fully integrated building automation system.
- Note: The rooftop chiller plant equipment dates as far back as 2009 and is likely the least efficient of the systems. The life expectancy of these systems is typically 20 plus years so a system replacement likely not yet planned at this point but would likely happen between now and 2030.

Impact on IBISKA’s emissions: *SMALL*; IBISKA’s office accounts for a small area of the 99 Bank Street building. Therefore, our push for more energy efficient equipment will probably not result into anything in the grand scheme of the building.

Ability of IBISKA to influence or adopt pathway: *LITTLE to NONE*; in the short term (Present to 2030/2035) although this may change as the local commercial building market changes and transitions. As a Leed Platinum certified building that has had relatively recent additions of electric water boilers (2019) and where gas boilers are used principally as a backup, it is likely that 99 Bank Street is one of the better performing buildings in the region and there is little merit in thinking of locating elsewhere.

2) Switching to a more energy efficient building

Tactical Options:

- IBISKA is already located in a highly energy efficient building in Ottawa that is not using natural gas as the main heating source.
 - 99 Bank was the first Leed Platinum building in Ottawa and presumably these systems are relatively efficient compared to other buildings in the region.
- There are also no new commercial office buildings being built at present as existing supply outstrips demand post-pandemic. As such, it is very unlikely there would be a newer more efficient building being built any time soon that IBISKA could move to.

Impact on IBISKA’s emissions: *SMALL*; IBISKA’s office is already located in Ottawa’s first Leed Platinum building, presumably meaning heating/cooling systems are relatively efficient.

Ability of IBISKA to influence or adopt pathway: *LITTLE to NONE*; in the short term (now to 2030/2035) there are no better building options for IBISKA to move to. This may change as the local commercial building market changes and transitions.

C) Scope 3: Employee Commuting and Business Travel

Objective: Reduce the emissions from employee commuting and business travel.

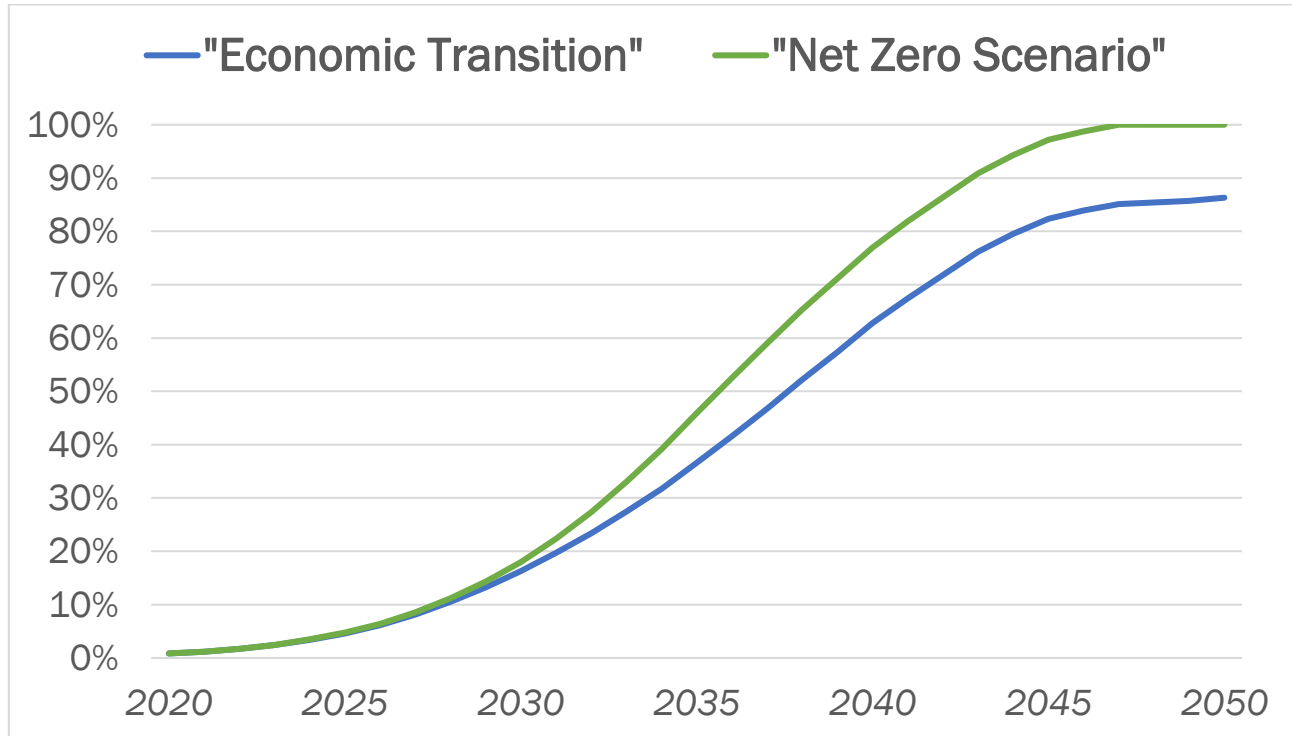
Current/Future Canadian Transition to Electric Vehicles:

