sherritt

2022
Climate Report
A TCFD-Aligned Disclosure

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Commonly Used Terms

Acronym Used	Definition
TCFD	Task Force on Climate-related Financial Disclosures
GHG	greenhouse gas
CDP	Carbon Disclosure Project
GNC	General Nickel Company S.A.
CRC or COREFCO	The Cobalt Refinery Company Inc.
ICCI	International Cobalt Company Inc.
UNE	Unión Eléctrica
CUPET	Unión CubaPetróleo
OGP	Oil & Gas and Power
UNFCCC	United Nations Framework Convention on Climate Change
MAC	Mining Association of Canada
TSM	Towards Sustainable Mining
MW	megawatt
ROC	Reserves, Operations and Capital
ESG	Environment, Social, and Governance
CER	certified emission reduction
CO_2	carbon dioxide
JV	joint venture
LOM	life of mine
ECOG	economic cut-off grade
DSH	dense slurry hydroprocessing
IPCC	Intergovernmental Panel on Climate Change
IEA	International Energy Agency
RCP	Representative Concentration Pathway
CO_2e	carbon dioxide equivalent
GJ	gigajoule

Forward-Looking Statements

This Report may contain forward looking information, please refer to the Forward-Looking Statement in the 2022 Sustainability Report.

2022 Performance Highlights

- Completed a Task Force on Climate-related Financial Disclosures (TCFD)-aligned climate risk and opportunity assessment at the Fort Site;
- Integrated outcomes of the Fort Site climate risk and opportunity assessment into internal enterprise risk management frameworks;
- Kicked off a baseline energy/greenhouse gas (GHG) emissions assessment of our Energas operations, completed in Q2 2023;
- In conjunction with the Cobalt Institute, completed a life-cycle assessment for cobalt production;
- In conjunction with the Nickel Institute, kicked off a life-cycle assessment for nickel production;
- Advanced the prefeasibility assessment for a potential solar farm at Moa Nickel; and
- Continued to investigate a carbon capture, utilization, and storage project at the Fort Site in line with regulator and project sponsor advancements.

About This Report

This is the third year Sherritt has released a TCFD-aligned Climate Report. As we implement our transition plan to become a net zero organization, preparation of this report provides an opportunity for Sherritt to reflect on its areas of success and to transparently identify areas for improvement. The scope of this report represents our current climate-related strategy, risks and opportunities, and targets, which we will refine annually as part of our five-year Sustainability strategy. Table 1 below provides a concordance of this report relative to the most recent TCFD guidance document: "Implementing the Recommendations of the Task Force on Climate-related Financial Disclosures."[1]

Table 1: Conformity to TCFD Recommendations

Core Element	Recommendation	Report Reference
Governance	Describe the Board's oversight of climate-related risks and opportunities.	Section 2.1
	Describe management's role in assessing and managing climate-related risks and opportunities.	Section 2.2
Strategy	Describe the climate-related risks and opportunities the organization has identified over the short, medium and long terms.	Section 3.1
	Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy and financial planning.	Section 3.2
	Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower temperature rise scenario.	Section 3.3
Risk Management	Describe the organization's processes for identifying and assessing climate-related risks.	Section 4.1
	Describe the organization's processes for managing climate-related risks.	Section 4.2
	Describe how processes for identifying, assessing and managing climate-related risks are integrated into the organization's overall risk management.	Section 4.2
Metrics and Targets	Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.	Section 5
	Disclose Scope 1, Scope 2 and, if appropriate, Scope 3 GHG emissions and the related risks.	Section 5.3
	Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.	Section 5.1

1 Task Force on Climate-related Financial Disclosures. "Implementing the Recommendations of the Task Force on Climate-related Financial Disclosures". October 2021. Available at: Publications | Task Force on Climate-Related Financial Disclosures (fsb-tcfd.org)

Our Operations
Founded in 1927, with current operations in Canada and Cuba, Sherritt is a world leader in using hydrometallurgical processes to mine and refine nickel and cobalt – metals deemed critical for the energy transition. A brief summary of our operations is provided below. For a detailed overview of the business, please refer to Sherritt's 2022 Annual Information Form.

Moa Joint Venture and Fort Site
Sherritt has a 50/50 partnership with General Nickel Company S.A. (GNC) of Cuba in the Moa Joint Venture. In addition, Sherritt has a wholly owned fertilizer business, sulphuric acid, utilities and storage, and administrative facilities in Fort Saskatchewan, Alberta, Canada (Fort Site) that provide additional sources of income.

The Moa Joint Venture is a vertically integrated nickel and cobalt mining, processing, refining, and marketing joint venture between subsidiaries of Sherritt and GNC. The operations of the Moa Joint Venture are carried on through three companies:

- Moa Nickel S.A. (Moa Nickel) – owns and operates the mining and processing facility in Moa, Cuba;
- The Cobalt Refinery Company Inc. (CRC) – owns and operates the metals refinery in Fort Saskatchewan, Alberta; and
- International Cobalt Company Inc. (ICCI) – acquires mixed sulphides from Moa Nickel and other third-party feeds, contracts with CRC for the refining of such purchased materials, and then markets the finished nickel and cobalt; located in Nassau, Bahamas.

The Moa Joint Venture operates in Moa, Cuba, and Fort Saskatchewan, Canada. Within the report, the operations in Moa will be referred to as "Moa Nickel" and the operations in Fort Saskatchewan will be referred to as "the Fort Site".

