Natural Resources Canada

2022–23

Departmental Plan

Originally signed by

The Honourable Jonathan Wilkinson, P.C., M.P.
Minister of Natural Resources

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From the Minister

Our changing climate is the challenge of our generation, but if we continue to tackle it thoughtfully and work collaboratively, it could also be the opportunity of our lifetimes. That is particularly true for Canada's natural resource industries; they have a long history of overcoming difficult boom-and-bust cycles. We need their expertise and experience more than ever as we build back from the global pandemic, reduce our greenhouse gas emissions and create a more prosperous and inclusive low-carbon economy. This Departmental Plan lays out how Natural Resources Canada (NRCan) will play a central role in all of that as our government delivers on both its economic and environmental ambitions.

As this Plan makes clear, our first priorities must be the well-being of Canada's resource communities and their workers, the advancement of a sustainable, circular economy and the competitiveness of our natural resource sectors as we make the transition to net-zero emissions by 2050. We must seize upon this pivotal moment for the sector to realize a vision for Canada's sustainable natural resources in a net-zero future.

NRCan will help by accelerating the development and adoption of clean technologies that can transform resource sectors, lead to new products and services, and reduce emissions in all sectors of the national economy – including construction, transportation and manufacturing. We will see the benefits in cleaner sources of energy, enhanced energy efficiency, more zero-emission vehicles and smarter cities and grids. Through ongoing consultations with the provinces and territories, as well as with key partners – including industry leaders, Indigenous Peoples and community stakeholders – we can develop concrete actions that reflect Canada's unique circumstances.

Every resource industry will contribute to this shared success. For example, the mining sector will be the great enabling industry of the 21st Century, producing the critical minerals and metals needed for tomorrow's clean technologies – everything from renewable sources of energy to better ways to store excess power. We propose to leverage Canada's mining know-how and work alongside key trade partners to ensure sufficient critical minerals and secure global supply chains that will sustain new industries, such as domestic battery manufacturing.

Like so many of this government's achievements, this Departmental Plan envisions a Team Canada approach – at home and abroad. We will continue to partner meaningfully with Indigenous Peoples, as a path to reconciliation, by implementing the *United Nations Declaration on the Rights of Indigenous Peoples* and promoting Indigenous participation in resource development. We will also specifically engage with women, youth, racialized Canadians, persons

with disabilities and the LGBTQ2 community to ensure everyone, in every region of the country, can see themselves reflected in our resource sectors.

Science is an integral part of NRCan's plans – and for good reason. More than 40 percent of the Department's employees are scientists, technicians and technologists. They are doing world-class research to inform public policy and support breakthrough solutions. This is critical work that also helps to protect Canadians from natural disasters and human-made hazards – including extreme weather events such as longer and more intense wildfire seasons, unprecedented flooding and record-high temperatures, as well as earthquakes and pest infestations. To meet these threats we will continue to pursue nature-based solutions, climate adaptation and resilience measures, enhanced cybersecurity and satellite-based data for near real-time information and emergency responses.

By following the science, ensuring equity, and enlisting the ingenuity and imagination of all Canadians we can achieve our ambitious climate targets and build a prosperous, sustainable economy. The opportunity is ours.

The Honourable Jonathan Wilkinson, P.C., M.P.
Minister of Natural Resources

Plans at a glance

Canada's natural resources sector keeps showing strong signs of recovery from the impact of COVID-19, returning and in most cases now surpassing pre-pandemic levels of economic activities. Real gross domestic product of the energy, forestry, mining and mineral subsectors all rose in the third quarter of 2021, the fourth quarterly increase in the last five years. Accounting for approximately 15.5% of gross domestic product, 47% of total exported Canadian goods and supporting over 1.9 million direct and indirect jobs in 2020, the natural resources sector remains the source of prosperity and innovation for Canadians.

Remaining competitive, sustainable and environmentally responsible in the context of ongoing trade practices and trade protectionism measures from key markets are challenges the natural resources sector continue to face. As a science-based department, Natural Resources Canada uses and supports evidenced-based research, policies and innovative programs to guide the natural resources sector in its quest to develop sustainably and competitively, in the process contributing to Canada's efforts at reaching net-zero greenhouse gas (GHG) emissions by 2050.

By engaging with foreign and domestic partners, including Indigenous Peoples, the Department contributes to the achievement of commitments articulated in the Mandate Letter of the Minister of Natural Resources, and the Department's three Core Responsibilities:

- Natural Resource Science and Risk Mitigation;
- Innovative and Sustainable Natural Resources Development; and,
- Globally Competitive Natural Resource Sectors

In 2022-23, NRCan will deliver on five strategic priorities derived from its mandates, core responsibilities and ministerial commitments to assist the natural resources sector ongoing recovery from COVID-19 and Canada's transition to a net-zero carbon future:

1. **Accelerate development and adoption of clean technology to build a more resilient economy and transition to net-zero by 2050**

Climate change remains an immediate and long-term threat to Canada, but it also presents the opportunity for the natural resources sector to be innovative, and to help deliver on a net-zero economy by 2050. NRCan will deliver more than $9 billion in programs under Canada's strengthened climate plan, A Healthy Environment and a Healthy Economy.[i] The strengthened

climate plan, which builds on the 2016 Pan-Canadian Framework on Clean Growth and Climate Change[ii] was designed to mitigate climate change, build resilience and drive clean economic growth. NRCan's climate change mitigation programs are integral to achieving Canada's 2030 GHG emission target under the Paris Agreement of reducing domestic emissions by 40-45% by 2030 from 2005 levels. NRCan is investing in clean energy and energy efficiency through the Green Infrastructure Programs[iii] in areas such as smart renewable energy and grid modernization projects, electric vehicles infrastructure, clean energy for rural and remote communities, and emerging renewable power.

Through programs like the Canada Greener Homes Grant,[iv] EnerGuide,[v] and ENERGY STAR®,[vi] and investments in more ambitious building codes, the department will accelerate high-performing retrofits and net-zero new construction of homes and buildings by embracing new technologies, low-carbon building materials, and innovative financing models, and enable the next generation of skilled energy efficiency workers. The Department will also lead by example by contributing to energy efficient federal operations under Greening Government Services,[vii] and by participating in domestic and international partnerships.

Through the Emissions Reduction Fund,[viii] the Department will help onshore and offshore oil and gas companies by providing funds to invest in green solutions to reduce GHG, with a focus on methane. To de-risk the capital investment required to build new or expand existing clean fuel production facilities, including facility conversions, the Department will administer the Clean Fuels Fund.[ix] NRCan will work towards implementing the Hydrogen Strategy[x] for Canada. In addition, NRCan will support the implementation of the Net Zero Accelerator Initiative[xi] to speed up decarbonization projects with large emitters and accelerate Canada's industrial transformation across all sectors. The Department will engage with stakeholders to advance shared priorities related to enhancing the transition of the natural resources sector, including through intergovernmental initiatives such as the Energy and Mines Ministers' Conference and playing a leadership role at global fora such as Mission Innovation.[xii]

Through the Digital Accelerator[xiii] initiative, NRCan will strengthen the use of Artificial Intelligence and big data to support sustainable development and the natural resources sector transition to a net-zero future.

The Department will collaborate with provincial and territorial partners to reinforce Canada's circular economy[xiv] and forest bioeconomy, helping to transform Canadian wood and forest fibre residues into high-value bio-products, chemicals and fuels in a sustainable manner. Through the 2 Billion Trees Program,[xv] NRCan will support the planting of two billion incremental trees over the next 10 years to contribute to Canada's GHG emissions reduction target in 2030 and net zero emissions target in 2050.

2. Create and maintain market access while improving competitiveness for Canada's resource sectors

Regulatory certainty enhances business planning and the competitiveness of business, not least in the natural resources sector where investments can be millions to billions of dollars. For this reason, the Department will work with stakeholders to advance the implementation of legislative and regulatory frameworks that support stable, long-term investment planning.

Internationally, NRCan will engage with key bilateral partners and work within multilateral fora like the G7, G20, the International Energy Agency,[xvi] International Renewable Energy Agency[xvii] and Mission Innovation[xviii] to create favorable conditions for Canadian businesses to compete globally and to provide leadership in the clean energy transition. In addition, the Department will work to enhance its understanding of natural resource markets in order to support evidenced based decisions regarding industry concerns and the pursuit of export opportunities for Canada's natural resources sector.

As the United States remains Canada's major trade partner, the Department will promote collaboration with the U.S. through the Joint Action Plan on Critical Minerals,[xix] advancing our mutual interest in securing supply chains for the critical minerals needed for important manufacturing sectors, including communication, defence, and clean technology. In support of a competitive oil and gas industry that is able to operate at high environmental standard, NRCan will work to ensure oil and gas exporters can access both the U.S. and global markets, and that supply chains are protected from disruptions to ensure energy affordability and security for Canadians. Further, the Department will assess Canada's energy infrastructure needs in support of a competitive oil and gas industry to reduce emissions at a pace and scale needed to align with Canada's 2030 climate goals and the achievement of net-zero emissions by 2050. The Department will also continue to collaborate with federal, provincial and territorial partners, Indigenous peoples and industry to implement actions under the Canadian Minerals and Metals Plan,[xx] including advancing the Pan-Canadian Initiatives to increase competitiveness and improving access to data about minerals and metals exploration and production in Canada.

To improve market access and the competitiveness of Canada's circular economy and forest bioeconomy, the Department will support research and the development of innovative technologies, products and processes. Through programs that help to de-risk commercialization for first-of-kind forest bioeconomy project, NRCan will carry on working to enhance the prosperity of the forest sector. In collaboration with federal partners, the Department will defend Canada's forest sector against unfair trade practices.

3. Advance reconciliation, strengthen relationships, increase engagement and share economic benefits with Indigenous Peoples

The Department will support Canada's commitment to advance reconciliation and pursue mutually beneficial social and economic opportunities with Indigenous Peoples. For this reason, NRCan will continue engaging with Indigenous Peoples to implement the *United Nations*

Declaration on the Rights of Indigenous Peoples Act, 2021.[xxi] Through the Canada Lands Survey Program[xxii] of First Nation lands, the Department will expand its relationship with Indigenous Peoples, provide more clarity to land boundaries and support Indigenous governance of their lands.

NRCan will work to ensure that Indigenous Peoples directly benefit from resource development by funding Indigenous-led economic development projects and by co-developing projects with greater involvement of Indigenous people in research. As a result, NRCan-funded programs will facilitate greater Indigenous involvement and ownership of clean energy projects to advance reconciliation. Through the Geo-Mapping for Energy and Minerals Program,[xxiii] NRCan will produce geoscientific data and maps for northern Canada, focusing on areas where economic development is likely to benefit Northern communities.

To foster meaningful dialogue and provide monitoring and oversight of the Trans Mountain Expansion[xxiv] and Line 3[xxv] pipelines, the Department will work to ensure safety and protection of environmental and Indigenous interests and seek opportunities for advancing Indigenous participation in Canada's natural resource economy. The Department will work with federal partners to develop a new national benefits-sharing framework for major resource projects located on Indigenous territory.

4. **Promote, build and foster equity, diversity, and inclusion while supporting resource communities to thrive in a net-zero carbon economy**

Successfully transitioning to a net-zero future will require the right technology and continuous support for workers in the natural resources sector, including Canada's youths. Therefore, the Department will press on delivering its Science and Technology Internship Program-Green Jobs[xxvi] to create youth jobs, training opportunities and to ensure a more diverse and inclusive natural resources sector. By means of instruments such as the Arctic and Northern Policy Framework,[xxvii] the Department will support healthy communities and guide investments in sustainable resource development and economic diversification in resource communities. Further, NRCan will collaborate with other government departments to identify new opportunities for workers and communities affected by changing technologies and evolving labour market trends within the natural resources sector.

Through programs and initiatives, the Department will advocate for gender equality in our transition to a clean energy future and promote actions on equal pay, opportunities for women and leadership in the natural resources sector. Just Transition legislation is intended to ensure that the transition is equitable and prosperous for all workers and communities. We will continue to ensure that workers and our communities are prepared to seize the opportunity of a low-carbon future and are equipped with the skills and training they need to for continued prosperity.

Further, the Department will pursue equity, diversity, and inclusion amongst its workforce as core themes in its operations in 2022-23. In this regard, the Department will integrate practices

and principles of equity, diversity and inclusion into NRCan policies, programs and procedures and will assist natural resource sector partners with inclusive growth and net-zero transition. Additionally, the Department will strengthen the use and application of Gender Based Analysis Plus (GBA Plus) tools to its internal and external business practices.

5. **Protect Canadians from the impacts of natural and human-induced hazards while supporting and advancing climate change adaptation**

As Canadians experience the effects of climate change today, the adoption of mitigation strategies that build community resilience is essential. Through the RADARSAT Constellation Mission,[xxviii] the Department will support the management of natural disaster through the provision of subject matter expertise and access to near-real time satellite imagery to federal, territories and provinces partners for decision-making during emergency responses and for predicting the occurrences of extreme weather and natural hazards, including making flood hazard maps for areas at higher-risk of flooding available to provinces and territories. To protect Canada's forest from wildfires and pests, the Department will carry on leading the science behind the implementation of the Canadian Wildland Fire Strategy[xxix] and efforts aimed at protecting our forests from pests like the spruce budworm[xxx] and mountain pine beetle,[xxxi] and invasive species such as the emerald ash borer.[xxxii]

Further, the Department will play a key role in the Emergency Management Strategy for Canada and the National Risk Profile, a national initiative aimed at prioritizing disaster risks and capability gaps. NRCan will continue the build-out of the National Earthquake Early Warning System,[xxxiii] with a launch date of 2024. NRCan will contribute to national and international risk reduction efforts such as the United Nations International Strategy for Disaster Risk Reduction. Through the Cyber Security and Critical Energy Infrastructure Program,[xxxiv] the Department will support innovative projects to develop cyber security tools and technologies to protect Canada's energy sector from cyber threats and keep critical infrastructure secure. In addition, NRCan will facilitate the sharing of intelligence and best practices to increase the natural resources sector cyber security resilience.