- There is already a broader transition underway globally and in Canada away from the use of internal combustion light duty vehicles (LDVs) towards electric vehicles (EVs).
- Credible scenarios and modeling that forecasts the possible pace of EV penetration of the LDVs into the market and as percentage of the overall vehicle stock over time are hard to come by. Fortunately, Electrical Mobility Canada, with the modeling support of Dunskey Energy and Climate Advisors, is currently working on the development of such scenarios for Canada and they have provided IBISKA with early access to this analysis that is summarized in *figure 3* below.
 - Under both the more conservative “Economic Transition” scenario and the more ambitious net-zero by 2050 compatible scenario, EVs are anticipated to represent a significant percentage of the LDV fleet by 2035: 37% under the Economic Transition Scenario and 45% under the net-zero comparable.

Impact on IBISKA’s emissions: *HIGH*; 31.33/34.56 or 91% current emissions with complete replacement of internal combustion light duty vehicles (LDVs).

Ability of IBISKA to influence or adopt pathway: *HIGH*.

Figure 3: Forecasts of the possible pace of EV penetration of the LDVs into the market



Source: EMC and Dunsky Energy Consulting, shared on Nov 17, 2024

Scenarios/Pathways to reduce emissions through Business travel and Employee commuting at IBISKA:

1) Decreasing/eliminating the extent of staff commuting

Tactical Options:

- IBISKA already has a significant higher amount of home office use by employees relative to pre-pandemic levels and increasing this further is not a viable option.

Impact on IBISKA’s emissions: HIGH; by implementing 100% work from home, emissions from commuting would be eliminated entirely.

Ability of IBISKA to influence or adopt pathway: HIGH. This would be an easy adoption for IBISKA, however IBISKA’s office runs on a hybrid work environment model and does not plan on working 100% remotely.

2) Transition staff use of vehicles for commuting and business travel to either electric vehicles and/or public transit

Tactical Options:

- Encourage and provide incentives for staff to use public transportation.
 - While increasing employee use of transit is an option for both commuting and business travel, the staff’s frustrating experiences with the unreliability of Ottawa’s LRT has resulted in less staff use of public transit in recent years.

- Encourage and provide information sessions on the benefits of EVs. This can include providing incentives for staff that commute using an EV.
- Commit to ordering EV Ubers for local business travel.
- Provide flexibility to staff that use public transit. E.g. implement flexible work hours that align to transit schedules.
- Provide carpooling incentives to staff e.g. provide additional gas money for the trouble of carpooling.

Impact on IBISKA's emissions: *HIGH*; by transitioning to EVs and public transit, it will substantially reduce IBISKA's emissions of internal combustion light duty vehicles (LDVs).

Ability of IBISKA to influence or adopt pathway: *MEDIUM/HIGH*; Fortunately, there will already likely be significant growth in employee use of EV LDVs for commuting between now and 2035 and there are things that IBISKA could do to accelerate this uptake if necessary.

