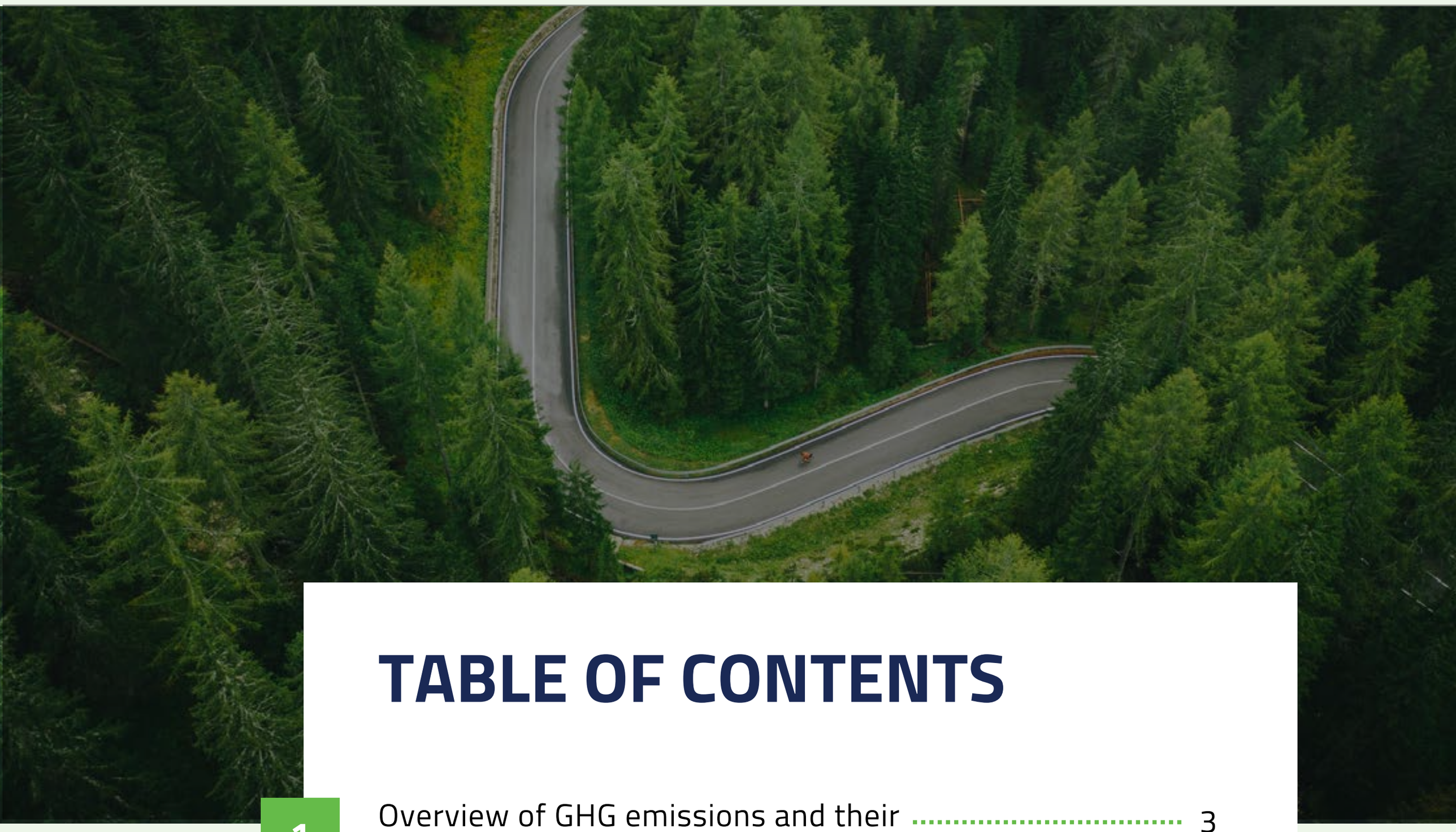
Lythouse

UNDERSTANDING SCOPE 1,2,3

In Canada



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Introduction

In the quest to secure a sustainable future, understanding and mitigating Greenhouse Gas (GHG) emissions stands as a global imperative. GHGs, primarily carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), and fluorinated gases, act as a blanket around Earth, trapping heat in the atmosphere and contributing to global warming and climate change. The complexity and urgency of this challenge require concerted efforts from nations worldwide, including Canada, to measure, report, and manage these emissions effectively.

What are Greenhouse Gas (GHG) Emissions?