On adapting to climate change, NRCan will work with Environment and Climate Change Canada, other federal departments and stakeholders to develop a National Climate Change Adaptation Strategy. Through the publication of Canada in a Changing Climate: Advancing Our Knowledge for Action,[xxxv] the Department will seek to raise awareness of climate change issues and provide information for sound decision-making and action. Further, NRCan's Forest Climate Change Program[xxxvi] will work to advance climate change adaptation in Canada's forests and forest-based communities through the production and dissemination of scientific data and information and adaptation tools.

For more information on Natural Resource Canada's plans, see the "Core responsibilities: planned results and resources, and key risks" section of this plan.

Core responsibilities: planned results and resources, and key risks

Natural Resource Science and Risk Mitigation

Description

Lead foundational science and share expertise for managing Canada's natural resources, reducing the impacts of climate change and mitigating risks from natural disasters and explosives.

This Core Responsibility supports the advancement of the following **Strategic Priorities:**

- Protect Canadians from the impacts of natural and human-induced hazards while supporting and advancing climate change adaptation
- Accelerate development and adoption of clean technology to build a more resilient economy and transition to net-zero by 2050
- Advance reconciliation, strengthen relationships, increase engagement and share economic benefits with Indigenous peoples

This Core Responsibility also contributes to the achievement of the Mandate Letter Commitments of the Minister of Natural Resources:

- Support the future and livelihood of workers and their communities in the transition to a low carbon economy;
- Support fully implementing the United Nations Declaration on the Rights of Indigenous Peoples Act across government;
- Work with partners to develop and launch a Canadian Critical Minerals Strategy and improve critical minerals supply chain resiliency;
- Help develop a sustainable battery innovation and industrial ecosystem and launch a Canada-U.S. Battery Alliance to identify shared priorities and environmental requirements;
- Continue to implement the Natural Climate Solutions Fund and deliver on the plan to plant 2 billion trees across the country over 10 years;
- Help protect old growth forests and ensure local communities and workers are partners in shaping the path forward on nature protection;
- Support the development of a Climate Data Strategy to ensure the private sector and communities have access to data to inform planning and infrastructure investments;
- Protect homes and communities from the impacts of climate change by completing work with provinces and territories to develop flood maps for higher-risk areas;
- Work with partners to make our communities safe and increase forest resilience to wildfire; and
- Help establish an international centre of excellence on firefighter training, wildfire management and engage with the Canadian Interagency Forest Fire Centre.

Planning highlights

As a science-based department, NRCan collaborates with all stakeholders to advance its scientific knowledge and capacity. The Department draws on multiple ways of knowing, including Indigenous knowledge, which complements NRCan's science. In 2022-23, NRCan's research will provide expert advice to decision makers on the sustainable development of Canada's natural resources, ensure the protection of Canadians from natural and human induced hazards and advance effective responses to the impacts of climate change.

Canadians have access to cutting-edge research to inform decisions on the management of natural resources

Understanding Canada's changing climate, extreme weather patterns and vast landscape requires up-to-date scientific data. For this reason, in 2022-23, NRCan's satellites and ground stations will carry on tracking and receiving geospatial data in real-time for mapping, weather, surveillance and for monitoring the status and trends of our changing lands, forests, water and infrastructure. Geospatial data created and managed by NRCan is made available to provinces, territories, and other government departments and utilized for decision-making on the management of our natural resources and for responding to floods, forest fires and other disasters.

In collaboration with Environment and Climate Change Canada (ECCC), NRCan will continue to provide access to its data and scientific publications through initiatives such as the Open Science and Data Platform.[xxxvii] The platform will support cumulative effects assessments for federal regulatory processes, increase access to information on development activities, the environment and their communities. This platform integrates authoritative data on forests, geology, groundwater and earth observations, along with data from other government departments, provinces and territories. Also, the Department will provide open access to the Geological Survey of Canada[xxxviii] cutting-edge geoscience such as compilations of the surficial, bedrock and mantle geology through the Canada 3D portal;[xxxix] marine geoscience knowledge products through Open Maps[xl] and the Marine Spatial Data Infrastructure;[xli] aquifer and groundwater information through the Groundwater Information Network;[xlii] and scientific publications through the GEOSCAN[xliii] database. NRCan's Canadian Geodetic Survey will provide consistent and precise positioning and gravity information, the foundation of geospatial data, including data that supports seismic and coastal hazard assessment. Data from satellite observations is provided to the global science community for meteorological forecasting and global climate modelling.

Further, the Department will implement its Open Science Action Plan, which presents an evergreen approach to providing greater access and transparency to NRCan scientific research, and responds to Recommendation #3 of the Chief Science Advisor's Open Science Roadmap.[xliv]

Implementation of the Action Plan will take a phased approach and it will respect Indigenous Peoples' inherent, treaty and constitutional rights to self-determination and self-government.

The Canada Lands Survey Program of First Nation lands occurring through initiatives like the First Nations Land Management Program and Comprehensive Land Claim[xlv] agreements will continue. This will provide more clarity to land boundaries and support Indigenous governance of their lands in Canada. When working and conducting research with Indigenous Peoples, NRCan is guided by the principles of relationship, reciprocity and respect. This includes acknowledging unique Indigenous community's land management perspectives and approaches to managing their lands.

Through science-based programs like Geo-Mapping for Energy and Minerals[xlvi] (GEM-GeoNorth), Targeted Geoscience Initiative,[xlvii] and Marine Geoscience for Marine Spatial Planning[xlviii] programs, the Department will expand its relationship with Indigenous Peoples. Increasingly, projects and priorities are being co-developed to support greater involvement of Indigenous people in research. GEM-GeoNorth will produce and provide new, public geoscientific data, knowledge and maps for northern Canada, focusing on areas where economic development is likely to benefit Northern communities.

NRCan Supports Reconciliation with Indigenous Peoples

National Day for Truth and Reconciliation: NRCan will continue to develop innovative and meaningful ways to engage NRCan employees in reconciliation activities, building upon the success of the Department's activities to commemorate the first National Day for Truth and Reconciliation on September 30, 2021. NRCan's Circle of Nations will continue to take part in Orange Shirt Day and host Elder teaching sessions and learning opportunities for staff to commemorate residential school survivors.

UNDRIP: NRCan is committed to working with Indigenous Peoples to implement the *United Nations Declaration on the Rights of Indigenous Peoples Act*, 2021, which has the potential to make meaningful change to how Indigenous Peoples, communities, and businesses participate in sustainable natural resources development.

Also, the Department is committed to implementing change and will build an evergreen NRCan Reconciliation Framework that aims to transform the way the Department operates, opening up different ways of understanding, considering Indigenous impacts and working together with Indigenous partners.

Policy instruments such as the Arctic and Northern Policy Framework[xlix] will maintain support for strong and healthy communities and guide investments in sustainable resource development, economic diversification, infrastructure, and innovation. To this end, the Polar Continental Shelf Program[l] provides logistics support to enable scientific understanding of the effect of changing climate on permafrost and infrastructure, and to produce maps in support of sustainable mineral development in Canada's Arctic.

As well, NRCan will work with provinces and territories to begin implementing the Pan-Canadian Geoscience Strategy,[li] a nation-wide framework for collaboration on key geoscientific research, information management, personnel training, and public outreach and engagement. The strategy supports the long-term vision of the National Geological Surveys Committee to provide

geoscience information that underpins the responsible development of Canada's geological resources, and is a priority under the Canadian Minerals and Metals Plan.[lii]

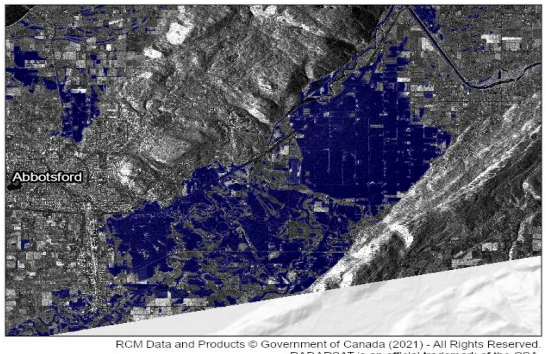
Conservation of biodiversity is a key component of a clean and prosperous economy. Canada is working towards the goal of protecting 30% of our land and inland waters by 2030 to conserve biodiversity and support the recovery of species at risk. Critical to achieving these goals is the sustainable management of our natural resources. Canada is a world leader in sustainable forest management, our laws are among the strictest in the world and third-party certification attests to the integrity of our forest management practices. Sustainable forest management values the protection of biodiversity and the continued health of forests. Conservation efforts will require multiple pathways of action while working together with provincial and territorial governments, Indigenous Peoples, industry, communities, and stakeholders.

In further support of sustainable natural resource management and to help conserve biodiversity, NRCan will work with Environment and Climate Change Canada and Indigenous communities on protecting and recovering species at risk and their habitat, like woodland caribou. NRCan research continues to inform forest management and habitat restoration standards, and improves predictions about climate change impacts and the future state of caribou critical habitat.

Communities and officials have the tools to safeguard Canadians from natural hazards and explosives

Emergency management is a shared societal responsibility involving all levels of government, emergency responders and civil society. For its part, the Department supports the management of natural disaster risks through the provision of scientific and technical knowledge and expertise; domestic and international collaboration; and hazard alerting and monitoring and technical information to government, provinces and other key responders. These activities ensure support throughout the various stages of emergency management: mitigation (e.g. understanding the hazards by producing regulatory flood maps); preparation (e.g., production of Emergency Management Plans); response (e.g. producing satellite imagery of extent of floods or wildfires); and recovery (e.g., build back better).

By means of the RADARSAT Constellation Mission,[liii] in 2022-23, NRCan will sustain its role in the management of natural disasters by providing critical data for decision-making during emergency response, achieved in part by providing subject matter expertise and access to near-real time satellite imagery to federal, territorial and provincial partners.



RADARSAT data increases situational awareness to enable rescue teams to get to flooded areas quickly

The Department contributes to national and international risk reduction efforts such as Canada's Emergency Management Strategy[liv] and the United Nations International Strategy for Disaster Risk Reduction. NRCan also supports emergency management for geological (earthquakes, tsunamis, landslides, volcanoes and geomagnetic storms) and nuclear and radiological incidents.

Under the Flood Hazard Information and Mapping Program, NRCan will work with provinces and territories to make flood hazard maps available in areas at higher risk of flooding. The Department will advance its flood mapping web presence to disseminate flood hazard information and collaborate with specific provinces and territories to undergo various flood mapping activities, from acquiring high-resolution data to producing initial maps. Flood maps help local land use planning, and help all levels of government plan better policies and mitigation efforts to support resilience building and protect lives and properties. As such, the Department will continue work towards its mandate to develop flood maps for higher-risk areas, advance work to complete flood mapping nation-wide, and support the development of a future portal to provide centralized access to information on flood risks.

To help protect Canadians, their livelihoods and Canada's forests, NRCan leads on the science underpinning the 2016 Canadian Wildland Fire Strategy,[lv] to increase resilience to wildfires. The Department will also play a critical role in the Emergency Management Strategy for Canada[lvi] and work related to the National Risk Profile, which is a national initiative to identify, compare, and prioritize disaster risks and capability gaps. NRCan will continue to lead and invest in science on damaging insects and diseases including the spruce budworm, mountain pine beetle, and invasive species such as the emerald ash borer in natural, rural and urban forests. The National Forest Pest Strategy provides the framework resources and knowledge exchange at all jurisdictional levels to identify high-risk situations in Canada's forests and the best approaches to address them.

NRCan is mandated to ensure the safety and security of the public and of workers through Canada's explosives industry. The Department will administer the *Explosives Act*[lvii] and advance explosives safety and security technology (see textbox).

Explosives Safety and Security in Canada

NRCan's explosives authority ensures that manufacturers, importers, exporters, and vendors of explosives, as well as those who store explosives or sell explosives precursor chemicals, comply with Canada's Explosives Act and the Explosives Regulations, 2013. Compliance is monitored and promoted through the administration of a licencing, inspection and compliance program.

NRCan satisfies its statutory responsibilities as a regulatory authority participating in impact assessments, including as a decision body or responsible Minister under northern legislation with other regulatory authorities, and fulfills the Crown's duty to consult and accommodate Indigenous people in northern impact assessments and the issuance of licences.

NRCan's Canadian Explosives Research Laboratories offers explosives testing, analysis, certification, and research related to explosives and their components to advance explosives safety and security technology.

Communities and industries are adapting to climate change

NRCan leads the national publication of Canada in a Changing Climate: Advancing Our Knowledge for Action[lviii] that raises awareness of climate change issues and provides information for sound decision-making and action. This is a national assessment of how and why Canada's climate is changing; the impacts of these changes on our communities, environment, and economy; and how we are adapting to them. Building on the successful releases of the National Issues Report and three chapters of the Regional Perspectives Report in 2021-2022, the remaining regional chapters will be released in 2022-2023. In addition, NRCan's Forest Climate Change Program[lix] will provide science-based adaptation solutions through the sharing of data and information, the development of adaptation tools, and collaborations with the Canadian forest sector and forest-based communities.

NRCan will work with other government departments, national partners and stakeholders to develop a national climate change adaptation strategy, and will use Canada's Climate Change Adaptation Platform[lx] as a means of engagement. Further, the Department will provide cutting-edge information and data to improve our understanding of how Canada's landmass is affected by climate change in order to support land-use planning, infrastructure development, and to help industry and at-risk communities adapt.

Through the 2 Billion Trees Program,[lxi] the Department will support the planting of two billion incremental trees over the next 10 years to increase carbon sequestration (the removal of carbon from the atmosphere). Other benefits to communities and the ecosystem include the restoration of habitat for wildlife and biodiversity, cleaner air and water, storm surge management and increased resilience to the devastating effects of climate change such as wildfires and flooding. The program will fund tree planting projects with provinces and territories, tree planting organizations – both profit and non-profit, municipalities and Indigenous organizations.

Gender-based analysis plus

Natural Resources Canada uses Gender-Based Analysis Plus to assess NRCan initiatives for potential impacts or implications on the diverse populations of Canadians. The use of GBA Plus allows the Department to identify and assess potential and existing challenges equity-seeking

groups are experiencing in benefiting from NRCan programs and respond to them in order to facilitate more inclusive and equitable opportunities and outcomes for all Canadians.