Power
Sherritt holds a one-third interest in Energas S.A. (Energas), a Cuban joint venture corporation established to operate facilities for the processing of raw natural gas and the generation of electricity for sale and delivery to the Cuban national electrical grid system.

The remaining two-thirds interest in Energas are held equally by two Cuban government agencies: Unión Eléctrica (UNE) and Unión Cubapetróleo (CUPET).

Within the report, the Oil & Gas operations will be referred to as "Oil & Gas" and the Power operations will be referred to as "Energas". On occasion, information is aggregated for both Oil & Gas and Energas due to a common management structure; where this is done, "OGP" (Oil, Gas & Power) will be used.

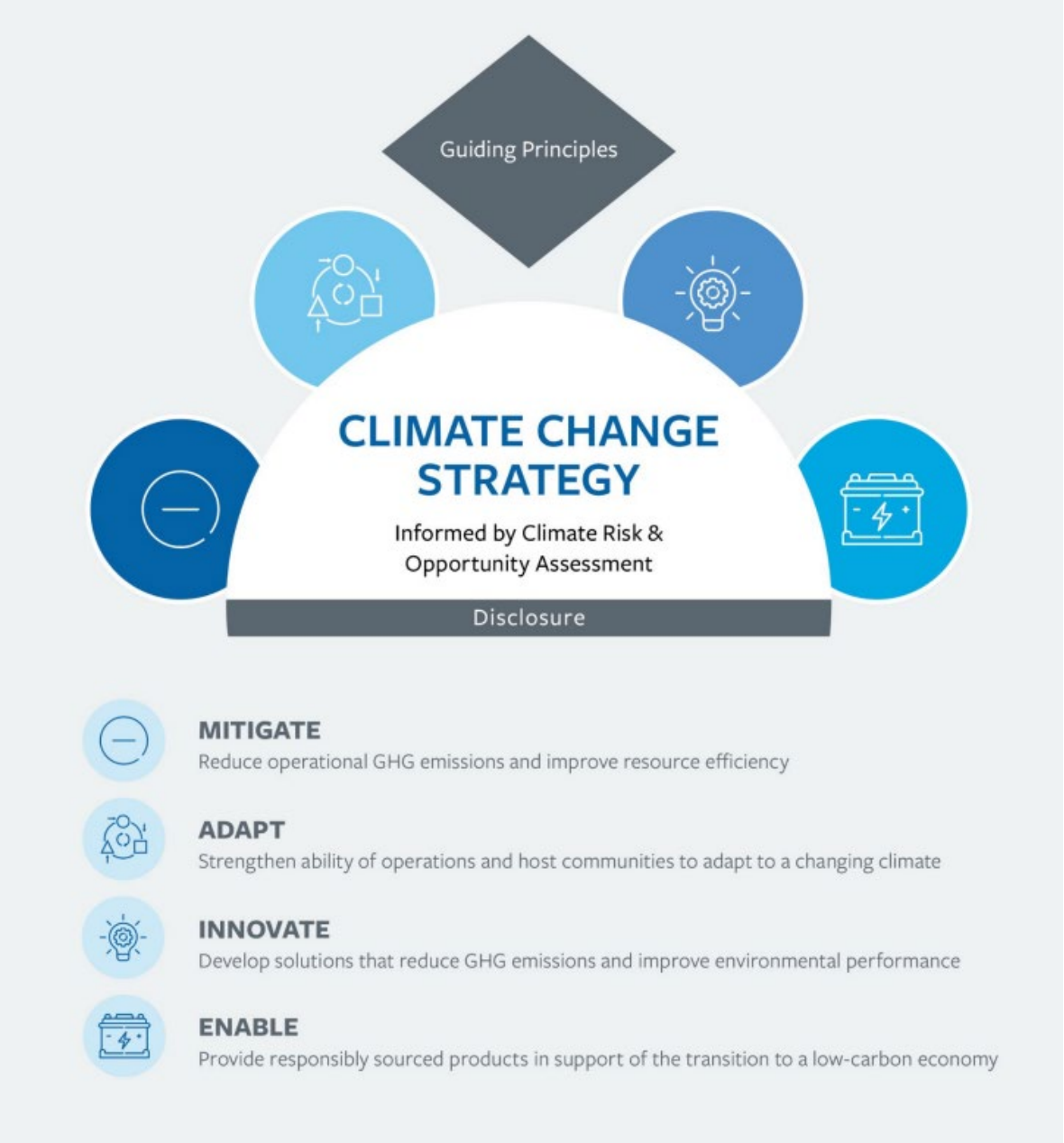
Technologies
Sherritt's Technologies group (Technologies) provides technical support, process optimization and technology development services to the Moa Joint Venture and Fort Site operations and identifies opportunities for the Corporation to commercialize its research and development for natural resource–based industries. Technologies has a particular focus on making next generation lateritic ore mining more economically viable and more sustainable and on the hydrometallurgical recovery of non-ferrous metals.

Oil & Gas
Sherritt's Oil & Gas Division (100% ownership) division explores for oil and gas primarily from reservoirs located offshore, but in close proximity to the coastline along the north coast of Cuba and provides drilling services for third parties. Sherritt has continued its efforts to seek an earn-in partner to develop these exploration blocks or to otherwise extract value from our interests and expertise in oil and gas in Cuba. Presently, there is little activity within this division, and subsequently only limited ESG implications for the business.