GHG emissions are gases released into the atmosphere from various sources that contribute to the greenhouse effect. The primary sources include the burning of fossil fuels for electricity, heat, and transportation, alongside industrial processes, agricultural practices, and waste management. These emissions are the driving force behind climate change, leading to rising global temperatures, altered weather patterns, and increased frequency of extreme weather events.

Understanding the Global Challenge of Climate Change

> The Intergovernmental Panel on Climate Change (IPCC) highlights that global temperatures have risen approximately 1.1°C since the pre-industrial era, primarily due to human activities.

This increase has accelerated sea-level rise, melted ice caps, and intensified natural disasters, signaling a pressing need for action to reduce GHG emissions globally.

Canada's Role in Global GHG Emissions

As a member of the global community, Canada has a critical role in both contributing to and combating climate change. Despite its relatively small population, Canada is among the top per capita GHG emitters due to its energy-intensive industries, reliance on fossil fuels, and vast geography. Recognizing its responsibility, Canada has committed to various international agreements, including the Paris Agreement, aiming to significantly reduce its GHG emissions through national policies and innovative technologies.

Government of Canada’s Greenhouse Gas Emissions Inventory states The Government of Canada’s operations will be net-zero emissions by 2050 including:

- Government owned and leased real property
- Mobility: fleets, business travel and commuting
- Procurement of goods and services
- National safety and security operations

Data Insights

Government of Canada will reduce absolute Scope 1 and Scope 2 GHG emissions by **40% by 2025** and at least 90% below 2005 levels by 2050. On this emissions reduction pathway, the government will aspire to reduce emissions by an additional 10% each 5 years starting in 2025.

Importance of Measuring and Managing Emissions

Recent studies underscore the importance of transitioning to renewable energy sources, enhancing energy efficiency, and fostering sustainable land use practices as key strategies for emissions reduction. As noted by Environment and Climate Change Canada, implementing stringent emissions-reporting frameworks and leveraging technological innovations are vital for tracking progress and ensuring accountability.

As the world grapples with the escalating challenge of climate change, the collective efforts of countries like Canada in measuring, reporting, and reducing GHG emissions are indispensable. Through comprehensive strategies and international cooperation, it is possible to mitigate the impacts of climate **change and steer towards a more sustainable and resilient future.**

ESG Regulations and Laws in Canada

In Canada, the **Treasury Board Secretariat** is a key authority setting rules related to Greenhouse Gas (GHG) emissions. They introduced the **Standard on the Disclosure of Greenhouse Gas Emissions and the Setting of Reduction Targets**. This standard applies to large suppliers of the federal government (contracts exceeding $25 million) and compels them to disclose their emissions and set reduction targets aligned with the Paris Agreement .

There are several protocols and standards that guide the measurement, reporting, and verification of greenhouse gas (GHG) emissions. These protocols are crucial for businesses, government entities, and organizations striving to manage their environmental impact. While "top" might imply a ranking, in the context of GHG protocols, it's more about the applicability and adoption of these standards. Here are some of the key GHG protocols and reporting frameworks utilized in Canada:

1. The Greenhouse Gas Protocol (GHG Protocol)

Globally recognized, the GHG Protocol provides the world's most widely used greenhouse gas accounting standards. Canadian entities often adhere to these standards for corporate accounting and reporting on GHG emissions, including Scope 1, Scope 2, and Scope 3 emissions. The GHG Protocol's Corporate Standard is particularly influential, guiding companies in creating comprehensive and reliable GHG inventories.

2. ISO 14064 Series

The ISO 14064 series comprises international standards for quantifying, reporting, and verifying GHG emissions and removals. It includes:

- **ISO 14064-1:** Specification with guidance at the organization level for quantification and reporting of GHG emissions and removals.

- **ISO 14064-2:** Specification with guidance at the project level for quantification, monitoring, and reporting of GHG emission reductions or removal enhancements.

- **ISO 14064-3:** Specification with guidance for the validation and verification of GHG assertions.

Canadian organizations use the ISO 14064 series to ensure their GHG inventories and projects meet international levels of transparency, consistency, and credibility.

3. Canada’s National Inventory Report (NIR)

Part of its commitment to the United Nations Framework Convention on Climate Change (UNFCCC), Canada submits an annual National Inventory Report detailing the country's emissions and removals of GHGs. While not a protocol used by organizations for their reporting, the NIR is based on methodologies consistent with the Intergovernmental Panel on Climate Change (IPCC) guidelines, reflecting the practices entities might align with for national coherence.

4. The Canadian Standards Association (CSA) Standards

Part of its commitment to the United Nations Framework Convention on Climate Change (UNFCCC), Canada submits an annual National Inventory Report detailing the country's emissions and removals of GHGs. While not a protocol used by organizations for their reporting, the NIR is based on methodologies consistent with the Intergovernmental Panel on Climate Change (IPCC) guidelines, reflecting the practices entities might align with for national coherence.