The Polar Continental Shelf Program[lxii] adopts and implements measures to track gender data among program users. The application of a GBA Plus lens supports the program in identifying ways to reduce negative impacts on equity seeking groups and promote equity, diversity and inclusion in scientific research. As well, the Core Geospatial Data program aims to inspire girls into Science, Technology, Engineering and Maths and facilitate Indigenous inclusion in projects.

Disasters have been found to disproportionately impact Indigenous communities, minorities, women, seniors, children and other vulnerable segments of society. NRCan provides the foundational science in emergency management to support Canada's Emergency Management Strategy,[lxiii] that in turn, integrates measures to strengthen the capabilities required to build whole-of-society resilience, and how these can be proactively enhanced in order to reduce vulnerability and risk of all Canadians. For example, earthquake risk assessments allow provincial and municipal emergency managers to identify the location and nature of vulnerable populations; and earthquake early warning enables first responders and others to ensure response that accommodate those most vulnerable to natural disaster events.

United Nations' 2030 Agenda for Sustainable Development and the United Nations' Sustainable Development Goals

The 2030 Agenda for Sustainable Development, adopted by Canada and all 193 United Nations member states in 2015, is a global framework centred around an ambitious set of 17 Sustainable Development Goals (SDGs), covering the interconnected economic, social, and environmental dimensions of sustainable development.

Natural Resources Canada's efforts under the Natural Resource Science and Risk Mitigation core responsibility support Canada's efforts to address the United Nations 2030 Agenda and the SDGs. The Department's science and risk mitigation activities encourage the advancement of foundational science and sharing expertise for managing Canada's natural resources, reducing the impacts of climate change and mitigating risks from natural disasters and explosives. The planned activities that will help the Department attain sustainable development goals include:

- mitigating risks from natural disasters and explosives by providing research, natural hazard monitoring, and early warning in support of the Emergency Management Strategy (SDG 11 – Sustainable Cities and Communities[lxiv] and SDG 1 – No Poverty,[lxv]);

- advancing climate change mitigation, adaptation and resilience across Canada by sharing expertise, foundational science, and mitigation and adaptations tools through the Climate Change Adaptation Platform[lxvi] and the Forest Climate Change Program (SDG 13 – Climate Action[lxvii]); and
- contributing to Canada's conservation goals of 25% offshore/coastal regions by 2025, and 30% by 2030 by providing resource assessments and analyses (SDG 14 – Life Below Water[lxviii]).

Additional information on how NRCan's activities support United Nations' 2030 Agenda and Sustainable Development Goals is reflected in the *2020-23 Departmental Sustainable Development Strategy* and the *United Nations 2030 Agenda and the Sustainable Development Goals* Supplementary Information Tables. Altogether, NRCan's scientific research and contributions to clean technologies in the natural resources, as well as to climate change adaptation and mitigation, both domestically and internationally, help to build a safer, more resilient Canada.

Experimentation

Experimentation describes a rigorous process through which researchers methodically test new approaches to existing problems, and use the resulting evidence to help determine approaches that work, and those that do not. Grounded in the Department's science-based focus, NRCan's commitment to experimentation helps to streamline internal processes and optimize evidence-based policy-making, results, and program delivery.

Natural Resources Canada is working in collaboration with the Privy Council Office and Environment and Climate Change Canada on a program of research to bring behavioural science to climate change programming. The purpose is to leverage evidenced-based, data-driven behavioural science to identify, design, and test solutions to promote climate action. Recommendations from these experiments will be used to scale effective approaches and solutions in promoting climate action in the department's policy, program, regulatory, and communication domains.

Key risks

The Department's ability to lead foundational science and share expertise for managing Canada's natural resources, reducing the impacts of climate change and mitigating risks from natural disasters and explosives could be impacted by several risks including:

- The increasing impact of climate change on the natural resource sectors and on Canadian communities, as well as their abilities to adapt to it in a post-pandemic economy;
- Keeping abreast of the rapid pace of science and technological innovation while prioritizing economic recovery; and,

- The increasing occurrence of natural and human-induced hazards and emergencies and the economic recovery from it.

The Department will manage these risks through the development, implementation and monitoring of various risks mitigation strategies, including:

- Leveraging research, science, innovation, and information-sharing mechanisms to enhance resilience to natural and human-induced hazards via threat detection, identification and mitigation.
- Advancing Canada's global leadership role in clean energy and technology, and provide federal leadership and scientific expertise to advance sustainable energy technologies;
- Investing in research, development and demonstration (RD&D) projects that promote technological innovation and advance solutions to pressing environmental challenges and the transition to a net-zero emission economy while creating jobs for Canadians;
- Collaborating with multiple stakeholders for identification of emerging threats (natural disasters, man-made events, cyber-attacks), and preparation of emergency responses to ensure the safety and security of energy infrastructure systems; and
- Ensuring support is provided for climate change adaptation and mitigation to minimize risks and increase resilience in Canadian communities and natural resource sectors, while advancing policies in conjunction with the different levels of government, indigenous organizations, professional associations, industry, and academia.

Planned results for Natural Resource Science and Risk Mitigation

The following table shows for Natural Resource Science and Risk Mitigation, the planned results, the result indicators, the targets and the target dates for 2022–23, and the actual results for the three most recent fiscal years for which actual results are available.

Departmental result	Departmental result indicator	Target	Date to achieve target	2018–19 actual result	2019–20 actual result	2020–21 actual result
Canadians have access to cutting-edge research to inform decisions on the management of natural resources	Number of times scientific products related to natural resources are accessed by Canadians	At least 450,000 quarterly average	March 2023	482,745	504,242	365,935
	Percentage of environmental impact assessments demonstrating use of scientific	100 %	March 2023 (and annually thereafter)	100 %	100 %	100 %

	and technical advice provided by NRCan					
	Number of times stakeholders acknowledge using NRCan's scientific and technical products in making their decisions	At least 30,250	March 2023	26,142	30,957	30,974
	Number of NRCan agreements that recognize data and/or information derived from an Indigenous Knowledge source and is used to inform NRCan science and/or research[1]	To be determined in 2022-23	To be determined in 2022-23	Not available	Not available	Not available
	Percentage of foundational geospatial data that is current[2]	At least 80 %	March 2023	Not available	Not available	Not available
Communities and officials have the tools to safeguard Canadians from natural hazards and explosives	Percentage of hazardous natural events within Canada for which a notification was issued in a timely manner	At least 90 %	March 2023	100 %	97 %	100 %
	Percentage of emergency geomatics services provided to Canadians in a	100 %	March 2023	100 %	100 %	100 %

[1] Since the 2021-22 Departmental Plan, NRCan has revised the methodology to more accurately count the number of training and development initiatives that enable NRCan to incorporate Indigenous Knowledge in conjunction with NRCan science. For this reason, historical information is not available.

[2] Since the 2021-22 Departmental Plan, NRCan has revised the methodology to more accurately track annually the percentage of geospatial data that is current. For this reason, historical information is not available.

	timely manner to assist during floods					
	Percentage uptime of the Canadian Wildland Fire Information System during the wildfire season	97 %	March 2023	95 %	97 %	97 %
	Percentage of inspections of explosives sites rated safe[3]	At least 70 %	March 2023	64.2 %	82 %	73 %
Communities and industries are adapting to climate change	Number of times NRCan products and expertise on adaptation are accessed by Canadians	At least 34,000 quarterly average	March 2023	20,272	46,085	25,858
	Percentage of Canadian communities and industries that have taken steps to adapt to climate change	At least 60 % for communities. At least 40 % for businesses	March 2023	57 % for communities 32 % for businesses (from 2018 survey)	57 % for communities 32 % for businesses (from 2018 survey)	57 % for communities 32 % for businesses (from 2018 survey)

The financial, human resources and performance information for Natural Resources Canada's program inventory is available on GC InfoBase.[lxix]

Planned budgetary spending for Natural Resource Science and Risk Mitigation

The following table shows for Natural Resource Science and Risk Mitigation, budgetary spending for 2022–23, as well as planned spending for that year and for each of the next two fiscal years.

2022–23 budgetary spending (as indicated in Main Estimates)	2022–23 planned spending	2023–24 planned spending	2024–25 planned spending
$475,466,366	$475,466,366	$525,666,133	$536,347,044

[3] A 'safe' rating indicates an inspection rated "satisfactory or better". NRCan conducts rigorous and timely follow up on any facility that does not achieve a satisfactory rating.

Financial, human resources and performance information for Natural Resources Canada's program inventory is available on GC InfoBase.[lxx]

Planned human resources for Natural Resource Science and Risk Mitigation

The following table shows, in full-time equivalents, the human resources the department will need to fulfill this core responsibility for 2022–23 and for each of the next two fiscal years.

2022–23 planned full-time equivalents	2023–24 planned full-time equivalents	2024–25 planned full-time equivalents
1,339	1,266	1,260

Financial, human resources and performance information for Natural Resources Canada's program inventory is available on GC InfoBase.[lxxi]

Innovative and Sustainable Natural Resources Development

Description

Lead the transformation to a low-carbon economy by improving the environmental performance of Canada's natural resource sectors through innovation and sustainable development and use.

This Core Responsibility supports the advancement of the following **Strategic Priorities:**

- Accelerate development and adoption of clean technology to build a more resilient economy and transition to net-zero by 2050
- Create and maintain market access while improving competitiveness for Canada's resource sectors
- Promote, build and foster equity, diversity, and inclusion while supporting resource communities to thrive in a net-zero carbon economy
- Advance reconciliation, strengthen relationships, increase engagement and share economic benefits with Indigenous Peoples

This Core Responsibility also contributes to the achievement of the Mandate Letter Commitments of the Minister of Natural Resources:

- Develop and implement strategies to decarbonize electricity systems to achieve a 100% net-zero system by 2035;
- Support efforts to cap oil and gas sector emissions at current levels and work to achieve net-zero emissions by 2050;
- Support the commitment to eliminate fossil fuel subsidies from 2025 to 2023;
- Help implement the Net-Zero Accelerator Initiative to lead and compete in a net-zero emissions future;
- Work with partners to establish a global centre for excellence on methane detection and elimination;
- Work with partners to introduce a new Buy Clean Strategy to prioritize the use of made-in-Canada low-carbon products in Canadian infrastructure projects;
- Add 50,000 new EV chargers and hydrogen stations, support the installation of charging stations in existing buildings, invest to retrofit large trucks currently on the road and support the production, distribution and use of clean fuels;
- Work with partners to develop and implement a National Net-Zero Emissions Building Strategy and launch a community level net-zero emissions homes initiative;
- Support the development of a Net-zero emissions building code and model retrofit code by the end of 2024, amend the National Building Code of Canada to specify firefighter and first responder safety as a core objective;
- Help Canadians make their homes more energy efficient and climate resilient and create a Climate Adaptation Home Rating Program;
- Launch a Low-Carbon Building Materials Innovation Hub;
- Protect homes and communities from the impacts of climate change;
- Support the construction of climate-resilient infrastructure across Canada, with particular emphasis on communities most at risk; and
- Support the future and livelihood of workers and their communities in the transition to a low carbon economy

Planning highlights

Innovative approaches to developing Canada's energy, mining, and forest resources are crucial to ensuring that our natural resources are sustainably managed, thereby remaining a source of predictable wealth for all Canadians for generations. NRCan's continuous support of clean technology innovation will spur a green, post-pandemic economic recovery and support the transition to a net-zero economy by 2050. NRCan will strive for the full involvement of all Canadians, including Indigenous Peoples and youths in Canada's innovative and sustainable natural resource economy.

Natural resource sectors are innovative

To stimulate innovation and in support of efforts at sustainable natural resource development, in 2022-23, the Department will undertake and fund activities and programs that generate new ideas, leveraging the expertise of industry, government and other stakeholders to innovate. Through Canmet laboratories,[lxxii] energy and materials research, development and demonstration projects will be advanced to achieve net-zero by 2050. NRCan and Innovation, Science, and Economic Development Canada (ISED) lead the Clean Growth Hub,[lxxiii] a whole-of-government focal point for clean technology innovation. The Hub helps clean technology producers and adopters navigate federal supports and services, enhances program coordination among federal departments and agencies, and tracks the results of federal investments in clean technology.

Almost half of the emissions reductions planned under net-zero energy scenarios for 2050 will need to come from technologies that today are only at the demonstration or prototype stage. With this in mind, the International Energy Agency[lxxiv], in its 2021 World Energy Outlook, called for a large increase in clean energy innovation as one of four key measures required to achieve the transition to net-zero. For this reason, NRCan will deliver targeted research, development and demonstration funding through the Energy Innovation Program.[lxxv] This program includes leveraging NRCan's network of trusted domestic and international partners to bring additional funding, mentorship and exposure to innovators. It also includes engagement and knowledge sharing within broader governmental energy initiatives (e.g. the development of strategic policy and regulations).

NRCan will also collaborate with stakeholders to support projects and initiatives across energy RD&D programs in key areas such as; oil and gas; industry; low-carbon fuels; renewable energy; electricity; transportation; the built environment; as well as across the broader natural resource sectors. Projects will aim to reduce emissions and environmental impacts and to increase energy efficiency and competitiveness, while ultimately overcoming barriers to large-scale adoption, unlocking breakthrough solutions to complex and persistent challenges, and facilitating deep decarbonization of high GHG emitting sectors.

NRCan will lead in inter-sectorial working groups, which bring together government and industry, under initiatives such as Canada's Hydrogen Strategy[lxxvi] and the Roadmap to Net-Zero

Carbon Concrete.[lxxvii] The Department will play a leadership role on energy RD&D in international collaborations through fora as the International Renewable Energy Agency[lxxviii] and Clean Energy Ministerial[lxxix]/Mission Innovation (MI)[lxxx]. Notably, NRCan will co-lead MI's newly launched Carbon Dioxide Removal Mission and participate in the Clean Hydrogen and Green Powered Future Missions. NRCan will also continue its leadership in a suite of Clean Energy Ministerial[lxxxi] work streams that aim to accelerate the deployment of clean energy technologies, including on hydrogen, electric vehicles, biofuels, nuclear, increasing gender equity, and empowering people to ensure a people-centred energy transition. As well, NRCan will continue its frequent engagements with the International Energy Agency,[lxxxii] actively participating in the Agency's Standing Groups, Committees and Programs, that promote and coordinate RD&D of technologies to meet challenges in the energy sector. These platforms will be used for advancing people-centred policies, and encourage further actions from international partners to advance equity, diversity and inclusion in the energy sector.