1.0 Our Approach and Commitments

Sherritt recognizes the critical role businesses must play in addressing global climate-related challenges and acknowledges that both nickel and cobalt have been listed on Canada's and the United States' "Critical Minerals" lists[1]. We support the international climate change goals outlined in the United Nations Framework Convention on Climate Change (UNFCCC) and the Paris Agreement, and recognize the important role we can play in the shift to a low-carbon economy. For Sherritt, this means both actively implementing measurable steps towards a net zero future and bringing to market the materials and technologies needed for a decarbonized future and circular economy. Accordingly, Sherritt has established a climate action plan with interim and aspirational targets of reducing our carbon footprint with the ultimate goal of achieving net zero GHG emissions by 2050. Our strategy is designed to align with both the Mining Association of Canada's (MAC) Towards Sustainable Mining (TSM) initiative and the recommendations of the TCFD.

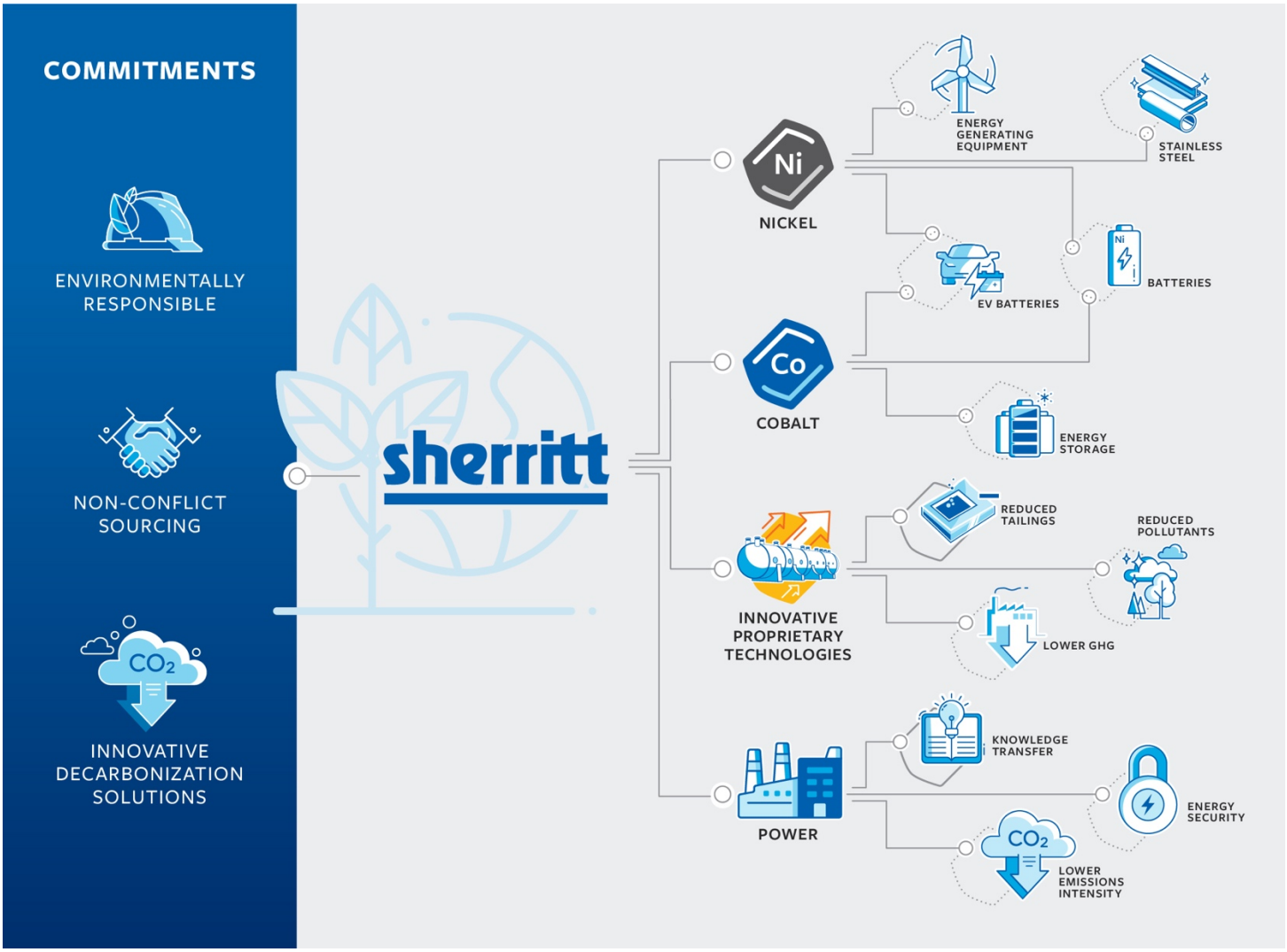
Our approach is informed by four guiding principles:



1 Government of Canada: Critical minerals (nrcan.gc.ca); U.S. Geological Survey Releases 2022 List of Critical Minerals | U.S. Geological Survey (usgs.gov)