5. Provincial GHG Reporting Programs

Several Canadian provinces have their own GHG reporting programs, often aligning with or supplementing national and international protocols. For example:

- **British Columbia's Greenhouse Gas Industrial Reporting and Control Act**
- **Ontario's Greenhouse Gas Emissions: Quantification, Reporting, and Verification**

These programs require facilities and organizations within the province to report their GHG emissions according to specified methodologies, further underscoring the multifaceted approach to GHG management in Canada.

Canada doesn't have a single equivalent to the US Securities and Exchange Commission (SEC) for ESG/GHG. Here's why:

Decentralized Approach: Environmental and social governance (ESG) regulations are overseen by a collection of federal and provincial bodies in Canada. This means the specific authority depends on the aspect of ESG/GHG you're interested in.

For instance, the Canadian Securities Administrators (CSA) is a group of provincial and territorial securities regulators that might introduce ESG disclosure requirements for publicly traded companies in the future, but they haven't yet established specific rules like the SEC.

Examples of Scope 1, 2 and 3 emissions in Canada

Scope 1 Emissions: Direct Emissions from Owned or Controlled Sources

Scope 1 emissions are direct emissions from sources that are owned or controlled by the reporting entity. In Canada, these can include emissions from company vehicles, manufacturing processes, and on-site fuel combustion in boilers and furnaces.

Examples of Scope 1 Emissions in Canada

- Emissions from the operation of extraction equipment and vehicles in the oil sands.
- Direct emissions from agricultural activities, including livestock and crop production.

Case Studies: How Canadian Companies are Reducing Scope 1 Emissions

Several Canadian companies are implementing innovative strategies to reduce their Scope 1 emissions. For instance, a leading oil sands company has invested in carbon capture and storage technology, significantly reducing its direct emissions. Another example is a manufacturing company that switched to biofuels for its on-site operations, cutting down its carbon footprint.

Scope 2 Emissions: Indirect Emissions from Purchased Electricity, Heat, or Steam

Scope 2 emissions are indirect emissions from the generation of purchased electricity, heat, or steam used by the company. The nature of these emissions in Canada varies significantly across provinces due to the diverse sources of electricity generation.

Understanding Canada's Electricity Grid and its Impact on Scope 2 Emissions

Canada's electricity grid is unique in its reliance on hydroelectric power, accounting for approximately 60% of the country's electricity generation. This clean energy source significantly reduces Scope 2 emissions for businesses in provinces like Quebec and British Columbia. However, provinces dependent on fossil fuels for electricity generation, such as Alberta and Saskatchewan, present higher Scope 2 emissions challenges for businesses.

Strategies for Canadian Businesses to Reduce Scope 2 Emissions

Businesses in Canada can reduce their Scope 2 emissions by purchasing renewable energy certificates (RECs), investing in on-site renewable energy projects, or opting for green power products from their utilities. Energy efficiency improvements in buildings and processes also play a crucial role in reducing Scope 2 emissions.

Scope 3 Emissions: Other Indirect Emissions

Scope 3 emissions encompass all other indirect emissions that occur in a company's value chain, including both upstream and downstream emissions. These are the most challenging to quantify and manage due to their extensive range across the value chain.

The Broad Scope of Scope 3 Emissions (categories 1-15)

Scope 3 emissions in Canada cover a wide array of activities, from the extraction and production of purchased materials to emissions associated with employee travel and the end-of-life treatment of sold products.

Key Sources of Scope 3 Emissions in Canada

Major sources include emissions related to the transportation and distribution of goods, waste generated in operations, and business travel. The extensive use of transportation across Canada's vast geography significantly contributes to Scope 3 emissions.

Challenges and Opportunities in Measuring and Reducing Scope 3 Emissions

Measuring Scope 3 emissions poses significant challenges due to the need for data collection across the value chain. However, it also presents opportunities for Canadian businesses to engage with suppliers and customers in sustainability initiatives, driving emissions reductions not just within their operations but across their entire value chain.

Canada's GHG Inventory: Trends and Breakdowns by Sector

Canada's GHG inventory, as reported to the United Nations Framework Convention on Climate Change (UNFCCC), provides a detailed analysis of emissions trends across various economic sectors. Key sectors contributing to Canada's emissions include:

- **Energy:** The largest source of GHG emissions, encompassing oil and gas production, transportation, and electricity generation.

- **Agriculture:** Emissions from livestock, soil management, and the use of synthetic fertilizers.

- **Industrial Processes:** Emissions from chemical reactions necessary in industrial processes and the use of synthetic products.