INTERIM TARGETS

Minimum Threshold Target Calculations

In accordance with the Net-Zero Challenge, IBISKA has set minimum threshold requirements for Scope 2 and 3 emissions calculated as follows:

- The minimum ambition threshold can be determined by calculating the minimum ambition annual reduction rate and multiplying that by the number of years to the first interim target.
 - Equation for **Minimum Ambition Annual Reduction Rate** = $0.6 \times (100\% / (\text{Net Zero Target Year} - \text{Base Year}))$
 - Equation for **Minimum Ambition Threshold** = Minimum Ambition Annual Reduction Rate \times (Interim Target Year – Base Year)

IBISKA's Minimum Threshold Calculations:

Minimum Ambition Annual Reduction Rate = $0.6 \times (1 / (2050 - 2023)) = 2.22\%$

Minimum Ambition Threshold for 2030 = $2.22\% \times (2030 - 2023) = 16\%$

Minimum Ambition Threshold for 2035 = $2.22\% \times (2035 - 2023) = 27\%$

Table 6: IBISKA's Minimum Threshold Targets

Scope	Source	2023 Baseline (tCO2e)	2030 Min Target	2035 Min Target
2	Electricity consumption	2.75	2.30	2.00
2	Natural Gas consumption	0.48	0.40	0.35
3	Employee commuting*	30.16	25.40	22.00
3	Business Travel*	1.17	0.98	0.85

**Officially there is no minimum threshold for Scope 3 target*

IBISKA's Proposed Reduction Target

Based on the calculations above, and the options identified when outlining IBISKA's pathways to reaching Net-Zero by 2050, **Table 7** below summarizes our proposed interim targets for 2035.

Table 7: IBISKA's Proposed Interim Reduction Targets

Scope	Source	2023 Baseline (tCO2e)	Proposed 2035 Reduction Target
2	Electricity consumption	2.75	27%
2	Natural gas consumption	0.48	27%
3	Employee commuting and Business Travel	31.33	30%

Note: IBISKA will reassess these targets within 5 years once we have more data regarding our emissions.

MITIGATION STRATEGIES

IBISKA intends to implement the mitigation strategies listed below for Scope 2 and 3 emissions. To ensure that IBISKA remains on track and reaches our interim targets set for 2035, and our commitment to becoming Net-Zero by 2050, we will continue to track our progress yearly to ensure our emissions continue to trend downwards.

If during our yearly evaluations we notice that there are no changes or even an increase in our emissions, we will re-evaluate our strategies and re-assess our current pathways. IBISKA will also provide public updates of our progress every 5 years in order to remain accountable.

A) Scope 2: Electricity

Scope 2: Electricity specifically focuses on reducing energy consumption of office equipment and the buildings heating/cooling systems.

Reduction Target: 27% reduction by 2035.

Rationale and Key Considerations:

- The GHG intensity of Ontario’s electricity supply is likely a major driver of IBISKA’s emissions under this source. Unfortunately, this is something that IBISKA has little to no control over. However, as shown in *Figure 1* above, the IESO is forecasting that this emissions intensity could increase in the coming decade.
- Natural Resources Canada estimated that the energy efficiency in the commercial sector improved by 13% between 2000 and 2019^{vi} representing an annual improvement of 0.7%.
 - Assuming a similar rate of improvement in energy efficiency in the commercial sector between 2023 and 2035 means that we can assume that an improvement of roughly 8% would naturally be realized without substantive effort by IBISKA. This represents approximately 30% (8/27) of the target that we can assume can be safely reached with overall improvements in the commercial sector.
- Given a large percentage of the electricity use by IBISKA is likely consumed by the heating and cooling systems of the building (which is already Leed certified) with the latter not nearing its end of life within the next 5 years, IBISKA is planning a conservative interim target. IBISKA plans to adopt the minimum threshold target for 2035 (27%) for these emissions to allow for the heating and cooling systems to reach their end of life and be replaced with more efficient and newer systems.
 - Setting a 2035 target gives time for the buildings heating and cooling systems to reach their end of life and a chance that they are replaced with more modern efficient technologies.
- IBISKA will continue to do what it can to reduce its in office energy consumption, replacing aging PC, laptops, monitors, and kitchen appliances with energy star rated ones as they reach their end of life.