With the growth of severe and complex cyber threats, the protection, security and resilience of domestic and cross-border critical energy infrastructure remains a priority for NRCan. To support this priority, the Department continues building partnerships, advancing timely information sharing, providing tools and resources to energy sector stakeholders, and conducting innovative research and development activities that support natural resources sector resilience. Through the Cyber Security and Critical Energy Infrastructure Program.[lxxxiii] The Department supports innovative projects that provide university and industry leaders the opportunity to develop cyber security tools and technologies to protect Canada's energy sector from cyber threats and keep critical infrastructure secure. Considering the interconnectivity of Canada's and the U.S.' energy infrastructure, NRCan will collaborate with its U.S. counterparts through a number of fora to protect our shared cross-border energy systems. As a co-chair of the Energy and Utilities Sector Network, a public-private forum, NRCan will facilitate the sharing of intelligence and best practices to increase the natural resources sector cyber security resilience.

The Department will also play a role in developing the battery value chain in Canada, including advancing mining activities and promoting sustainable battery innovation and the industrial ecosystem, and working with stakeholders to develop strategic priorities.

Clean technologies and energy efficiencies enhance economic performance

The Department's investments in energy efficiency contribute to a rapidly growing sector of the Canadian economy. As of 2018, 436,000 Canadians were working in the energy efficiency sector, which is expected to grow significantly in 2022-23. This presents opportunities for the Department to support upskilling/reskilling, and increasing participation of under-represented groups in the sector. For this reason, NRCan will expand support for recruiting and training EnerGuide Energy Advisors,[lxxxiv] and will deliver up to 700,000 retrofit grants of up to $5,000 for homeowners for energy efficient improvements through the Canada Greener Homes Grant Program.[lxxxv] The Department will initiate work to modernize the EnerGuide home energy rating

system, and consider options for this program to support the collection and communication of home resilience information to Canadians and to underpin the provision of home energy information at the point of sale.

Through the Energy Efficient Buildings program,[lxxxvi] the Department will work with provinces and territories and other stakeholders to make commercial and institutional buildings more energy-efficient. These efforts help to reduce GHG emissions across the country and help Canadian building owners and managers increase their energy savings and competitiveness. Departmental measures include investments to develop and implement more stringent energy codes and standards to remove less efficient practices and products from the market, as well as investments in tools and supports to help Canadians make informed choices and build capacity for proven energy management practices, such as benchmarking and disclosing energy use using ENERGY STAR Portfolio Manager,[lxxxvii] building commissioning,[lxxxviii] and ISO 50001[lxxxix] energy management system implementation.

The Department establishes a clear, long-term direction towards the Net Zero Energy Ready[xc] goal for industry and code authorities through the National Building Code[xci] and National Energy Code of Canada for Buildings[xcii] by influencing code development, reducing code adoption barriers, and de-risking code compliance; all of which seeks to deliver effective and sustained opportunities for energy savings.

Through the *Energy Efficiency Regulations*,[xciii] the Department will enhance the energy efficiency of products used in homes, commercial and institutional buildings and industries, and contribute to reduced energy consumption, reach net-zero emissions, and help Canadian save money on their energy bills.

Through the ENERGY STAR® for Products Program,[xciv] the Department will continue renewing engagement plans with institutions, utilities, and energy efficiency program administrators to maximize energy savings and potential impacts on consumer purchasing habits. In 2022-23, the ENERGY STAR Program[xcv] will enhance its compliance verification program to ensure that products associated with the ENERGY STAR® label meet its high standards for energy performance, quality, and functionality. Building upon Canada's strengthened climate plan, efforts will be undertaken to develop a plan to transition away from fossil fuel home heating systems. This plan will include ambitious interim targets towards net-zero emissions in the sector by 2050 and a framework for incentives and standards to achieve them.

Through the Industrial Energy Management Program,[xcvi] the Department will work to improve energy efficiency in the industrial sector and strive to accelerate the uptake of energy benchmarking for industrial facilities through tools such as the ENERGY STAR® for Industry Program[xcvii] and by launching an ISO 50001 Ready Navigator tool in Canada that will help guide industrial facilities through the steps needed to implement and maintain an ISO 50001 energy management system. As well, the Department will provide federal partners with support to

transition to low-carbon, climate-resilient, and green operations through Greening Government Services[xcviii] by delivering guidance, capacity building, and project implementation within buildings and vehicle fleets, in addition to supporting the implementation of the Green Procurement Standard[xcix] led by the Treasury Board of Canada Secretariat.

In 2022-23, NRCan will strengthen the Clean Technology Data Strategy[c] co-led with ISED and Statistics Canada, to collect and share essential environmental and clean technology sector information, and ensure data is available to understand the economic and environmental contribution of clean technologies in Canada. To advance digital science, NRCan's Digital Accelerator[ci] will take a hands-on approach to growing the Department's application of Artificial Intelligence, Machine Learning, and Big Data tools to enhance automation, produce geospatial and remote sensing datasets, and streamline regulations and support research focused on sustainable development and climate action. Building on previous successes, the Digital Accelerator[cii] will align the application of digital and analytical solutions with Departmental science and policy priorities. Activities will engage science and policy experts and program administrators in order to strengthen NRCan's digital and data ecosystem. The initiative will foster strategic partnerships with the private sector, universities, and within government to propose and implement solutions that maximize efficiencies and generate mutual benefit for all stakeholders. In addition, NRCan will engage with key research institutes and industry partners to leverage and strengthen our scientific capacity in quantum fields of relevance.

Furthermore, in 2022-23, NRCan will continue working with Statistics Canada, ECCC and the Canada Energy Regulator, to further expand the Canadian Centre for Energy Information.[ciii]

Canada's natural resources are sustainable

The Department will play a key role in implementing Canada's Strengthened Climate Plan, A Healthy Environment and a Healthy Economy[civ] which builds on the Pan-Canadian Framework on Clean Growth and Climate Change[cv] to help meet the Government's climate change targets to reduce Canada's GHG emissions by 40-45% from 2005 levels by 2030, and net-zero by 2050. The Department will deliver more than $9 billion in programs under Canada's Strengthened Climate Plan. NRCan is working to transform the natural resources sector to achieve net-zero through a broad range of activities from programs supporting deployment and innovation, to development of regulations, codes and standards, capacity building, supporting skills and training, leveraging convening power, all of which are contributing to creating economic and employment opportunities for Canadians. The Department will engage with provinces and territories to advance shared priorities related to emissions reductions and enhancing competitiveness of the Canadian energy sector, including support for intergovernmental fora, such as the Energy and Mines Ministers' Conference.

NRCan will carry on supporting ISED in the implementation of the Net-Zero Accelerator Initiative[cvi], delivered through the Strategic Innovation Fund[cvii] to speed up decarbonization

projects with large emitters, scale-up clean technology and accelerate Canada's industrial transformation across all sectors. In 2022-23, through activity such as the Oil Sands Pathways to Net Zero Initiative, NRCan will work with ECCC, provinces, territories and industry to reduce oil and gas emissions, in order to achieve net-zero emissions in the oil and gas sector by 2050 (with five year targets to get there).

Canada's Strengthened Climate Plan supports the advancement of carbon capture, utilization and storage (CCUS). In 2022-23, NRCan will direct efforts on CCUS across the Government of Canada by leading the development and implementation of a CCUS Strategy, including working with the Department of Finance to inform the Investment Tax Credit for CCUS announced in Budget 2021. NRCan is also delivering $321 million in funding, announced in Budget 2021 that will support both federal researchers and external proponents to help advance commercial viability of CCUS technologies. The Department will begin funding RD&D projects through two recent calls for proposals under the Energy Innovation Program.[cviii]

Certain programs announced under Budget 2017 investments in clean tech, such as the Clean Growth Program and the Impact Canada Clean Tech Challenges, came to a successful close in 2021-22. The Department will work with project proponents in 2022-23 and beyond to monitor long-term project impacts, such as replication and scaling up of demonstration technologies to commercial level rollouts.

To de-risk the capital investment required to build new or expand existing clean fuel production facilities, including facility conversions, the Department will continue to administer the Clean Fuels Fund[cix] that was launched in 2021, investing $1.5 billion over five years to grow clean fuel production capacity in Canada. Under the Fund, support is available for feasibility and front-end engineering and design studies, and the establishment of biomass supply chains to improve logistics for the collection, supply, and distribution of biomass materials as a feedstock in clean fuel production facilities. Resources are also available to address gaps and misalignment in codes, standards and regulations related to the production, distribution and end-use of clean fuels.

In 2022-23, the Department will work with Infrastructure Canada and the Canada Infrastructure Bank in moving forward with large-scale retrofits. Additionally, NRCan will work with the Clean Power Fund that will connect surplus clean power to regions transitioning away from coal and help transform how we power our economy and communities. This includes working with provinces and territories to complete engineering assessments, community engagement, environmental and regulatory studies and to build key intertie projects, such as the Atlantic Loop. Further, the Department will work on activities from the Canada's Small Modular Reactors Action Plan,[cx] which seeks to advance the safe and responsible development and deployment of small modular reactors in collaboration with provincial and territorial governments, Indigenous peoples, organized labour, utilities, industry, innovators, academia and civil society.

Through the Smart Renewables and Electrification Pathways Program,[cxi] NRCan will invest $964M over four years to advance smart renewable energy and grid modernization projects that will enable the clean grid of the future. This includes supporting renewable energy and grid modernization projects, including wind, solar, geothermal, storage, and other renewables, which can provide essential grid services while supporting Canada's equitable transition to an electrified economy. The Department will pursue program delivery for emerging renewable energy projects (geothermal and instream tidal) that have contribution agreements in place through the Emerging Renewable Power Program.

Solar panels and a small wind turbine in Halifax, Nova Scotia

The Government of Canada supports Indigenous and remote communities in transitioning off diesel onto clean energy. As part of the Strengthened Climate Plan, NRCan will be working with Crown-Indigenous Relations and Northern Affairs Canada, Indigenous Services Canada and other federal departments who support energy infrastructure projects in Indigenous and remote communities on a more streamlined approach to delivering new funding.

The Department will also continue to administer the $750M Emissions Reduction Fund,[cxii] launched to help withstand the economic and job impacts of the COVID-19 pandemic on oil and gas workers, and to provide strategic funding to help companies offset the costs of taking actions to reduce methane and other greenhouse gas emissions. The Fund supports broader policy objectives, including decarbonizing oil and natural gas, which are important feedstocks for the production of current energy products, such as transportation fuels and natural gas powered electricity, and of future fuels such as hydrogen, liquefied natural gas and clean transportation fuels that will be regulated under Canada's Clean Fuel Standard. The Fund will also help improve the environmental performance of oil and gas companies, enabling them to produce products with lower carbon intensities that can be verifiably differentiated as environmentally greener.

The Department will showcase Canada's sustainable resource development on the international stage and leverage Canada's position as a global leader to encourage and support the advancement of the transition to the low-carbon economy of tomorrow. NRCan will engage with key bilateral partners as well as at multilateral fora including the International Energy Agency,[cxiii] the Clean Energy Ministerial[cxiv]/MI, International Renewable Energy Agency,[cxv] G7 and G20, highlighting the knowledge and expertise that has been cultivated in Canada. These platforms will also be used to showcase success on advancing people-centred policies, and encourage further actions from international partners to advance equity, diversity and inclusion in the energy sector.

Additionally, NRCan will engage the natural gas sector in its efforts to improve and report on its Environment, Social, and Governance (ESG) outcomes and its exploration of ESG certification as a mechanism to produce and distribute 'clean natural gas' to end users in Canada and abroad. The Department will carry on working with project proponents seeking to advance low-carbon diversification pathways, such as in petrochemicals, plastics recycling and hydrogen. NRCan will continue promoting and representing Canada's sustainable resource development, and strengthen Canada's presence globally within the natural resource and clean technology markets to open trade opportunities, attract foreign investments and enhance collaboration.

Gender-based analysis plus

The new Smart Renewables and Electrification Pathways Program[cxvi] is designed to facilitate greater Indigenous involvement and ownership of clean energy projects to support community renewable energy projects and work towards reconciliation. A portion of the funds has been reserved for Indigenous-led projects, which may qualify for higher levels of project support. The program also seeks to encourage participation of all underrepresented groups in the renewable energy sector. For instance, applicants to the program are required to include equity diversity and inclusion (EDI) considerations and initiatives, in the form of a plan or public commitment. This ensures that projects funded are working to address barriers for underrepresented groups in participating in the renewable energy sector. The program also includes a capacity-building stream, enabling communities and organizations to acquire the knowledge and tools needed to develop renewable energy and grid modernization projects.

In addition, data collection for programs, such as the Smart Grid Program[cxvii] and Emerging Renewable Power Program[cxviii] collects training and hiring metrics at gender-disaggregated levels and align with Statistics Canada terminology (e.g., female, male and gender diverse). This data will provide a better understanding of participation in and access to the suite of RD&D programs and the impacts of the programs on equity-seeking groups, as well as the current state of equity, diversity and inclusion in the clean energy technology sector. Other disaggregated data is also collected including youth, persons with disabilities, Indigenous identity and racialized people.

Under Impact Canada,[cxix] the Indigenous Off-Diesel Initiative[cxx] is supporting remote Indigenous communities who experience barriers associated with access to capital funding and related activities necessary to enable full participation in the renewable energy and broader natural resource sector. To advance equality, an all-Indigenous expert external jury that is gender-balanced, has a diversity of ages, and has regional representation has been established to review and select the Initiative's Energy Champions.

The Clean Energy for Rural and Remote Communities Program[cxxi] collects, disaggregates and tracks data for renewable energy projects in remote areas, by rural and remote community

(region), Indigenous ownership and participation. The program also collects disaggregated data regarding participation of women and youth in projects.