- **Waste:** Emissions from solid waste decomposition, wastewater treatment, and waste incineration.

Recent trends indicate a gradual shift towards lower emissions in certain sectors, thanks to advancements in technology, regulatory measures, and increased awareness of sustainable practices.

Initiatives for Reducing Emissions in Canada

Canada's federal government has implemented several regulations and initiatives aimed at reducing GHG emissions:

The Pan-Canadian Framework on Clean Growth and Climate Change

This comprehensive plan outlines Canada's approach to meet its Paris Agreement commitments by reducing emissions, adapting to climate change, and driving economic growth through clean technology. Key components include:

- **Carbon Pricing Mechanisms Across Canada:** A national pricing system for carbon pollution ensures that there is a cost associated with emitting GHG. Provinces and territories have the flexibility to implement their own carbon pricing systems, as long as they meet the federal benchmark.

- **Clean Fuel Standard:** Aimed at reducing the carbon intensity of fuels, this regulation encourages the use of lower carbon fuels, energy sources, and technologies.

- **Regulatory Measures for Key Sectors:** Including regulations to reduce methane emissions in the oil and gas sector, increase the fuel efficiency of vehicles, and phase out coal-fired electricity generation.

Here's a glimpse into the evolution of ESG/GHG efforts in Canada:

2016

Paris Agreement Ratification: A significant milestone. Canada ratifies the Paris Agreement, committing to reducing GHG emissions by 30% below 2005 levels by 2030 .

2018

Phasing Out Coal & Regulating Natural Gas: Canada finalizes regulations to phase out traditional coal-fired electricity by 2030. Additionally, they establish GHG regulations for natural gas-fired electricity, aiming for 90% of electricity from non-emitting sources by 2030 .

2021

Net-Zero Emissions Accountability Act: Canada's commitment to achieving net-zero emissions by 2050 is enshrined in legislation. This act establishes a framework for accountability and transparency, including setting reduction targets, public participation, and an advisory body

2022

Enhanced Diversity Disclosure Guidelines: Corporations Canada strengthens diversity disclosure guidelines for federally incorporated companies, aiming for clarity and consistency in ESG reporting

2023

Supplier ESG Disclosure for Large Contracts: The "Standard on the Disclosure of Greenhouse Gas Emissions and the Setting of Reduction Targets" comes into effect. Large federal government suppliers (contracts exceeding $25 million) must disclose emissions and set reduction targets aligned with the Paris Agreement.

Looking Ahead (2024 and beyond)

Potential for Mandatory ESG Disclosure: The Canadian Securities Administrators (CSA) might introduce mandatory ESG disclosure requirements for publicly traded companies, like the US SEC.

The Role of Provinces and Territories in Addressing Emissions

Provincial and territorial governments in Canada play a crucial role in addressing GHG emissions, often tailoring their initiatives to local contexts. Examples include:

- British Columbia's Carbon Tax: One of the first jurisdictions in North America to implement a carbon tax, encouraging emissions reductions across all sectors.
- Quebec's Cap-and-Trade System: Linked with California's system under the Western Climate Initiative, allowing for an integrated carbon market.
- Alberta's Technology Innovation and Emissions Reduction (TIER) System: A performance-based system that sets emission reduction targets for large emitters.

Financial Implications of Emissions: Carbon Costs and Market Risks

Carbon Costs: Governments worldwide are implementing carbon pricing mechanisms, such as carbon taxes and cap-and-trade systems, to incentivize emission reductions. These measures directly impact businesses, imposing costs on carbon emissions that can significantly affect the bottom line. Companies with high Scope 1 and 2 emissions may face direct financial burdens, while those with extensive Scope 3 emissions might experience cost increases through their supply chains.

Market Risks: Beyond regulatory costs, businesses face market risks associated with emissions. Consumers and clients are increasingly preferring low-emission products and services, potentially reducing demand for those with high carbon footprints. Moreover, the transition to a low-carbon economy may lead to stranded assets, where investments lose value due to changes in technology, legislation, or market preferences.

Reputational Risks and Consumer Preferences for Sustainable Practices

Businesses that fail to address their GHG emissions risk damaging their reputation. A growing segment of consumers prefers to engage with brands that demonstrate environmental stewardship, and public awareness of corporate carbon footprints is higher than ever. Negative publicity around a company's environmental impact can lead to lost sales, diminished customer loyalty, and challenges in attracting top talent. Conversely, companies that proactively reduce their Scope 1, 2, and 3 emissions can enhance their brand image and strengthen their competitive advantage.