Mitigation Strategy for Scope 2 Electricity:

- Track electricity consumption to gauge consumption trends over time. (Yearly)
- Continue to periodically check-in with the building owner (yearly, when we request for our energy consumption data) on their progress on replacing the relatively old cooling systems. This scrutiny will place some pressure on them and make them aware that some tenants care. (Yearly)

- Replace aging PC, laptops, monitors and kitchen appliances with energy star rated ones as they reach their end of life. (Ongoing)

B) Scope 2: Natural Gas

Scope 2: Natural Gas specifically focuses on reducing and/or replacing the buildings heating system.

Reduction Target: 27% percent reduction by 2035.

Rationale and Key Considerations:

- 99 Bank Street is already a relatively efficient building in that it already has an electric boiler, and the natural gas boiler is only used for extended periods of very cold weather. These electric boilers are relatively new and are unlikely to be replaced any time soon (>20 year useful life).
- **Figure 2** above suggests that major shifts away from natural gas boilers to lower GHG alternatives in commercial buildings are only forecasted to kick into gear around 2035.
 - IBISKA has no influence on this emissions source and the related pathways that are viable.
- As a result, IBISKA plans to adopt the minimum threshold of a 27% reduction by 2035. We may revisit progress and the target itself during the first net-zero plan revision in 5 years time.

Mitigation Strategy for Scope 2 Natural Gas:

- Continue to periodically check-in with the building owner on their progress on replacing the buildings heating system. This scrutiny could place some pressure on them and make them aware that some tenants care. (Yearly)

Note: Considering the circumstances for 99 Bank Street that are discussed above, achieving even the minimum threshold target (27% reduction by 2035) might be very difficult to achieve and it is unlikely that there are other more efficient buildings IBISKA could move to. As a result, IBISKA has few choices.

C) Scope 3: Employee Commuting and Business Travel

Scope 3: Employee commuting and business travel specifically focuses on reducing emissions from internal combustion engine light duty vehicles (ICE LDVs).

Reduction Target: 30% percent reduction by 2035.

Rationale and Key Considerations:

- Translating the 27% LDV stock penetration number into a target for actual GHG reductions is approximated below:
 - Emissions (grams of GHG/Km traveled) for a typical LDV in Ontario (assume 2018 Kia soul BEV) = 7.7 grams GHG/km traveled^{vii}.
 - Emissions (grams of GHG/Km traveled) for a typical ICE LDV in Ontario (assume 2018 Honda civic ICE) = 163.2 grams GHG/km traveled^{viii}. (*Note: numbers not available for Kia Soul so picked a comparable sized ICE vehicle*)
 - Percentage reduction = $(7.7 - 163.2) / 163.2 = 95\%$ reduction.

- Therefore, percentage reduction in GHG emissions for IBISKA to achieve a target of 27% of the vehicles used for commuting and business travel = $27\% \times 0.95\% = 26\%$ reduction in GHGs
- Given IBISKA has a long history of engagement and focus on environmental issues, and the enthusiasm of many of its employees, we believe IBISKA is capable of exceeding the 26% reduction target in this category and can comfortably achieve an emissions reduction target of 30% by 2035.
- Translating this into the approximate percentage of EVs in the vehicle fleet driven by its employees to work (and assuming no increase in transit use for commuting) = $30\% / 0.95 = 31.5\%$
- Considering the above, IBISKA is prepared to adopt a target for 2035 that is consistent with but slightly more aggressive than the ‘Economic Transition’ scenario shown in **Figure 3** above that shows that 27% of the LDV stock will be EVs by 2035. This number is consistent with recently released estimates for the US^{ix} that are forecasting that 26% of LDV on US roads will be EVs by 2035.
 - This seems to be a reasonable estimate of LDV stock turnover and EV market penetration based on historical rates of technology adoption in other contexts.

Mitigation Strategy for Scope 3 Employee Commuting and Business Travel:

- Business travel: Request EV cars when using Ubers or other forms for business transportation when possible.
- Employee commuting: In addition to benefiting from the expected gradual shift to EVs that will result due to market penetration and which should do the bulk of the lifting in helping meet its target, IBISKA will adopt/continue to support policies such as:
 - Offering to pay for or subsidize the transit passes of employees who regularly commute to work using public transportation. (Already implemented)
 - Offering to pay for or subsidize the costs of parking for employees who drive EVs.
 - Working with the building manager to help secure charging stations dedicated to IBISKA’s employees.
 - Provide flexibility to staff that use public transit. E.g. implement flexible work hours that align to transit schedules.
 - Provide carpooling incentives to staff e.g. provide additional gas money for the trouble of carpooling.
- Reassess and revisit target in 5 years.