1.1 How Our Products and Technologies Contribute to Global Decarbonization

Transitioning to a low-carbon future implies a significant increase in demand for metals such as nickel and cobalt. These minerals are used in low-carbon and carbon-neutral technologies such as electric vehicle batteries and energy storage solutions for renewable power sources. Additionally, Sherritt is the largest independent energy producer in Cuba, where we provide electricity for the Cuban power grid using natural gas through combined cycle plants. Our methods have an approximately 30% lower emissions intensity profile than the average power production methods used to supply the Cuban grid. An independent assessment of Energas' GHG emissions estimates that since 1998 Energas operations in Cuba have displaced 15 Million tCO_2e GHG from the Cuban grid. Energas' installed electrical generating capacity is 506 MW, representing approximately 10% of the national electrical generating capacity in Cuba in 2022. As a long-term partner in Energas, Sherritt has brought both technical and operational expertise, which supports Cuba's energy security needs and carbon reduction initiatives. For example, during Hurricane Ian in late 2022, Energas was a critical supplier of continued power to the Cuban grid. Additionally, Sherritt's Technologies Group creates innovative, proprietary solutions for natural resource–based industries around the world to improve environmental performance and increase economic value.



2.0 Governance (TCFD)

In line with the global attention on climate-related issues, Sherritt's Board of Directors and executive team have advocated the need for all levels of the Corporation to begin integrating climate change risks and opportunities into our strategic planning and enterprise risk management processes.

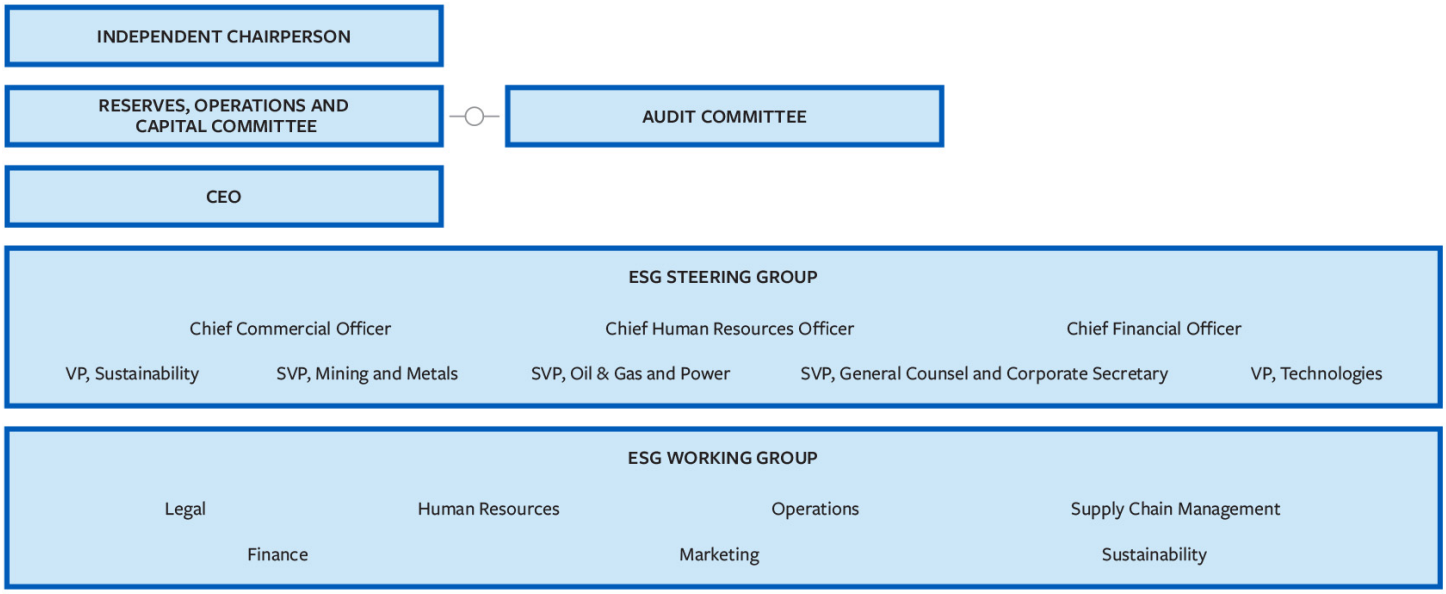
2.1 Role of the Board

Sherritt's Board of Directors (the Board), which is led by a non-executive Chairperson, provides oversight on all strategic matters, including risks and opportunities related to climate change. The Sherritt Board of Directors, through its Reserves, Operations and Capital (ROC) Committee, oversees the management of all Environment, Social, and Governance (ESG)–related matters, which includes reviews of climate-related issues, targets and performance. The Board includes an expert on decarbonization and climate change management. All Board member biographies can be found here. Risk management and assurance activities associated with climate change can also be conducted through the Audit Committee of the Board. The mandate of each of the Board, ROC and Audit committees can be found on Sherritt's website.

2.2 Role of Senior Management

In addition to direction and priorities set out by the Board, the Vice President of Sustainability and the Chief Commercial Officer, who reports directly to the President and Chief Executive Officer, are accountable for ensuring the successful delivery of climate-related initiatives across the organization.

Sustainability Governance



2.3 Assurance and Oversight

Table 2 below indicates the various forms of internal and external assurance conducted on Sherritt's climate change disclosures. Following assurance, our Board and management teams review the results to inform future actions and strategic plans.