Investor Demands for Transparency and ESG Performance

Investors are increasingly scrutinizing companies' ESG (Environmental, Social, and Governance) performance, with a particular focus on GHG emissions. They demand transparency in how companies measure, report, and reduce their emissions across all scopes. Firms that can demonstrate strong ESG credentials, including effective management of their carbon footprint, are more likely to attract investment. Conversely, those that lag in ESG performance may face divestment and limited access to capital.

Opportunities for Businesses in the Transition to a Low-Carbon Economy

The push to reduce GHG emissions is not just a challenge; it presents numerous opportunities for businesses:

- **Innovation:** Developing low-emission products and services can open new markets and revenue streams. This is particularly relevant for sectors like energy, transportation, and manufacturing, where demand for sustainable alternatives is growing.

- **Operational Efficiencies:** Efforts to reduce Scope 1 and 2 emissions often lead to energy efficiency improvements, lowering operating costs in the long run.

- **Supply Chain Optimization:** Addressing Scope 3 emissions encourages businesses to scrutinize and optimize their supply chains, potentially revealing cost savings and opportunities for collaboration on sustainability initiatives.

- **Leadership and Brand Differentiation:** Businesses leading in sustainability can capitalize on their reputation, differentiating themselves in crowded markets and building loyalty among environmentally conscious consumers and clients.

As businesses navigate the complexities of Scope 1, 2, and 3 emissions, it becomes clear that effective GHG management is integral to financial stability, reputation, and future growth. The transition to a low-carbon economy is accelerating, and companies that embrace this shift, innovating and adapting their practices, are well-positioned to thrive in the sustainable business landscape of tomorrow.

The Future of Scope 1, 2, 3 Emissions in Canada

Net-Zero Emissions Targets and Canada's Pathway to Decarbonization

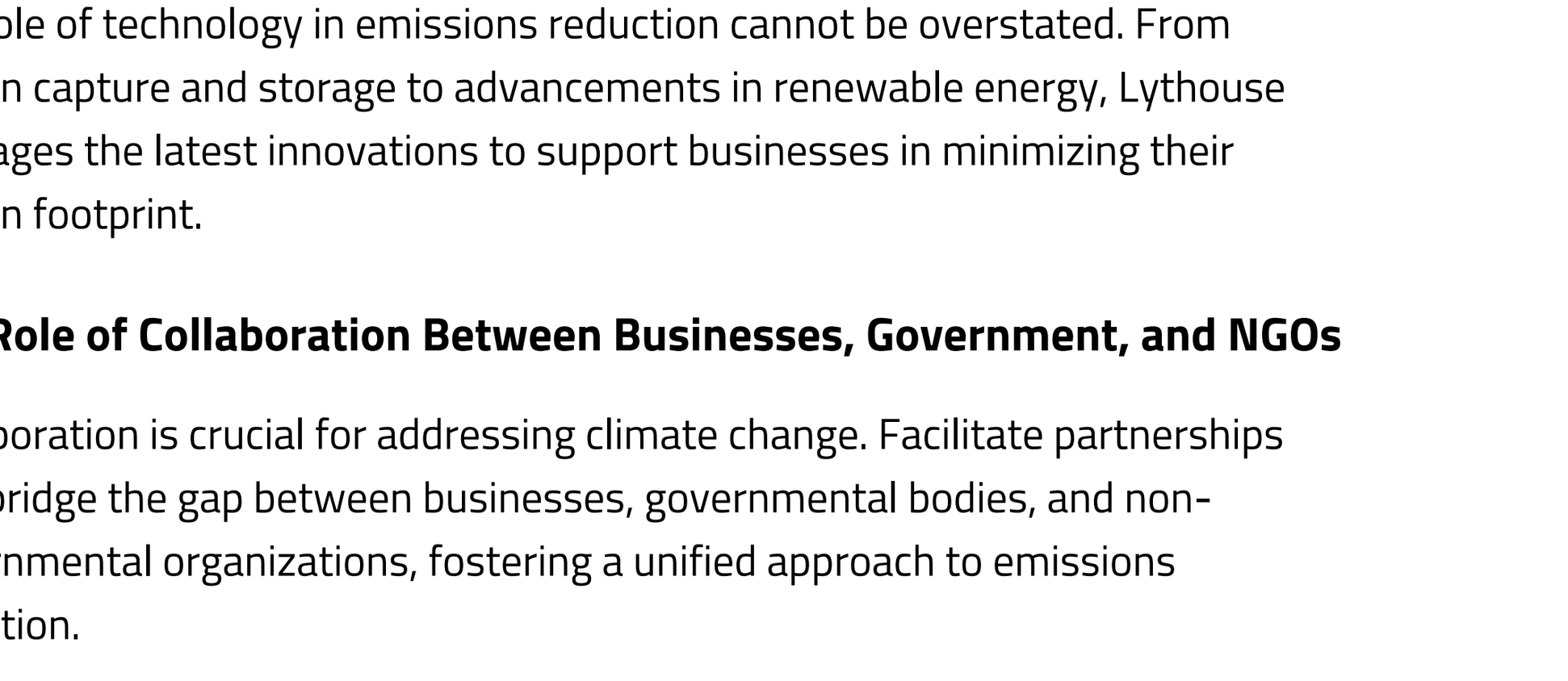
Canada's commitment to achieving net-zero emissions by 2050 demands innovative approaches and steadfast dedication from both the public and private sectors. Lythouse is at the forefront, aiding businesses in aligning with this national ambition through targeted emissions management and reduction strategies.