To continue building a more equitable, diverse and inclusive low-carbon future, the Department will work with organizations and governments through the international 'Equal by 30' Campaign that brings together leadership from across the clean energy sector. The campaign asks participants to endorse high-level principles, set commitments, take concrete action to increase the participation of women, and report on their progress, in an effort to gather more comprehensive data on diversity and inclusion in the global energy sector.

Additionally, the Energy Efficiency Program will consider and implement recommendations from a study that defined intersectional gender-based barriers in the energy efficiency sector in Canada. This study has contributed to improved GBA Plus capacity across various initiatives and will be used for future inclusive policy-making. Using an intersectional GBA Plus lens, the program will be undertaking an Indigenous-led study that will explore Indigenous perceptions, needs and barriers to the uptake of energy efficiency solutions in Canada, which will help inform the design and delivery of current and future energy efficiency initiatives.

Just Transition legislation is intended to ensure that the transition is equitable and prosperous for all workers and communities. We will continue to ensure that workers and our communities are prepared to seize the opportunity of a low-carbon future and are equipped with the skills and training they need to for continued prosperity. The department launched virtual and online consultations on just transition in July 2021 and will be resuming consultations in early 2022 with a broad range of stakeholders, including workers and labour organizations, industry, academia, non-governmental organizations, provinces, territories and Indigenous organizations. Following the conclusion of these consultations, NRCan will release a "What We Heard" report.

United Nations' 2030 Agenda for Sustainable Development and the United Nations' Sustainable Development Goals

Natural Resources Canada's efforts under the Innovation and Sustainable Natural Resource Development core responsibility support Canada's efforts to address the United Nations 2030 Agenda and the SDGs. The Department's activities encourage the transformation to a low-carbon economy by improving the environmental performance of Canada's natural resource sectors through innovation and sustainable development and use. The planned activities that will help the Department attain Sustainable Development Goals include:

- ensuring access to affordable, reliable, sustainable and modern energy through collaborative engagements and initiatives such as the Clean Fuels Fund, *Offshore Renewable Energy Regulations*, Smart Grid Program and Clean Energy for Rural and Remote Communities Program (SDG 7 - Affordable and Clean Energy[cxxii]);

- making Zero-Emission Vehicles more affordable and accessible by establishing a coast-to-coast fast-charging network for electric vehicles and fostering innovation (SDG 9 - Industry, Innovation and Infrastructure[cxxiii]);
- taking action to increase carbon sequestration and reduce emissions through initiatives such as the 2 Billion Trees Program, the Energy Innovation Program and the Emissions Reduction Fund (SDG 13 – Climate Action[cxxiv]); and
- promoting responsible and transparent practices in the forest sector, to help ensure Canada's forests are sustainable for years to come (SDG 15 – Life on Land[cxxv]).

Additional information on how NRCan's activities support United Nations' 2030 Agenda and Sustainable Development Goals is reflected in the *2020-23 Departmental Sustainable Development Strategy (DSDS)* and the *United Nations 2030 Agenda and the Sustainable Development Goals* Supplementary Information Tables. Altogether, these programs will support Canada's transition to a low-carbon future and help meet the Government's target to achieve net-zero emissions by 2050, while providing access to affordable, reliable, sustainable and clean energy, promoting innovation, and ensuring sustainable economic growth and ecosystems.

Experimentation

Natural Resources Canada will promote energy efficiency in Canadian homes, businesses and industry by searching for new partnerships and opportunities to experiment, innovate, and drive change. The Department will encourage cross-sectoral collaboration to bring innovative and experimental projects to support energy efficiency as a key contributor to achieving Canada's GHG reductions targets. For example, NRCan has partnered with ECCC and Privy Council Office's Impact and Innovation Unit on the Program of Applied Research on Climate Action. The first step in this program is the development of a longitudinal study on behaviours related to climate change which will provide baseline knowledge of Canadians' understanding, and the associated behaviours taken in response. This work will lead to experiments both online and in-field, to determine the most effective responses at the individual level, which may then inform further policy and program development. The Department will also explore behavioural science as it relates to energy transitions and adaptation.

Key risks

The Department has identified risks that could impact its ability to contribute to innovative and sustainable natural resources development including those related to the impact of climate change and keeping abreast of the rapid pace of science and technological innovation. In order to mitigate these risks, NRCan proposes mitigation measures including:

- Establishing partnerships and improving access to clean technology support in the forest, energy and mining sectors;
- Supporting research, development and demonstration projects to advance the technologies required for Canada's net-zero transition to near commercial readiness, and to help ensure that they are extensively proven in an operational environment, and can be implemented in resource rich regions across Canada;
- Collaborating with other government departments and agencies to support federal initiatives for greening the Canadian economy and creating new jobs in resource rich communities across Canada;
- Continuing to increase access to quality data, engage Canadians and utilize public feedback to shape Canada's energy future, and undertake deliberate, structured and regular Indigenous engagement and consultation on regulatory and policy development for all aspects of natural resources development;

Planned results for Innovative and Sustainable Natural Resources Development

The following table shows for Innovative and Sustainable Natural Resources Development, the planned results, the result indicators, the targets and the target dates for 2022–23, and the actual results for the three most recent fiscal years for which actual results are available.

Departmental result	Departmental result indicator	Target	Date to achieve target	2018–19 actual result	2019–20 actual result	2020–21 actual result
Natural resource sectors are innovative	Percentage of NRCan-funded innovation projects that result in new Intellectual Property standards or regulations[4]	At least 5 % of projects will have IP or an impact on codes, standards or regulations by project completion (typically 3-4 years)	March 2023	65 %	30 %	69 %
	Percentage of innovative forest products and decision tools informed by NRCan	At least 95 %	March 2023	Not available[5]	Not available[5]	100 %

[4] This indicator tracks progress on results at the completion of NRCan-funded projects. As many projects are still ongoing, the figures serve only as an indication of progress to date. Results fluctuate based on program funding cohorts.

[5] Historical information is not available for all previous years for this indicator given that the indicator and its methodology were amended starting in 2020-21.

	research that contribute to the environmental sustainability of Canada's forests					
	Percentage of NRCan-funded clean energy innovation projects advancing along the innovation scale[6]	At least 50 % of research, development and demonstration projects advance one level on the technological readiness scale by project completion (typically 3-4 years)	March 2024	90 %	77 %	37 %
	Percentage of innovative mining technologies developed by NRCan that move towards being ready for commercial use[6]	25 %	March 2023	25 %	Not available	22 %
	Number of initiatives enabled by NRCan to strengthen the cyber security and resilience of Canada's critical energy infrastructure[7]	At least 20	March 2023	Not available	Not available	22

[6] This indicator tracks progress on results at the completion of NRCan-funded projects. As many projects are still ongoing, the results do not represent the full program portfolio and serves only as an indication of progress to date. Results fluctuate based on program funding cohorts.

[7] Historical information is not available for all previous years, for this indicator was newly added to Natural Resource Canada's Departmental Results Framework starting in 2020-21.

Clean technologies and energy efficiencies enhance economic performance	Percentage of NRCan-funded clean technology demonstration projects achieving their economic goals	At least 50 % success rate measured by project completion (typically 3-4 years)	March 2026	Not available[8]	Not available[9]	Not available[10]
	Ratio of partner investment to government spending in NRCan-funded energy innovation projects	At least 1:1	March 2023	3.1:1	3:1	2:1
	Total annual energy savings resulting from adoption of energy efficiency codes, standards and practices	Total Annual Energy Savings of 600 PJ	March 2030	26.7PJ	35.6PJ	66.7PJ
Canada's natural resources are sustainable	Percentage of Canadian electricity generated from non-GHG emitting sources	At least 90 %	March 2030	82 %	Not available[11]	Not available[11]

[8] This indicator tracks progress on results at the completion of NRCan-funded projects. No projects with economic goals were completed during 2018-19.

[9] This indicator tracks progress on results at the completion of NRCan-funded projects. Not enough projects with economic goals were completed in 2019-20 to meaningfully report on this indicator.

[10] This indicator tracks progress on results at the completion of NRCan-funded projects. As the program was extended through 2021-22 due to the COVID-19 pandemic, not enough projects that report on this indicator were completed in 2020-21 to meaningfully report.

[11] Data for Fiscal Year 2020-21 is not available as electricity statistics are only available on a calendar year-basis. On December 31, 2019, the percentage of non-emitting electricity was 82%. There is no data available yet for calendar year 2020. The next data update is expected to be available by June 2022. Additionally, reporting has been impacted due to the delayed availability of statistics amid the COVID-19 pandemic.

	Number of renewable energy projects in remote communities and off-grid industrial operations	115	March 2026	0[12]	1[13]	21[14]
	Amount of wood harvested compared to the sustainable supply	Harvest is less than sustainable supply	March 2023	155 million m³ total harvest versus total wood supply of 223 million m³ (SoF, 2018 – data from 2016)	155 million m3 total harvest versus total wood supply of 220 million m3 (SoF, 2019 – data from 2017)	156.2 million m³ total harvest versus total wood supply of 217.9 million m³. (SoF 2020 – data from 2018)
	Number of low-carbon recharging and refueling stations under development or completed	At least 34,500 electric vehicle charging stations At least 22 natural gas refuelling stations At least 25 hydrogen refuelling stations	March 2024	Electric vehicle charging stations = 526 Natural gas refuelling stations = 12 Hydrogen refuelling stations = 6	Electric vehicle charging stations = 837 Natural gas refuelling stations = 21 Hydrogen refuelling stations = 8	Electric Vehicle charging stations = 1,089 Natural gas refuelling stations = 22 Hydrogen refuelling stations = 15

[12] This is a new indicator implemented in 2018-19, which measures the number of completed renewable energy projects in remote communities and off-grid industrial operations. While no projects were completed in 2018-19, NRCan selected 53 projects for funding in the Clean Energy for Rural and Remote Communities Program towards the 2026 target.

[13] This indicator measures the number of completed renewable energy projects in remote communities and off-grid industrial operations in 2019-20. While one project was completed in 2019-20, NRCan supported 35 additional projects for funding in the Clean Energy for Rural and Remote Communities Program towards the 2026 target.

[14] This indicator measures the number of completed renewable energy projects in remote communities and off-grid industrial operations in 2020-21. While 21 projects were completed in 2020-21, 93 projects are being supported through the Clean Energy for Rural and Remote Communities Program towards the 2026 target.

	Reduction in greenhouse gas emissions resulting from NRCan-funded clean technology demonstrations	Clean Growth Program: Between 0.3 – 0.7 megatons (Mt) of direct annual GHG reduction, dependent on projects received, success of projects and on-going operation at full production capacity Energy Innovation Program: Between 4.25 Mt of direct annual GHG reductions and a combined total 10-16 Mt GHG direct and indirect reductions per year	March 2027 (Clean Growth Program) March 2030 (Energy Innovation Program)	Clean Growth Program: Not available[15] Energy Innovation Program: 1.32 Mt/ year[16]	Clean Growth Program: Not available[17] Energy Innovation Program: 1.61 Mt/ year[16]	Clean Growth Program: Not available[18] Energy Innovation Program: 1.85 Mt/year[16]
	Percentage of NRCan's projects on innovation and sustainable development that engage Indigenous communities, organizations or governments	8 %	March 2023	Not available[5]	Not available[5]	8.3 %

The financial, human resources and performance information for Natural Resources Canada's program inventory is available on GC InfoBase.[cxxvi]

[15] This indicator tracks progress on results at the completion of NRCan-funded projects. No projects were completed during 2018-19, as projects were at the early stages of implementation.

[16] On track for 2030 target. Projects are underway. Results are only reported once GHG emission reduction estimates have been assessed and validated at project completion and/or during the five-year project outcomes reporting period.

[17] Results are only reported once GHG emission reduction estimates have been assessed and validated at project completion and/or during the five-year project outcomes reporting period. Some projects experienced delays in 2019-20 due to the COVID-19 pandemic.

[18] Results are only reported once GHG emission reduction estimates have been assessed and validated at project completion and/or during the five-year outcomes reporting period. Program duration was extended through 2021-22 due to the COVID-19 pandemic.

Planned budgetary spending for Innovative and Sustainable Natural Resources Development

The following table shows for Innovative and Sustainable Natural Resources Development, budgetary spending for 2022–23, as well as planned spending for that year and for each of the next two fiscal years.

2022–23 budgetary spending (as indicated in Main Estimates)	2022–23 planned spending	2023–24 planned spending	2024–25 planned spending
$2,178,334,701	$2,178,334,701	$1,984,366,574	$1,858,534,541

Financial, human resources and performance information for Natural Resources Canada's program inventory is available on GC InfoBase.[cxxvii]

Planned human resources for Innovative and Sustainable Natural Resources Development.

The following table shows, in full-time equivalents, the human resources the department will need to fulfill this core responsibility for 2022–23 and for each of the next two fiscal years.

2022–23 planned full-time equivalents	2023–24 planned full-time equivalents	2024–25 planned full-time equivalents
1,874	1,767	1,725

Financial, human resources and performance information for Natural Resources Canada's program inventory is available on GC InfoBase.[cxxviii]

Globally Competitive Natural Resource Sectors

Description

Advanced and promoted market access, inclusiveness and competitiveness for Canada's natural resource sectors, in support of jobs and economic growth.

This Core Responsibility supports the advancement of the following **Strategic Priorities:**

- Accelerate development and adoption of clean technology to build a more resilient economy and transition to net-zero by 2050
- Create and maintain market access while improving competitiveness for Canada's resource sectors
- Promote, build and foster equity, diversity, and inclusion while supporting resource communities to thrive in a net-zero carbon economy
- Advance reconciliation, strengthen relationships, increase engagement and share economic benefits with Indigenous Peoples

This Core Responsibility also contributes to the achievement of the Mandate Letter Commitments of the Minister of Natural Resources:

- Support the future and livelihood of workers and their communities in the transition to a low carbon economy;
- Support fully implementing the United Nations Declaration on the Rights of Indigenous Peoples Act across government;
- Work with partners to develop and launch a Canadian Critical Minerals Strategy and improve critical minerals supply chain resiliency;
- Help develop a sustainable battery innovation and industrial ecosystem and launch a Canada-U.S. Battery Alliance to identify shared priorities and environmental requirements;
- Work with partners to introduce a new Buy Clean Strategy to prioritize the use of made-in-Canada low-carbon products in Canadian infrastructure projects;
- Help establish an international centre of excellence on firefighter training, wildfire management and engage with the Canadian Interagency Forest Fire Centre; and
- Continue to develop a National benefits-sharing framework to ensure that Indigenous communities directly benefit from major resource projects

Planning highlights

Canada remains a leader in attracting global investments for sustainable natural resource development. Dominant themes influencing Canada's natural resource sectors include diverse

market access, competitive pricing, clean technology development, and a fair distribution of green jobs with resource communities. To maintain Canada's competitive advantage in 2022-23, the Department will focus on actions that retain existing relationships as well as expand access to export markets and attract long-term sustainable investments to the natural resources sector.