Table 2: Assurance Measures Related to Climate Change

Assurance Type	Organization	Items Reviewed
External	Mining Association of Canada: Towards Sustainable Mining Assurance	• Energy use and GHG emissions management systems • Energy use and GHG emissions reporting systems • Energy use and GHG emissions performance targets
External	GHG Regulation Assurance (Alberta, Canada)	• Validation of GHG data reported and quantification of methodologies
Internal	Corporate Reserves, Operations and Capital Committee	• Sustainability reporting systems, including climate change • Sustainability and climate change performance

3.0 Strategy (TCFD)

Throughout 2022, Sherritt made progress on advancing the baseline data collection phase of its Climate Strategy. Over the next two years, we will continue to collect independent information on the carbon intensity of our operations, complete independent climate risk assessments, assess and refine our targets and plans accordingly, and improve our alignment with TCFD guidelines.

Assessing climate-related risks and opportunities has in recent years become an integral part of our overall risk management and strategy development processes. Several key activities aimed at providing us with critical data for our Climate Strategy were advanced, commenced or completed in 2022, including the following:

- Completed a TCFD-aligned climate risk and opportunity assessment at the Fort Site;
- Integrated outcomes of the Fort Site climate risk and opportunity assessment into internal enterprise risk management frameworks;
- Kicked off a baseline energy/GHG emissions assessment of our Energas operations, completed in Q2 2023;
- In conjunction with the Cobalt Institute, completed a life-cycle assessment for cobalt production;
- In conjunction with the Nickel Institute, kicked off a life-cycle assessment for nickel production;
- Advanced the prefeasibility assessment for a potential solar farm at Moa Nickel; and
- Continued to investigate a carbon capture, utilization, and storage project at the Fort Site in line with regulator and project sponsor advancements.

These efforts will assist us in refining and identifying short-term (1–5 years), medium-term (5–10 years), and long-term (10+ years) climate-related risks and opportunities and meaningful and effective mitigation, resilience, and adaptation management strategies to reduce risk and enhance our ability to seize opportunities.

3.1 Climate-related Risks and Opportunities

Table 3 below summarizes the currently identified risks and opportunities across the business, as well as associated potential mitigating or enhancing actions. This table includes climate-related risks and opportunities identified in 2022 through the completion of an independently facilitated TCFD-aligned climate scenario analysis for the Fort Site. This analysis provided Sherritt with business-relevant information as to the nature and level of identified climate-related physical risks and transitional risks and opportunities. In 2023, this same analysis will be completed for the Joint Venture Cuban operations and we anticipate that our currently identified risks and opportunities, and management approach will continue to evolve.

Table 3: Summary of Climate-related Risks and Opportunities and Mitigation Measures

Risk and Opportunities	Time Frame	Mitigation
Potential Risks		
Regulatory developments Government regulatory developments in support of emissions reductions, battery regulations and proposed border adjustments for carbon-intensive products have the potential to affect operations and sales due to restrictions in operating permits, energy regulations, emissions caps or access to markets.	Medium-term (5–10 years)	We play an active and constructive role in public policy development on carbon and regulatory issues, both directly and through industry organizations such as the Mining Association of Canada, the Fertilizer Institute, the Nickel Institute and the Cobalt Institute.
Changing climate patterns Extreme weather events, such as floods, wildfires, hurricanes and droughts, as well as changes in precipitation patterns, temperature, sea levels and storm frequency, can affect our sites' operations, critical infrastructure and supply routes, and the local communities.	Medium-term (5–10 years)	We monitor changing weather conditions and modify our operating processes and emergency preparedness as appropriate. The integrity of our assets, including operating facilities and tailings storage facilities, is externally reviewed regularly against the potential impact of extreme weather events.

Risk and Opportunities	Time Frame	Mitigation
		We engage with our logistics and supply chain partners to understand and support their efforts to mitigate and adapt to changed climate patterns. Climate-related physical risks were identified for the Fort Site through the 2022 climate risk and opportunity assessment. Limited physical and financial impacts were identified based on existing data. Long-term worst-case physical climate risks identified include increased risk of wildfire near the site, coastal flooding at the port of Halifax and rail disruption. Medium-term climate transition risks include increased GHG compliance costs and market share/access risks associated with the carbon intensity of our products. The Fort Site is currently incorporating these physical risks and others identified into their Climate Change Mitigation and Adaptation Plan. In 2023, this same assessment will be completed for our Cuban operations, from which we plan to further incorporate scenario-specific climate risk and adaptation measures into our business plans.
Potential Opportunities		
Carbon pricing and credits Pricing carbon through direct taxes may create additional costs through the value chain, as well as providing opportunities to promote lower-carbon products. In addition, increasing demand for our mineral commodities is likely to drive higher prices, in turn offsetting increases to processing costs arising from the implementation of carbon pricing instruments.	Short-term (1–5 years)	We believe that, overall, our business remains resilient in the face of increasing carbon prices in Canada. We consider local regulations as part of our ongoing business planning for existing assets. We incorporate carbon price sensitivities into our operating and business plans and plan to incorporate carbon price sensitivities into capital investments, potential growth and innovation decision-making processes. A GHG baseline assessment is planned for the Fort Site in 2023 to quantify emissions and identify opportunities for absolute emissions reductions. See update in Section 3.2 on our carbon capture, utilization and storage project. In Cuba, our Energas Division can register GHG emission-reduction projects with the United Nations clean development mechanism to earn certified emission reduction (CER) credits. These CER credits can be traded, sold and used to meet certain emission reduction targets. In 2022, a GHG emissions baseline assessment of our Energas business was completed which quantified operational emissions and identified emission reduction opportunities for the Cuban grid. Identified opportunities will be prioritized and integrated starting in 2023. This same baseline assessment is planned for Moa Nickel to be completed in 2023.