Technological Advancements and Innovation for Reducing Emissions

The role of technology in emissions reduction cannot be overstated. From carbon capture and storage to advancements in renewable energy, Lythouse leverages the latest innovations to support businesses in minimizing their carbon footprint.

The Role of Collaboration Between Businesses, Government, and NGOs

Collaboration is crucial for addressing climate change. Facilitate partnerships that bridge the gap between businesses, governmental bodies, and non-governmental organizations, fostering a unified approach to emissions reduction.



Lythouse Services for Canadian Businesses

Emissions Inventory and Reduction Strategy Development

Lythouse assists businesses in creating a detailed inventory of their Scope 1, 2, and 3 emissions, laying the groundwork for effective reduction strategies tailored to each company's unique context and goals.

Setting Ambitious and Achievable Emissions Reduction Targets

With Lythouse's expertise, companies can set realistic yet ambitious emissions reduction targets, aligning with international commitments like the Paris Agreement and Canada's own environmental objectives.

Data Management and Reporting for Scope 1, 2, 3 Emissions

Lythouse provides robust data management solutions and reporting tools, ensuring businesses can track their emissions over time, report progress accurately, and comply with regulatory requirements.

Stakeholder Engagement and Communication Strategies

Effective communication is key to stakeholder engagement. Lythouse helps businesses articulate their sustainability efforts and emissions reduction achievements, enhancing their reputation and building trust with customers, investors, and the community.

Regulatory Compliance Assistance

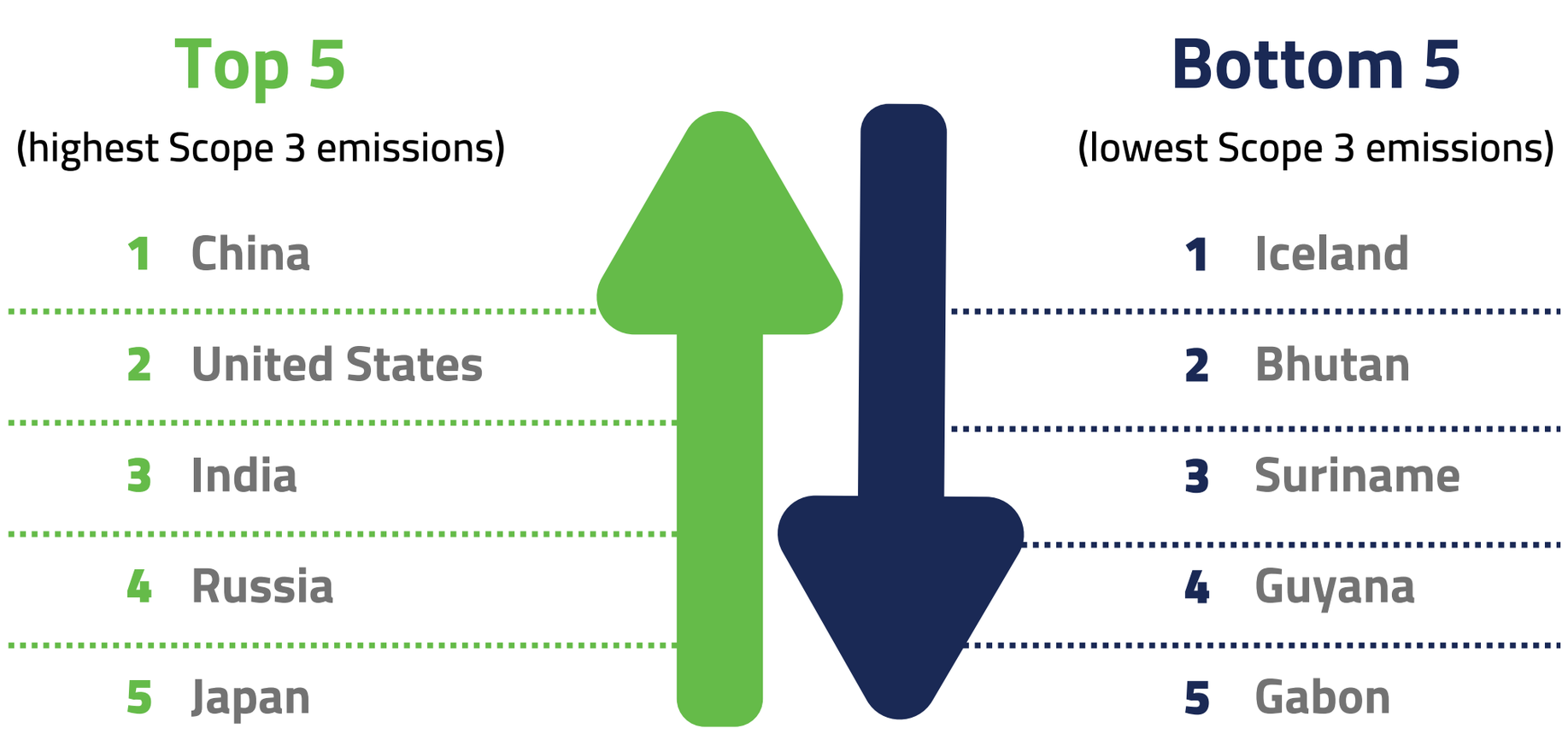
Navigating the complex landscape of environmental regulations is challenging. Lythouse offers guidance and support to ensure businesses meet all relevant compliance requirements, avoiding penalties and fostering a culture of transparency.