Access to new and priority markets for Canada's natural resources is enhanced


High voltage power lines along Lake Ontario

Regulatory stability is an important factor for investors and the business community when considering long-term planning, especially when investments are significant and span many years. In 2022-23, NRCan will work with partners and stakeholders to advance the implementation of legislative and regulatory frameworks that support stable, long-term investment planning, as well as initiatives that will modernize the framework for health, safety, and environmental protection. Updating these legislative and regulatory frameworks will ensure Canada remains globally competitive while meeting its climate goals. In addition, the Department will also support the development and ongoing review of regulations and policy under the *Canadian Energy Regulator Act*[cxxix] to ensure the long-term effectiveness and to maximize safety, security and environmental protection for Canada's energy sector. As well, NRCan will work with partners and stakeholders to advance the implementation of statutes and provide expertise and support to the Canada Energy Regulator[cxxx] and the Impact Assessment Agency of Canada.[cxxxi]

NRCan is committed to maintaining and strengthening relationships with Indigenous communities in the post-decision period of the Trans Mountain Expansion Project (TMX)[cxxxii] and will continue to foster meaningful dialogue and provide monitoring and oversight on TMX and Line 3 Replacement Project[cxxxiii] to safeguard environmental and Indigenous interests. NRCan will work with other government departments to enhance the role of Indigenous communities in the lifecycle oversight of energy infrastructure projects. The Department will advance strategic resource projects and work with CIRNAC and Finance Canada to develop a new national benefits-sharing framework for major resource projects located on Indigenous territory.

Internationally, the Department will engage with key bilateral partners and within multilateral fora like the G7, G20, Clean Energy Ministerial[cxxxiv]/MI and International Renewable Energy Agency[cxxxv] to strengthen energy relationships, promote cooperation, and create favorable conditions for Canadian businesses. A Memorandum of Understanding (MoU)[cxxxvi] on energy partnership was signed with the U.S. This MoU underlines a joint interest in achieving net-zero emissions by 2050 and a way forward to sustainable and equitable energy transition, clean

energy innovation, connectivity and low-carbon transportation. These engagements endeavor to aid Canadian businesses in competing internationally and to position Canada as a leader in energy as well as a reliable and preferred partner for energy trade and investment. NRCan will work to enhance its understanding of natural resource markets and their trends in order to support evidenced based decisions and actions regarding industry concerns and the pursuit of market opportunities.

The Department, together with Global Affairs Canada, will work to ensure oil and gas exporters can access Canada's largest market, the United States, and that supply chains are protected from disruption, whether by state or non-state actors. This includes efforts to keep the Enbridge Line 5 pipeline safely operating, in coordination with affected provinces.

Further, Global Affairs Canada and NRCan will continue defending Canada's natural resources sector against unfair trade practices, including U.S. duties imposed on Canadian softwood lumber exports and other market access challenges.

Canadians are engaged in the future of the new and inclusive resource economy

Successfully moving to a net-zero future means adopting the required technology and supporting workers in the natural resources sector, including addressing the opportunities and challenges that come with technological changes. As such, the Department will continue to deliver its Science and Technology Internship Program-Green Jobs[cxxxvii] through the Government's Youth Employment and Skills Strategy[cxxxviii] by funding employers across Canada to create jobs and training opportunities for youth in the natural resources sector. This program places a particular emphasis on serving youth experiencing barriers to employment (i.e., Indigenous youth, northern youth, and youth living with disabilities) to ensure a more diverse and inclusive natural resources sector that is future-ready. NRCan will collaborate with other government departments in identifying new opportunities to industry, workers and communities affected by changing priorities and technology within the natural resource sectors. This includes leveraging Employment and Social Development Canada's training and skills development programming to ensure that Canadians are equipped with the right skills at the right time to succeed in the low-carbon economy.

To ensure that Indigenous Peoples benefit from resource development, NRCan will engage with Indigenous groups and communities in economic development projects. In the forest sector for example, the Indigenous Forestry Initiative[cxxxix] will support Indigenous-led economic development projects as a means to ensure ongoing Indigenous participation in the forest sector throughout the COVID-19 recovery. The projects under the initiative contribute to a more

environmentally and commercially sustainable natural resource sector and advance reconciliation with Indigenous Peoples.

The Department will continue to advance inclusion in the clean energy workforce by creating more opportunities for women, LGBTQ2 Canadians, Indigenous Peoples, Black and racialized Canadians, newcomers, faith-based communities, persons with disabilities and other under-represented people in the energy sector.

Enhanced competitiveness of Canada's natural resource sectors

The Department will continue to support collaboration with the U.S. through the Joint Action Plan on Critical Minerals,[cxl] advancing our mutual interest in securing supply chains for the critical minerals needed for important manufacturing sectors, including communication technology, aerospace and defence, and clean technology.

The Joint Action Plan aims to spur job creation and economic growth in various downstream industries and increase Canada-U.S. economic integration. Further, NRCan will collaborate with federal, provincial and territorial partners to implement actions under the Canadian Minerals and Metals Plan,[cxli] including advancing the Pan-Canadian Initiatives and improving access for Canadians to data about minerals and metals exploration and production in Canada.

Canada's energy deposits extend to our oceans. In 2022-23, NRCan will work with provinces, industry and other stakeholders to support petroleum-related activities while protecting our aquatic resources. NRCan will also work with Newfoundland and Labrador, the Canada-Newfoundland and Labrador Offshore Petroleum Board and industry to advance priority recommendations from the Offshore Oil and Gas Industry Recovery Task Force. In support of a competitive oil and gas industry that is able to operate to high environmental standards in the context of a global energy transition, the Department will continue to assess Canada's energy infrastructure needs to ensure energy security and affordability for consumers and industry, domestically and internationally.

NRCan will also support the transformation of the forest sector to increase its economic sustainability and create new jobs and market opportunities for Canadian forest industry firms. The Investments in Forest Industry Transformation Program[cxlii] is one such initiative that facilitates the adoption of first-of-kind technologies, products, and processes, along with the Forest Innovation Program,[cxliii] which supports research, development, and technology transfer activities. Both programs target innovative projects that will strengthen the bioeconomy and enhance the forest sector's environmental performance by reducing GHG emissions, producing renewable energy, and improving energy efficiency. These programs, which enable the commercialization of next-generation products such as wood-based biofuels, biochemicals, and building materials, will help bolster the diversification and resiliency of Canada's forest sector. Further, NRCan will strengthen its collaboration with provinces, territories and Indigenous

communities on delivering a national vision to make Canada a global leader in the forest bioeconomy.

To strengthen Canada's circular economy and forest bioeconomy, the Department will work to facilitate the initial research and development of innovative technologies, products and processes in the emerging bioeconomy. NRCan support will enable the forest sector to pursue its ongoing transformation by collaborating with internal and external organizations such as FPInnovations, a non-profit that specializes in solutions to support the competitiveness of Canada's forest sector. The Department will carry on working to enhance the prosperity of the forest sector through programs that help to de-risk commercialization for first-of-kind forest bioeconomy projects. Such programs will foster innovation and revenue diversification, contributing to a post-pandemic economic recovery and technology advancement efforts in Canada's forest bioeconomy. Together, these programs will play an important role in allowing Canadian forest sector firms to access new market opportunities in other industries and countries.

Gender-based analysis plus


A young chainsaw operator

Under this Core Responsibility, GBA Plus will help the Forest Sector Competiveness Program identify gaps and disparities in the representation and participation of diverse groups, including women across the forest sector. Efforts are being made to improve data collection of program recipients by gender and diversity to inform analysis on policies and programs. In addition**,** Science and Technology Internship Program-Green Jobs[cxliv] continues to use GBA Plus to identify barriers to employment opportunities and to enhance the program's delivery and reach. This means collecting and analyzing data, as well as building and maintaining relationships with stakeholders that work with under-represented youth in order to make the program more equitable and accessible. The Program also has a 60% employment equity group participation target, which includes a 50% target for the participation of women, and aims to allocate at least 20% of program funding to youth experiencing barriers to employment opportunities, which includes Indigenous youth, youth living in northern and remote communities, and youth living with disabilities.

Further, the Resource Partnerships Sector's program will facilitate meaningful participation of potentially impacted Indigenous groups in Crown consultation activities on natural resource project decisions, and the natural resource sector more broadly by consulting with Indigenous groups in natural resource project reviews.

United Nations' 2030 Agenda for Sustainable Development and the United Nations' Sustainable Development Goals

Natural Resources Canada's efforts under the Globally Competitive core responsibility support Canada's efforts to address the United Nations 2030 Agenda and the SDGs. The Department's activities encourage the advancement and promotion of market access, inclusiveness and competitiveness for Canada's natural resource sectors, in support of jobs and economic growth. The planned activities that will help the Department attain sustainable development goals include:

- Engaging with key partners to advance international efforts that enhance global energy security, energy system transformation, climate change mitigation and clean energy technology development and deployment (SDG 7 - Affordable and Clean Energy[cxlv] and SDG 17 – Partnerships for the Goals,[cxlvi]); and

- contributing to sustainable consumption and production patterns, while positioning Canada as a reliable, sustainable, and responsible source of natural resources through initiatives such as the Canadian Minerals and Metals Plan (SDG 12- Responsible Consumption and Production[cxlvii] and SDG 13 – Climate Action[cxlviii])

Additional information on how NRCan's activities support United Nations' 2030 Agenda and Sustainable Development Goals is reflected in the *2020-23 Departmental Sustainable Development Strategy* and the *United Nations 2030 Agenda and the Sustainable Development Goals* Supplementary Information Tables. Altogether, these activities will support Canada's transition to a low-carbon future and support competitiveness in Canada's natural resource sectors, while advancing reconciliation with Indigenous Peoples.

Experimentation

Working in collaboration with the Privy Council Office, NRCan will use experimentation to assess the impacts of behavioural science-informed-approaches to policies and programs that accelerate the adoption of clean technology, including on encouraging the purchase of zero emission vehicles and uptake of home energy efficiency measures.

Key risks

The impact of the global pandemic extends across Canada's natural resources sectors, to varying degrees. Some sub-sectors have experienced market volatility while other have had increased growth and investments. Risks include challenges to competitiveness and environmental sustainability of the natural resource sectors, opportunities for workers affected by rapidly transforming natural resource sectors, ensuring energy security and affordability domestically

and abroad throughout the transition to renewable energy systems, as well as maintaining public confidence and engagement, including of Indigenous Peoples, in natural resources development. NRCan will manage these risks through the development, implementation and monitoring of mitigation strategies, including:

- Taking steps to establish Canada as an attractive economy for investment in the global market and supporting economic recovery through regulatory reform, international engagement and trade missions;
- Advancing the growth of the clean technology sector and the transition to a low-carbon economy while meeting Canada's climate goals, creating jobs and carving a path for an inclusive and sustainable post-COVID-19 economic recovery;
- Undertaking Indigenous engagement and consultation on regulatory and policy development for all aspects of natural resources development and employing public feedback in shaping the future of the Canadian natural resources sectors; and,
- Supporting workers and communities across Canada to ensure that necessary training is provided for acquiring new skills and creating opportunities for underrepresented groups.

Planned results for Globally Competitive Natural Resource Sectors

The following table shows for Globally Competitive Natural Resource Sectors, the planned results, the result indicators, the targets and the target dates for 2022–23, and the actual results for the three most recent fiscal years for which actual results are available.

Departmental result	Departmental result indicator	Target	Date to achieve target	2018–19 actual result	2019–20 actual result	2020–21 actual result
Access to new and priority markets for Canada's natural resources is enhanced	Canada's share of U.S. and global imports of natural resources	25.1 % (U.S.) 1.5 % (Global	December 2022	24.8 % (U.S.) 1.4 % (global imports)	26.8 % (U.S.) 1.5 % (global imports)	24.6 % (U.S.) 1.5 % (global imports)
	Increase in value of assets abroad owned by Canadian natural resource companies	$227 billion	December 2022	$227.7B	$231B	Not available[19]

[19] Data not available until the second half of 2022.

	Number of NRCan international engagements that support the development or expansion of trade and investment in natural resources	At least 40	March 2023	39	42	59
Canadians are engaged in the future of the new and inclusive resource economy	Number of joint products developed in collaboration with provinces and territories and released to Canadians	At least 12	March 2023	18	15	21
	Percentage of NRCan's projects that support participation of Indigenous communities, organizations or governments in Canada's natural resource economy	19 %	March 2023	Not available[5]	Not available[5]	63.27 %
Enhanced competitiveness of Canada's natural resource sectors	Economic value of anticipated natural resource projects supported by analysis and solutions[20]	$2.42B	March 2023	Not available	Not available	Not available
	Number of times NRCan's economic and investment data are accessed	At least 400,000 quarterly average	March 2023	133,147	379,032	420,835

The financial, human resources and performance information for Natural Resources Canada's program inventory is available on GC InfoBase.[cxlix]

[20] Actual results are not available for past years as the Major Projects Management Office Initiative funding sunset in March 2020.

Planned budgetary spending for Globally Competitive Natural Resource Sectors.

The following table shows for Globally Competitive Natural Resource Sectors, budgetary spending for 2022–23, as well as planned spending for that year and for each of the next two fiscal years.

2022–23 budgetary spending (as indicated in Main Estimates)	2022–23 planned spending	2023–24 planned spending	2024–25 planned spending
$778,394,348	$778,394,348	$1,364,831,323	$1,831,856,088

Financial, human resources and performance information for Natural Resources Canada's program inventory is available on GC InfoBase.[cl]

Planned human resources for Globally Competitive Natural Resource Sectors

The following table shows, in full-time equivalents, the human resources the department will need to fulfill this core responsibility for 2022–23 and for each of the next two fiscal years.