Risk and Opportunities	Time Frame	Mitigation
Performance Driven Risks or Opportunities		
Access to capital Inadequate performance against climate objectives may impact our access to capital or insurance, increase the cost of financing, or lead to divestment of our shares as investors migrate away from companies with lower ESG performance.	Short- to long-term (2+ years)	We launched a climate plan to enable us to meet our climate-related objectives and have also launched an ESG improvement task force to ensure that our disclosures and systems align with industry expectations. We maintain strong relationships with our lenders and insurers and continue to actively and transparently engage on ESG-related issues. We have a number of initiatives with specific targets underway to improve our ESG performance, mitigate risks, and remain relevant and attractive for investors and other stakeholders. We are developing technologies to help the metals industry improve its ESG performance. Not only are our metals going to be produced at lower carbon intensities, but we are also developing technologies to help others produce lower carbon intensity metals too.
Product demand Variations in commodity use from emerging technologies, the move towards renewable energy generation, a circular economy and policy changes may affect demand for our products, both positively and negatively.	Medium- to long-term (5+ years)	We track and respond to downstream regulatory and technology developments. We believe that there are opportunities to continue to positively position our products and technologies to enable global decarbonization, particularly due to the high demand for nickel and cobalt in energy storage and electric vehicle batteries. We work with customers and industry associations to understand our current and planned ESG performance to remain relevant and participate in ever improving ESG value chains.

3.2 Impacts on Business Strategy and Financial Planning

Sherritt has made progress on further integrating identified climate-related risks and opportunities into our business strategy and financial planning processes, and we are continually evaluating new ways to further embed these considerations into all aspects of the business. Current considerations include:

Capital Allocation: When relevant, meetings chaired by the President and Chief Executive Officer include discussions on operational approaches to decarbonization, including capital investments to improve energy efficiency and reduce GHG emissions, and strategies to incorporate more renewables into our energy mix. In future years, Sherritt anticipates releasing further information on how capital allocation is tied to our climate strategy through integrated financial disclosures. Our capital allocation processes prioritize the production of commodities essential to the transition to a low-carbon economy, and increasing electricity production from lower carbon emitting sources to the Cuban grid.

Operational Strategy and Mine Planning: We work with industry associations and partners to support predictable policy mechanisms aimed at achieving cost-efficient emissions reductions. We continue to strengthen our processes to incorporate changes in local regulations and carbon pricing sensitivities into our business planning for existing assets, innovation pipelines, new investments, and as part of our marketing activities. Our ongoing work plan and the increasing requirements we place on our operations substantiate our corporate approach and commitments on climate change.

In 2022, Sherritt completed a prefeasibility study for a solar farm at our Moa Nickel site in Cuba. Throughout 2023, Sherritt will conduct further feasibility studies to assess the viability of this project in the near term. In 2022, Sherritt also advanced the evaluation of opportunities for carbon capture, utilization and storage at the Fort Site. Sherritt engaged several potential partners to sequester pure CO_2 emissions. This work would generate enough carbon credits to meet Sherritt's obligations, with additional credits remaining to be sold on the market. Currently Sherritt and other industry players in Alberta are waiting to secure longer-term contracts for reliable carbon sequestration. The delays for available projects are due to high market demand and outstanding provincial government approvals.

We are working to better understand the Scope 3 emissions of our products and suppliers through collaboration with our value chains. An identification of material Scope 3 emissions for Energas, Moa Nickel and the Fort Site will be summarized in each of the respective baseline/GHG emissions studies that have been, or will be, completed. Additionally, all Sherritt operations are implementing the new TSM Climate Change Protocol. Plans are in place to complete gap analyses and develop implementation plans in relation to this protocol in 2023.

Further to meeting TSM requirements, the Fort Site operates under a provincial GHG regulatory system. In 2022, the refinery continued to action its Energy and Greenhouse Gas Improvement Plan. This plan involves several energy-reduction projects to assess feasibility and value-add potential to the company.

Expansion Strategy and Investment: Throughout 2022, Sherritt also completed studies for an updated 43-101 technical report, "The 2023 Moa JV Technical Report"[1], which incorporates a newly developed strategic life of mine (LOM) plan based on a revised economic cut-off grade (ECOG) methodology. This updated ECOG maximizes resource utilization and minimizes the treatment of material with high acid consumption, which has the potential to reduce the carbon intensity of our products. In 2022, work was also advanced on several efficiency improvement plans for the expansion project at Moa Nickel, such as the construction of a new Slurry Preparation Plant that will reduce haul distances and the consumption of diesel.

1 Sherritt International - Sherritt's Updated Reserve Estimate and Life of Mine Plan at the Moa JV More than Doubles Reserves and Extends Life of Mine to 26 years

Innovation: Meetings chaired by the Chief Commercial Officer include reviews of Sherritt's innovation pipeline and discussions on how our technologies can contribute to industrial decarbonization efforts. Our Technologies Division is pursuing several promising innovations with lower carbon emission potential solutions for the mining and oil and gas industries, as described below.