Note: the above targets and the related mitigation strategies are summarized in Attachment 2.

ATTACHMENT 1 – COMMUTER SURVEY

**ATTACHMENT 2 – SUMMARY TARGETS
AND MITIGATION STRATEGY TABLE**

Scope	Source	2023 Baseline (tCO2e)	2035 Reduction Target	Recommended Mitigation Strategies
2	Electricity consumption	2.75	27%	<ul style="list-style-type: none"> • Continue to periodically check-in with the building owner on their progress on replacing the relatively old heating/cooling systems. • Replace aging PC, laptops, monitors and kitchen appliances with energy star rated ones as they reach their end of life. • Track electricity use annually to gauge consumption trends over time. • Reassess and revisit target in 5 years.
2	Natural gas consumption	0.48	27%	<ul style="list-style-type: none"> • Continue to periodically check-in with the building owner on their progress on replacing the heating system. • Reassess and revisit target in 5 years.
3	Employee commuting and Business Travel	31.33	30%	<ul style="list-style-type: none"> • Business travel: <ul style="list-style-type: none"> – Request EV cars when using Ubers or other forms for business transportation when possible. • Employee commuting: <ul style="list-style-type: none"> – Offering to pay for or subsidize the transit passes of employees who regularly commute. – Offering to pay for or subsidize the costs of parking for employees who drive EVs. – Working with the building manager to help secure charging stations dedicated to IBISKA employees. – Provide flexibility to staff that use public transit. E.g. implement flexible work hours that align to transit schedules. – Provide carpooling incentives to staff e.g. provide additional gas money for the trouble of carpooling. • Reassess and revisit target in 5 years.

SOURCES

ⁱ [https://www.cer-rec.gc.ca/en/data-analysis/energy-markets/provincial-territorial-energy-profiles/provincial-territorial-energy-profiles-ontario.html#:~:text=The%20greenhouse%20gas%20intensity%20of,%2FkWh%20\(Figure%208\)](https://www.cer-rec.gc.ca/en/data-analysis/energy-markets/provincial-territorial-energy-profiles/provincial-territorial-energy-profiles-ontario.html#:~:text=The%20greenhouse%20gas%20intensity%20of,%2FkWh%20(Figure%208))

ⁱⁱ [https://www.cer-rec.gc.ca/en/data-analysis/energy-markets/provincial-territorial-energy-profiles/provincial-territorial-energy-profiles-ontario.html#:~:text=The%20greenhouse%20gas%20intensity%20of,%2FkWh%20\(Figure%208\)](https://www.cer-rec.gc.ca/en/data-analysis/energy-markets/provincial-territorial-energy-profiles/provincial-territorial-energy-profiles-ontario.html#:~:text=The%20greenhouse%20gas%20intensity%20of,%2FkWh%20(Figure%208))

ⁱⁱⁱ <https://www.ieso.ca/Powering-Tomorrow/2024/Six-Graphs-and-a-Map-2024-Annual-Planning-Outlook-and-Emissions-Update>

^{iv} <https://natural-resources.canada.ca/energy-efficiency/spotlight-energy-efficiency/2022/09/25/energy-efficiency-for-the-home-office/24677>

^v <https://buildingdecarbonization.ca/>

^{vi} <https://oee.nrcan.gc.ca/publications/statistics/trends/2019/commercial.cfm>

^{vii} <https://www.cer-rec.gc.ca/en/data-analysis/energy-markets/market-snapshots/2018/market-snapshot-how-much-co2-do-electric-vehicles-hybrids-gasoline-vehicles-emit.html>

^{viii} <https://www.cer-rec.gc.ca/en/data-analysis/energy-markets/market-snapshots/2018/market-snapshot-how-much-co2-do-electric-vehicles-hybrids-gasoline-vehicles-emit.html>

^{ix} <https://www.eei.org/en/news/news/all/eei-projects-78-million-evs-will-be-on-us-roads-in-2035#:~:text=This%20is%20an%20increase%20of,duty%20vehicle%20sales%20in%202035>