2022–23 planned full-time equivalents	2023–24 planned full-time equivalents	2024–25 planned full-time equivalents
482	421	405

Financial, human resources and performance information for Natural Resources Canada's program inventory is available on GC InfoBase.[cli]

Internal services: planned results

Description

Internal services are the services that are provided within a department so that it can meet its corporate obligations and deliver its programs. There are 10 categories of internal services:

- management and oversight services
- communications services
- legal services
- human resources management services
- financial management services
- information management services
- information technology services
- real property management services
- materiel management services
- acquisition management services

Planning highlights

In 2022-23, NRCan's internal services will support the Department in advancing the Minister's Mandate Letter commitments and Government of Canada priorities. By providing corporate support, NRCan's internal services will ensure that NRCan programs are equipped with the tools required to deliver results to Canadians. The Department's internal services are essential for ensuring that natural resource management is guided by credible science, NRCan's cybersecurity capabilities are enhanced, and the workforce is not only reflective of the diversity of Canadians but there is a culture of inclusion.

Supporting Science in an Open and Accountable Government

Strengthening public, employee and stakeholder trust in the credibility and reliability of NRCan research and scientific activities is key for creating a culture of open, trustworthy and accountable science. In 2022-23, NRCan will continue implementing the Scientific Integrity Policy,[cli] adopted in 2019, to ensure that its principles are embedded in the design, conduct, management and use of the Department's science. By enhancing employee understanding of the contributions of research and science to evidence-informed decision-making, NRCan is better equipped to develop government policy and advice to benefit Canadians.

NRCan's Chief Science Advisor will support evidence-based decision-making within the Department by ensuring that our decisions and actions are grounded in transparent and robust science through ongoing participation in the Departmental Science Advisor Network.[cliii] This cross-government network allows for collaboration on multi-departmental initiatives, promotes the use of science-based evidence to inform policy development, practice and evaluation, and acts as a platform to share best practices to support each other's respective mandates.

To further support sound decision-making, departmental-wide data collection will continue at the program level during the Federal Science Expenditures and Personnel Survey data collection period, using an NRCan-specific innovative approach. The survey will collect the financial and operating data that are essential to assure the availability of statistical information to monitor science and technology related activities in Canada to support the development of science and technology policy.

NRCan will implement key elements of the Open Science Action Plan through internal collaboration among departmental sectors and the scientific community. NRCan will further support collaborative efforts among federal Science Based Departments and Agencies to advance a culture of Open Science as a vital component of the Open Government initiative.

Emergency Management and Cybersecurity

NRCan supports the Government of Canada's national security and emergency management agenda by providing scientific advice and leadership. Furthermore, the Department will engage with whole of government efforts and international initiatives to address research security vulnerabilities in the department's scientific activities. In addition, the Department will focus on identifying, protecting, detecting, mitigating, responding and recovering from cyber security events to protect its assets in view of increased threat vectors and more complex cybersecurity attacks.

Through the Cyber Security and Critical Energy Infrastructure Program,[cliv] the Department will further enhance the cyber security and resilience of domestic and cross-border energy infrastructure, in support of Canada's National Cyber Security Strategy.[clv] These programs are to address a number of gaps in Industrial Control System cyber security in the energy sector.

Strengthening Federal Science and Renewing NRCan's Laboratory Infrastructure

NRCan continues to be a collaborator on the whole-of-government initiative to strengthen federal science in Canada, in collaboration with Laboratories Canada.[clvi] The Department will work towards consolidating portions of our science facilities under new, world-class laboratory facilities that will meet the current and future needs of scientists and enhance collaboration with internal and external partners. The Department is contributing to transforming the delivery of science in the federal science ecosystem by promoting an integrated science vision and plan with its partners and reducing barriers to scientific collaboration. To achieve this, NRCan is co-leading the new TerraCanada[clvii] Science Hub, along with the National Research Council (co-lead), Health Canada, Environment and Climate Change Canada, and the Canadian Nuclear Safety Commission. TerraCanada will promote transdisciplinary, collaborative research and development and innovation along three themes: sustainable land and resource development; low-carbon economy; and, safety and health of Canadians.

Workforce and Workplace

NRCan will provide services in support of programs and to meet the management expectations as an organization. NRCan is equipping the department for the post-pandemic hybrid workforce by continuing to adapt and transform its physical, digital and people management practices and processes to provide a better candidate, employee and client experience and to enable the future of work. Going forward, NRCan will continue to create a more modern, agile and inclusive workplace that supports a hybrid model of work by adapting its workplace to accommodate emerging departmental growth; enhancing and adapting its workplace policies and processes; continuing to push the fast forward button on digital access and collaboration; and continuing training and upskilling, so that employees can work in the evolving digital environment, while maintaining the well-being of employees.

NRCan will further foster a healthy and inclusive workplace for our employees by continuing to implement the 2020-2023 Mental Health and Workplace Wellness Strategy**.** The Department will strive as an employer of choice while building an equipped and competent management cadre with the capacity to empower and support employees with their mental health and wellbeing while fostering psychologically healthy and safe teams.

In addition, the Department is leveraging the use of technology and data analytics in support of decision-making and business efficiency. NRCan is investing in and optimizing the use of new digital tools and technology in staffing and talent acquisition to increase performance and reduce time to staff that include workflow automation, and social recruiting. The Department is providing improved human resource data analytics by transforming existing human resource data into new forms of value to improve integrated planning activities and support decision making though clear data governance, management, and architecture.

Equity, Diversity and Inclusion

Under the EDI Action Plan for NRCan (2020-2024), a number of key activities will support the department to become more diverse in its workforce, more inclusive in its culture and have more equitable program and policy impacts for Canadians. Each sector will continue to implement its EDI Action Plan and will report on progress at the departmental level as required by the EDI Performance Measurement Framework. In addition to sector level plans, the department will report on progress in key areas as well.

In 2022-23, NRCan will continue to implement the 2021-2024 Employment Equity and Accessibility Action Plan, which will include specific strategies to reduce representation gaps by 50% compared to the baseline employment equity data from September 2020 with an aim to eliminate all gaps by 2024-25. In sustaining NRCan’s Employment Equity and Accessibility outcomes, the department will strengthen managers’ capacity to foster an inclusive and accessible workplace culture. To build accessibility and equitable representation into its

workplace culture, the department will integrate inclusive by design principles in the planning and implementation of initiatives such as the Future of Work and the redesign of office space.

Advancing reconciliation means being open to different ways of understanding and working together with Indigenous partners. In 2022-23, the Department will build an evergreen NRCan Pathways to Reconciliation Framework that will transform the way we operate as a federal department. The framework will support NRCan in building a foundation of cultural competency and respect and enable the Department to transform how it engages Indigenous Peoples, moving away from transactional partnerships. In building this framework, NRCan will establish reconciliation action plans for each sector that identify concrete commitments.

NRCan is focused on strengthening its EDI Data Foundation by collecting more and better data, including disaggregated and intersectional data, to identify gaps and opportunities in the natural resources sector and to inform effective policy and program efforts for different equity-seeking populations. This work will include identifying and working with different sources of data to build the department's evidence base on EDI. This data will be widely available and usable across the department to support analysis and program design, particularly to understand and strengthen inclusiveness in the natural resources sector.

NRCan will create and launch an EDI Analysis Toolkit in 2022 to promote a shift in culture and help employees apply EDI to their work. The Toolkit will collate a variety of lenses into a single resource to make embedding EDI into the DNA of NRCan as simple as possible. The launch of the Toolkit will help NRCan improve planning, decision-making, and reporting/evaluation by making policies and programs more equitable and accessible to everyone.

To help develop the skills, cultural awareness and understanding of how the Department's mandates impact First Nations, Métis and Inuit communities, NRCan employees at all levels will complete eight hours of self-directed Indigenous learning during 2022-23.

Planned budgetary spending for internal services

The following table shows, for internal services, budgetary spending for 2022–23, as well as planned spending for that year and for each of the next two fiscal years.

2022–23 budgetary spending (as indicated in Main Estimates)	2022–23 planned spending	2023–24 planned spending	2024–25 planned spending
$177,157,722	$177,157,722	$167,001,028	$161,221,574

Planned human resources for internal services

The following table shows, in full-time equivalents, the human resources the department will need to carry out its internal services for 2022–23 and for each of the next two fiscal years.

2022–23 planned full-time equivalents	2023–24 planned full-time equivalents	2024–25 planned full-time equivalents
1,052	1,029	1,028

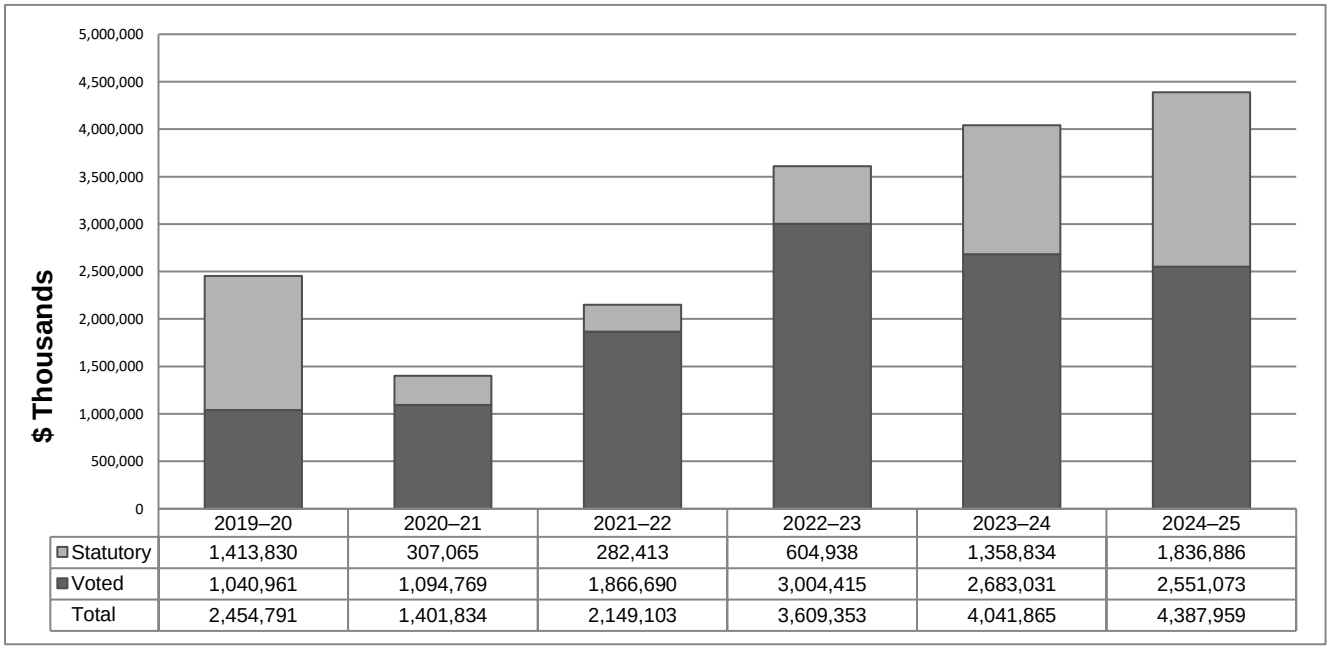
Planned spending and human resources

This section provides an overview of the department's planned spending and human resources for the next three fiscal years and compares planned spending for 2022–23 with actual spending for the current year and the previous year.

Planned spending

Departmental spending 2019–20 to 2024–25

The following graph presents planned spending (voted and statutory expenditures) over time.



	2019–20	2020–21	2021–22	2022–23	2023–24	2024–25
Statutory	1,413,830	307,065	282,413	604,938	1,358,834	1,836,886
Voted	1,040,961	1,094,769	1,866,690	3,004,415	2,683,031	2,551,073
Total	2,454,791	1,401,834	2,149,103	3,609,353	4,041,865	4,387,959

NRCan's program expenditures include salaries, non-salary costs, capital, grants and contributions to deliver programs and statutory items.

Budgetary planning summary for core responsibilities and internal services (dollars)

The following table shows information on spending for each of Natural Resources Canada's core responsibilities and for its internal services for 2022–23 and other relevant fiscal years.

Core responsibilities and internal services	2019–20 actual expenditures	2020–21 actual expenditures	2021–22 forecast spending	2022–23 budgetary spending (as indicated in Main Estimates)	2022–23 planned spending	2023–24 planned spending	2024–25 planned spending
1. Natural Resources and Risk Mitigation	$207,688,086	$207,697,165	$358,570,663	$475,466,366	$475,466,366	$525,666,133	$536,347,044
2. Innovative and Sustainable Natural Resources Development	$1,498,877,063	$560,924,909	$1,126,102,915	$2,178,334,701	$2,178,334,701	$1,984,366,574	$1,858,534,541
3. Globally Competitive Natural Resource Sectors	$595,634,877	$470,921,143	$506,606,457	$778,394,348	$778,394,348	$1,364,831,323	$1,831,856,088
Subtotal	**$2,302,200,026**	**$1,239,543,217**	**$1,991,280,035**	**$3,432,195,414**	**$3,432,195,414**	**$3,874,864,029**	**$4,226,737,673**
Internal services	$152,590,901	$162,290,295	$157,822,917	$177,157,722	$177,157,722	$167,001,028	$161,221,574
Total	**$2,454,790,927**	**$1,401,833,512**	**$2,149,102,952**	**$3,609,353,137**	**$3,609,353,137**	**$4,041,865,057**	**$4,387,959,247**

For 2019-20 and 2020-21, the figures represent the actual expenditures as reported in the Public Accounts of Canada, while those for 2021-22 represent the forecasted expenditures to year-end. For 2022-23 to 2024-25, the figures represent total planned spending as per approved budgetary authorities in the 2022-23 Main Estimates to support NRCan program activities.