1. **Next-Generation Laterite Processing**
   Nickel is a key component of future technologies that demand high-strength alloys and a pivot from hydrocarbons to electrical energy systems. The availability of such large quantities of nickel in the future can only be assured by the processing of laterite ores. We are currently invested in a focused process development program that seeks to make laterite processing both more economically attractive and environmentally sustainable, through increased by-product value generation and greater extraction selectivity.

2. **Treatment of Complex Concentrates - High-Arsenic Copper**
   Sherritt Technologies has developed a suite of proprietary processes (Chimera and D-POX) for the treatment of complex copper and precious metals concentrates (or other high arsenic content feeds) that enable high recoveries of base and precious metals while providing a significant step change in the stabilization of arsenic bearing solid waste and eliminating the release of these contaminants into the air and surrounding environment.

   Blending costs and processing penalties related to the treatment of complex concentrates renders many large, high-grade copper deposits infeasible. Current practices also do not address the environmental concerns related to air pollution and generally have higher carbon emissions related to processing method and transportation. With demand for copper slated to grow by almost 30% over the next 10 years as the electrification trend intensifies, the opportunity for Sherritt's solution is significant.

3. **Dense Slurry Hydroprocessing (DSH)**
   Sherritt Technologies has leveraged its mature and successful metallurgical reactor technology and applied it to the processing of bio-oils into second-generation renewable fuels and upgrading of refinery vacuum residue to create value-added products and upgrading of heavy oils and bitumen. Utilizing the DSH reactor platform for bio-oils would overcome many of the challenges associated with commonly utilized fixed bed designs. The technology makes use of high concentrations of a cost-effective, engineered catalyst that is recovered for re-use. The DSH flow sheet is simpler as it treats the entire stream in a single vessel and as a result is estimated to have a lower capital intensity than other hydroconversion processes currently used.

   The DSH process has many economic and environmental advantages as it uses more efficient and smaller reactors, reduces carbon emissions and slag and coking waste, and increases the proportional production of higher value products, increases transportation and pipeline capacity, and eliminates the costs and impacts associated with diluent.

3.3 Climate Resilience

Further work remains to be done to fully identify all the potential climate-related physical and transition risks to Sherritt under varying climate scenarios. In 2024, Sherritt expects to be able to disclose the outcomes of an independently facilitated TCFD-aligned climate scenario analysis for the Moa Nickel and Energas operations in Cuba. We expect the outcomes of these activities to further inform the development of refined science-based targets and corresponding mitigation and adaptation plans for our operations in Cuba.

4.0 Risk Management (TCFD)

4.1 Climate-related Risk Identification

Sherritt's senior management team is responsible for identifying climate-related risks and opportunities to the business. This is done through consultation with key personnel at each of the operations, who have been directed to consider mechanisms for reducing emissions and raising awareness of potential short-, medium-, and long-term risks to site infrastructure and the health and safety of employees and local communities based on the completion of independent climate change baselines and risk assessments.

In addition, senior management representatives participate actively in third-party organizations, such as MAC, and regularly attend conferences to continue to enhance the organization's understanding of evolving standards, regulations, and financial or operational carbon offset opportunities.

Sherritt plans to more formally evaluate climate-related risks and opportunities through a series of independently facilitated TCFD-aligned workshops with relevant members of management to ensure these are well understood and that implementation of mitigating or enhancing actions are being undertaken across and at all levels of the organization.

In 2022, an independently facilitated TCFD-aligned climate scenario analysis was completed for the Fort Site. The physical risk assessment component of this analysis used Intergovernmental Panel on Climate Change (IPCC) scenarios representing a temperature rise well below 2°C and a temperature rise of 4°C, and the carbon tax risk assessment considered prices motivated by the International Energy Agency's (IEA) announced pledges and net zero emissions scenarios. Although no material controllable risks were identified, the outcomes of this analysis provided Sherritt with business-relevant information on the type and severity of identified climate-related physical risks and transitional risks and opportunities. Sherritt has incorporated the findings of this assessment into our overall enterprise risk management framework to prioritize risks and opportunities and financial impacts. In 2023, similar assessments will be completed for Sherritt's Cuban operations.

4.2 Approach to Business Risk and Climate-related Risk Management

Both the Board of Directors and dedicated senior management representatives have direct responsibilities and oversight of climate-related risk management. Additionally, the Chief Financial Officer is responsible for the Corporation's enterprise risk management process and incorporating climate-related risks into the identification, prioritization, mitigation and reporting processes. The enterprise risk management process relies on regular risk assessments from key functions and all the operations.

5.0 Metrics and Targets (TCFD)

Sherritt has established the following targets that are informing the priorities of the company as we move towards the establishment of science-based targets based on Representative Concentration Pathway (RCP) modelling.

5.1 Current Targets

Sherritt has established interim aspirational targets aligned with the Paris Agreement. Following completion of baseline GHG assessments at each of the sites, and completion of a RCP scenario analysis, Sherritt will refine its targets and provide updates on actions/progress against them in future years' reports. Our interim targets are as follows:

- Achieve net zero GHG emissions by 2050;
- Reduce overall GHG emissions intensity from 2019 levels by 10% by 2030;
- Obtain 15% of total energy from renewable sources by 2030; and
- Ensure all sites achieve a verified Level A status in the TSM Climate Change Protocol by 2024.