Global Initiatives and Country Comparisons

Global Initiatives:

- **Paris Agreement:** International treaty aiming to limit global warming. Sets goals for individual countries to reduce emissions.
- **The Climate Group:** Non-profit organization driving down global emissions through business leadership.
- **Science Based Targets initiative (SBTi):** Provides companies with tools and guidance to set ambitious emissions reduction targets aligned with climate science.

Top 5 vs. Bottom 5 Scope 3 Emitters:



Analysis:

- Low Emitters: These countries often have small populations, limited industrial activity, and abundant renewable resources like hydropower.
- High Emitters: These countries have large economies, high energy consumption, and significant industrial sectors.

Areas for Improvement:

- High Emitters: Invest in renewable energy sources, improve energy efficiency in buildings and industries, and encourage sustainable supply chains.
- Low Emitters: Implement policies to prevent future emissions growth as their economies develop.

Conclusion: Taking Action on Climate Change - A Shared Responsibility

The journey to a low-carbon economy presents both challenges and opportunities for Canada. As businesses play a pivotal role in this transition, partnering with Lythouse offers a path to not only navigate the complexities of emissions reduction but also to seize the benefits of sustainable practices. Together, we can forge a greener, more prosperous future for Canada.

FAQs

- **How can my business in Canada reduce its carbon footprint?** Engage with Lythouse to develop a comprehensive emissions reduction plan, focusing on energy efficiency, renewable energy, and sustainable supply chain practices.
- **What are some financial incentives available for businesses that reduce emissions?** Explore federal and provincial programs offering grants, tax incentives, and other financial benefits for implementing green technologies and practices.
- **How can I measure the impact of my company's emissions reduction efforts?** Utilize Lythouse's data management and reporting tools to accurately track progress against emissions targets and report on sustainability performance.
- **What are the reporting requirements for Scope 1, 2, and 3 emissions in Canada?** Reporting requirements can vary by province and sector. Lythouse can guide you through these regulations, ensuring compliance and transparency.
- **Where can I find more information about Canada's carbon pricing mechanisms?** Visit Environment and Climate Change Canada for detailed information on carbon pricing and other climate initiatives.

Embracing emissions management is not just about compliance; it's about leading the way in Canada's transition to a sustainable future. With Lythouse as your partner, your business can make a significant impact in the fight against climate change.

Resources:

- The Greenhouse Gas Protocol: https://ghgprotocol.org/corporate-value-chain-scope-3-standard

- Government of Canada - Greenhouse Gas Reporting Program: https://www.canada.ca/en/environment-climate-change/services/climate-change/greenhouse-gas-emissions/facility-reporting.html

- UK Department for Business, Energy & Industrial Strategy: https://www.gov.uk/government/organisations/department-for-business-energy-and-industrial-strategy