5.2 Performance Metrics

Sherritt is in the process of developing climate and energy management systems that will improve how we evaluate and manage climate-related risks and opportunities. We are also considering how our climate change commitments can be further reflected in our governance and assurance structures, disclosure plans, and potentially relevant remuneration schemes for executive management. We currently report on performance relative to our existing climate change objectives by providing our Scope 1 and 2 emissions data in our Sustainability reports. Details on our historical performance can be found in our 2022 Sustainability Scorecard and in the tables below.

5.3 2022 Performance Summary

Table 4: Metals Business Emissions and Production Values[1]

		2022	2021
Emissions[2]	**Scope 1 GHG emissions (tonne CO_2e)**	923,132.712	941,721.884
	Scope 2 GHG emissions (tonne CO_2e)	119,558.000	123,122.000
Production	**Cobalt (tonne)**	3,367.075	3,526.000
	Nickel (tonne)	32,267.933	31,184.000

1 No external assurance of this data has occurred for the years reported here.

2 Production and Scope 1 and 2 emissions values shown are inclusive of both Sherritt and our joint venture Partner's. In opting to facilitate this disclosure on our Partner's behalf, the total emissions attributed to Sherritt are over-represented. The total of each of these values that can be attributed to Sherritt are 50% due to the level of equity ownership by Sherritt in this joint venture.

Table 5: OGP Emissions and Production Values[1]

		2022	2021
Emissions[3]	**Scope 1 GHG emissions (tonne CO_2e)**	2,704,379.825[4]	2,077,207.387
	Scope 2 GHG emissions (tonne CO_2e)	27,660.000[5]	17,138.000
Production	**Natural Gas (tonne or tonne of oil equivalent (toe))**	14.133	14.144
	Liquid Petroleum Gas (tonne)	6,170.450	8,700.200
	Net Power Generation (GJ)	6,745,700.000	4,859,091.000

1 No external assurance of this data has occurred for the years reported here.

2 Production and Scope 1 and 2 emissions values shown are inclusive of both Sherritt and our joint venture Partner's. In opting to facilitate this disclosure on our Partner's behalf, the total emissions attributed to Sherritt are over-represented. The total of each of these values that can be attributed to Sherritt are 33% due to the level of equity ownership by Sherritt in this joint venture.

3 In 2022, OGP net power generation increased from 4,859,091 GJ in 2021 to 6,745,700 GJ in 2022, representing an increase of 26%. This increase in net power generation resulted in an overall increase in Scope 1 emissions as gas turbines are the main source of power generation.

4 In 2021, power for OGP operations was supplied by a larger proportion of internally produced energy sources. In 2022, more energy was purchased from the power grid, resulting in an increase in Scope 2 emissions.

Table 6: Energy Consumption within the Organization[1]

Disclosure Components	Year	Fort Site	Moa Nickel	OGP
Total electricity consumption (GJ)	2022	602,953.000	229,000.000	611,442.000
	2021	544,464.000	266,873.000	592,182.550
Total energy usage (GJ)	2022	6,918,079.000[2]	9,706,000.000[3]	611,442.000
	2021	5,222,000.000	6,418,000.000	581,448.000
Other sources of energy consumption				
Total coal consumption (GJ)	2022	0.000	0.000	0.000
	2021	0.000	0.000	0.000
Total fuel consumption from renewable fuel sources (solar, wind, etc.) (GJ)	2022	0.000	0.000	0.000
	2021	0.000	0.000	0.000
Heating consumption (GJ)[4]	2022	838,809.000	7,200,000.000	0.000
	2021	0.000	0.000	0.000
Cooling consumption (GJ)	2022	0.000	0.000	0.000
	2021	0.000	0.000	0.000
Steam consumption (GJ)[5]	2022	5,386,671.000[6]	2,277,000.000[6]	0.000
	2021	0.000	4,530,000.000	0.000
Energy sold				
Electricity sold (GJ)	2022	0.000	0.000	6,306,766.510
	2021	0.000	0.000	4,991,882.000
Heating sold (GJ)	2022	0.000	0.000	0.000
	2021	0.000	0.000	0.000
Cooling sold (GJ)	2022	0.000	0.000	0.000
	2021	0.000	0.000	0.000
Steam sold (GJ)[8]	2022	89,646.190	0.000	0.000
	2021	77,921.000	0.000	0.000

1 No external assurance of this data has occurred for the years reported here.

2 In 2022, improved environmental tracking accounted for energy derived from the combustion of sulphur at the Fort Site, which was not reported in 2021.

3 In 2022, improved environmental tracking accounted for steam from additional plant areas at Moa Nickel, which was not reported in 2021.

4 In 2022, improved environmental tracking accounted for energy used for hearting at both the Fort Site and Moa Nickel, which was not reported in 2021.

5 The steam at Moa Nickel is generated by burning fossil fuels and sulphur on site. The steam is consumed internally on site in the process and used to generate electricity.

6 In 2021, this data reflected total steam consumption. In 2022, correction to the datasets were made to better reflect operational realities (i.e., that energy was used to generate internal electricity).

6.0 Future Initiatives

The following actions are underway or planned for 2023:

- Independently facilitated TCFD-aligned climate risk analyses at the Moa Nickel and Energas operations in Cuba;
- Development of a GHG baseline for Moa Nickel and the Fort Site;
- Advance feasibility studies for a potential solar farm at Moa Nickel;
- Continue to assess opportunities for carbon capture, utilization and storage for the Fort Site; and
- Continue participation in the Cobalt and Nickel institutes life-cycle assessments.