- The Climate Group: https://www.theclimategroup.org/

- Science Based Targets initiative (SBTi): https://sciencebasedtargets.org/

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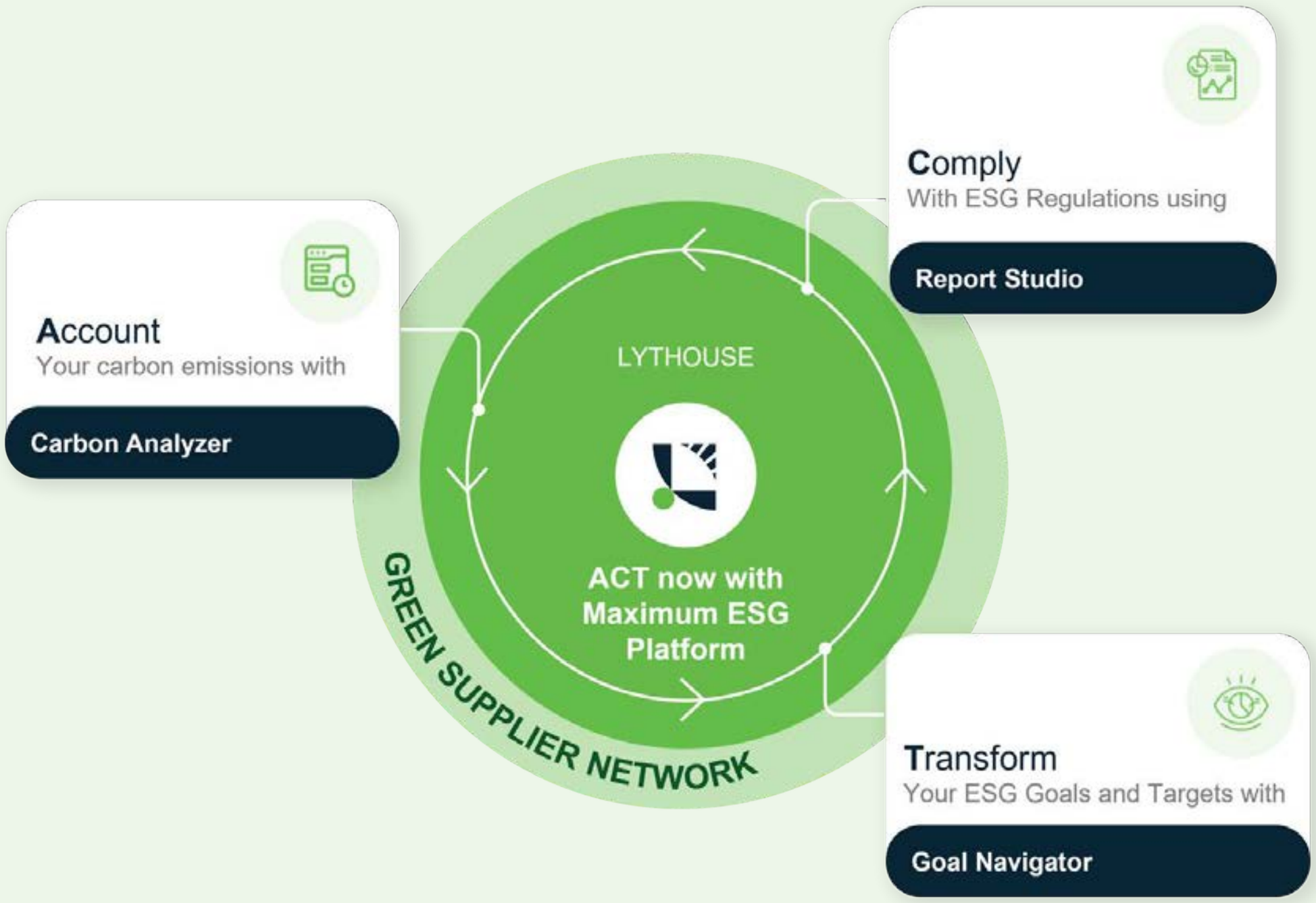

About Us

We understand that achieving ESG goals can be complex. So, you need a trusted, earnest, partner. Meet Lythouse.

Lythouse serves as your risk assurance companion on the path to ESG excellence. Helping you to navigate the intricate landscape of sustainability with unmatched precision and accuracy.

Our Mission

To help organizations unlock their full potential in the realm of sustainability.

With Lythouse, you can effortlessly account, comply, and transform your ambitious ESG goals.

Maximum Scope 3 Carbon Accounting

AI powered Extraction, Computation & Analysis

Maximum ESG Reporting

~ 100% coverage of global frameworks

Maximum ESG Governance

Track projects & targets to achieve ESG goals

Maximum Supplier Collaboration

Build your Green Supplier Network

The Zycus Legacy

10 Tn
Dollar Spend Processed

1 Mil+
Supplier Network

100%
Auto Classified Spends

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