From 2019-20 to 2020-21, expenditures decreased by $1.1 billion mainly as a result of a statutory endowment in 2019-20 to the Federation of Canadian Municipalities for the Green Municipal Fund and a decrease in payments to the Newfoundland Offshore Petroleum Resource Revenue Fund attributed to the decrease in royalties from offshore production. These decreases were partially offset by new spending for the Emissions Reduction Fund (ERF), for safety measures in forest sector operations, and youth employment for the Science and Technology Internship Program - Green Jobs.

The overall increase of $0.7 billion in forecast spending from 2020-21 to 2021-22 is mainly attributable to increases in funding for the ERF, for the 2 Billion Trees (2BT) program to motivate

and support new tree planting projects, for improving energy efficiency in homes, and for the smart renewable energy and grid modernization projects.

The overall increase of $1.5 billion in planned spending from 2021-22 to 2022-23 is mainly attributable to increase in payments under the Newfoundland Offshore Petroleum Resource Revenue Fund. This is in addition to increases in funding to support initiatives mentioned above.

The overall increase of $0.8 billion from 2022-23 to 2024-25 is mainly due to continued increases in planned spending for the Newfoundland Offshore Petroleum Resource Revenue Fund. This increase is offset by reduced funding profiles for major initiatives such as the ERF, the Zero Emission Vehicle Infrastructure Program, Investments in Forest Industry Transformation, as well as various sunsetting programs.

Sunsetting programs could be renewed pending future budgetary decisions. Outcomes of such decisions will be reflected in the Department’s future budget exercises and Estimates documents.

The planned increase in Statutory payments for the Newfoundland Offshore Petroleum Resource Revenue Fund in 2022-23 to 2024-25 are largely related to royalty transfers to the province of Newfoundland and Labrador, which are driven by oil and gas prices, production levels and anticipated corporate income taxes related to offshore operations. The planned spending is based on the Department's economic modeling forecasts prepared in the fall of 2021.

Planned human resources

The following table shows information on human resources, in full-time equivalents (FTEs), for each of Natural Resources Canada's core responsibilities and for its internal services for 2022–23 and the other relevant years.

Human resources planning summary for core responsibilities and internal services

Core responsibilities and internal services	2019–20 actual full-time equivalents	2020–21 actual full-time equivalents	2021-22 forecast full-time equivalents	2022–23 planned full-time equivalents	2023–24 planned full-time equivalents	2024–25 planned full-time equivalents
Natural Resources Science and Risk Mitigation	1,274	1,206	1,266	1,339	1,266	1,260
Innovative and Sustainable Natural Resource Development	1,645	1,650	1,760	1,874	1,767	1,725
Globally Competitive Natural Resource Sectors	469	494	488	482	421	405
Subtotal	**3,388**	**3,350**	**3,514**	**3,695**	**3,454**	**3,390**
Internal services	993	975	1,047	1,052	1,029	1,028
Total	**4,381**	**4,325**	**4,561**	**4,746**	**4,484**	**4,419**

For 2019-20 and 2020-21, the figures represent the FTEs as reported in the Departmental Results Report while 2021-22 represents the forecasted FTEs to year-end. For 2022-23 to 2024-25, the figures represent total Planned FTEs to support NRCan approved program activities.

NRCan's total FTE count remains relatively steady from 2019-20 to 2024-25, with the exception of a slight increase in FTEs in 2022-23 attributed mainly to increases in funding for improving energy efficiency in homes, for advancing the clean fuels market, and for initiatives such as Critical Minerals. The slight decline in FTEs in the outer years relates mostly to the reduction of funding profiles and the sunsetting of major initiatives. As other new initiatives are undertaken, plans for future FTE requirements will be adjusted accordingly.

Estimates by vote

Information on Natural Resources Canada's organizational appropriations is available in the 2022–23 Main Estimates.[clviii]

Consolidated Future-oriented condensed statement of operations

The consolidated future-oriented condensed statement of operations provides an overview of NRCan's operations for 2021-22 to 2022-23.

The amounts for forecast and planned results in this statement of operations were prepared on an accrual basis. The amounts for forecast and planned spending presented in other sections of the Departmental Plan were prepared on an expenditure basis. Amounts may therefore differ.

A more detailed consolidated future oriented statement of operations and associated notes, including a reconciliation of the net cost of operations to the requested authorities, are available on the NRCan website.[clix]

Consolidated Future-Oriented Condensed Statement of Operations for the year ending March 31, 2023 (dollars)

Financial information	2021–22 forecast results	2022–23 planned results	Difference (2022–23 planned results minus 2021–22 forecast results)
Total expenses	2,101,725,064	3,155,116,733	1,053,391,669
Total net revenues	37,394,724	35,291,035	(2,103,689)
Net cost of operations before government funding and transfers	2,064,330,340	3,119,825,698	1,055,495,358

Total expenses are projected to increase by $1,053 million, from $2,102 million in 2021-22 to $3,155 million in 2022-23, mainly explained by:

An **increase of $638 million in Innovative and Sustainable Natural Resources Development** mainly due to:

- an increase in programming of $796.9M related to Greener Homes, Clean Fuels Fund and Smart Renewables and Electrification Pathways Program; offset by
- a decrease of $145.5M for reduced or sunsetting funds for Green Infrastructure, Clean Growth in Natural Resources Sectors Innovation Program and Impact Canada.

An **increase of $265 million in Globally Competitive Natural Resource Sectors** mainly related to:

- An increase of $325.7 million related to the Offshore Statutory accounts; offset by
- A decrease of $43.9 million related to the Green Jobs program mainly for Youth Employment and Skills Strategy.

An **increase of $127 million in Natural Resource Science and Risk Mitigation** mainly related to:

- An increase of $152 million related to Natural Climate Solutions - 2 Billion Trees and Canadian Data Receiving Infrastructure - Space Based; offset by
- A decrease of $30.9 million related to the sunsetting of the Spruce Budworm Early Intervention Strategy.

NRCan's net revenues for 2021-22 are reported at $37 million while the net revenues for 2022-23 are estimated at $35 million. The decrease of $2 million in total net revenues is mainly attributable to a decrease in planned Voted Net Revenue collection in 2022-23 compared to 2021-22, caused by the anticipated conclusion of a major contract.

The charts presenting the distribution of Natural Resources Canada's total forecast expenses for 2021-22 and planned expenses for 2022-23 by Core Responsibility on an accrual basis are available on the NRCan website.[clx]

Corporate information

Organizational profile

Appropriate minister: The Honourable Jonathan Wilkinson, P.C., M.P.

Institutional head: John Hannaford

Ministerial portfolio:

- Atomic Energy of Canada Limited;[clxi]
- National Energy Board; [clxii]
- Canadian Nuclear Safety Commission;[clxiii]
- Canada-Newfoundland and Labrador Offshore Petroleum Board;[clxiv]
- Canada-Nova Scotia Offshore Petroleum Board; [clxv]
- Northern Pipeline Agency;[clxvi] and,
- Energy Supplies Allocation Board (inactive).

Enabling instrument(s):

- Department of Natural Resources Act, S.C. 1994, c. 41;[clxvii]
- Forestry Act, R.S.C., 1985, c. F-30;[clxviii]

- Resources and Technical Surveys Act, R.S.C., 1985, c. R-7;[clxix]
- Energy Efficiency Act, S.C. 1992, c. 36;[clxx]
- Extractive Sector Transparency Measure Act, S.C. 2014, s.376;[clxxi] and,
- Explosives Act, R.S.C., 1985, c. E-17.[clxxii]

Year of incorporation / commencement: 1994

Raison d'être, mandate and role: who we are and what we do

Information on Natural Resources Canada's raison d'être, mandate and role is available on the NRCan's website.[clxxiii]

Information on Natural Resources Canada's mandate letter commitments is available in the Minister's mandate letter.[clxxiv]

Operating context

Information on the operating context is available on Natural Resources Canada's website.[clxxv]

Reporting framework

Natural Resources Canada's approved departmental results framework and program inventory for 2022–23 are as follows.

Natural Resources Canada's Departmental Results Framework 2022-23

Changes to the approved reporting framework since 2021–22

Structure	2022-23	2021-22	Change	Reason for change
CORE RESPONSIBILITY	Natural Resource Science and Risk Mitigation	Natural Resource Science and Risk Mitigation	No change	Not applicable
PROGRAM	Canadian Geodetic Survey: Spatially Enabling Canada	Canadian Geodetic Survey: Spatially Enabling Canada	No change	Not applicable
PROGRAM	Geological Knowledge for Canada's Onshore and Offshore Land	Geological Knowledge for Canada's Onshore and Offshore Land	No change	Not applicable
PROGRAM	Core Geospatial Data	Core Geospatial Data	No change	Not applicable
PROGRAM	Canada-US International Boundary Treaty	Canada-US International Boundary Treaty	No change	Not applicable

PROGRAM	Canada Lands Survey System	Canada Lands Survey System	No change	Not applicable
PROGRAM	Geoscience for Sustainable Development of Natural Resources	Geoscience for Sustainable Development of Natural Resources	No change	Not applicable
PROGRAM	Pest Risk Management	Pest Risk Management	No change	Not applicable
PROGRAM	Forest Climate Change	Forest Climate Change	No change	Not applicable
PROGRAM	Climate Change Adaptation	Climate Change Adaptation	No change	Not applicable
PROGRAM	Explosives Safety and Security	Explosives Safety and Security	No change	Not applicable
PROGRAM	Geoscience to Keep Canada Safe	Geoscience to Keep Canada Safe	No change	Not applicable
PROGRAM	Wildfire Risk Management	Wildfire Risk Management	No change	Not applicable
PROGRAM	Polar Continental Shelf program	Polar Continental Shelf program	No change	Not applicable
CORE RESPONSIBILITY	Innovative and Sustainable Natural Resources Development	Innovative and Sustainable Natural Resources Development	No change	Not applicable
PROGRAM	Energy Innovation and Clean Technology	Energy Innovation and Clean Technology	No change	Not applicable
PROGRAM	Green Mining Innovation	Green Mining Innovation	No change	Not applicable
PROGRAM	Fibre Solutions	Fibre Solutions	No change	Not applicable
PROGRAM	Sustainable Forest Management	Sustainable Forest Management	No change	Not applicable
PROGRAM	Cumulative Effects	Cumulative Effects	No change	Not applicable
PROGRAM	Lower Carbon Transportation	Lower Carbon Transportation	No change	Not applicable
PROGRAM	Electricity Resources	Electricity Resources	No change	Not applicable
PROGRAM	Energy Efficiency	Energy Efficiency	No change	Not applicable
PROGRAM	Energy and Climate Change Policy	Energy and Climate Change Policy	No change	Not applicable
PROGRAM	Innovative Geospatial Solutions	Innovative Geospatial Solutions	No change	Not applicable
CORE RESPONSIBILITY	Globally Competitive Natural Resource Sectors	Globally Competitive Natural Resource Sectors	No change	Not applicable
PROGRAM	Forest Sector Competitiveness	Forest Sector Competitiveness	No change	Not applicable

PROGRAM	Provision of Federal Leadership in the Minerals and Metals Sector	Provision of Federal Leadership in the Minerals and Metals Sector	No change	Not applicable
PROGRAM	Energy Safety and Security, and Petroleum Resources	Energy Safety and Security, and Petroleum Resources	No change	Not applicable
PROGRAM	Not applicable	International Energy Engagement	Program ended	Note 1
PROGRAM	Statutory Offshore Payments	Statutory Offshore Payments	No change	Not applicable
PROGRAM	Natural Resources Canada's Indigenous Partnerships Office – West	Natural Resources Canada's Indigenous Partnerships Office – West	No change	Not applicable
PROGRAM	The Resource Partnerships Sector	The Resource Partnerships Sector	No change	Not applicable
PROGRAM	Youth Employment and Skills Strategy - Science and Technology Internship Program (Green Jobs)	Youth Employment and Skills Strategy - Science and Technology Internship Program (Green Jobs)	No change	Not applicable

Note 1	Program merged with the Energy and Climate Change Policy Program to better reflect the redistribution of roles and responsibilities of international activities at the departmental level.

No Change: Not applicable:

Supporting information on the program inventory

Supporting information on planned expenditures, human resources, and results related to Natural Resources Canada's program inventory is available on GC InfoBase.[clxxvi]

Supplementary information tables

The following supplementary information tables are available on Natural Resources Canada's website:[clxxvii]

- Departmental Sustainable Development Strategy
- United Nations 2030 Agenda and the Sustainable Development Goals
- Details on transfer payment programs

- Gender-based analysis plus
- Horizontal initiatives
- Up-front multi-year funding

Federal tax expenditures

Natural Resources Canada's Departmental Plan does not include information on tax expenditures.

Tax expenditures are the responsibility of the Minister of Finance. The Department of Finance Canada publishes cost estimates and projections for government-wide tax expenditures each year in the Report on Federal Tax Expenditures.[clxxviii] This report provides detailed information on tax expenditures, including objectives, historical background and references to related federal spending programs, as well as evaluations, research papers and gender-based analysis plus.

Organizational contact information

Mailing address

Natural Resources Canada
580 Booth Street
Ottawa, Ontario
K1A 0E4
Canada

Email: NRCan.media_relations-media_relations.RNCan@canada.ca

Website: http://www.nrcan.gc.ca/

Appendix: definitions

appropriation (crédit)

Any authority of Parliament to pay money out of the Consolidated Revenue Fund.

budgetary expenditures (dépenses budgétaires)

Operating and capital expenditures; transfer payments to other levels of government, organizations or individuals; and payments to Crown corporations.

core responsibility (responsabilité essentielle)

An enduring function or role performed by a department. The intentions of the department with respect to a core responsibility are reflected in one or more related departmental results that the department seeks to contribute to or influence.

Departmental Plan (plan ministériel)

A document that sets out a department's priorities, programs, expected results and associated resource requirements, covering a three-year period beginning with the year indicated in the title of the report. Departmental Plans are tabled in Parliament each spring.

departmental result (résultat ministériel)

A change that a department seeks to influence. A departmental result is often outside departments' immediate control, but it should be influenced by program-level outcomes.

departmental result indicator (indicateur de résultat ministériel)

A factor or variable that provides a valid and reliable means to measure or describe progress on a departmental result.

departmental results framework (cadre ministériel des résultats)

A framework that consists of the department's core responsibilities, departmental results and departmental result indicators.

Departmental Results Report (rapport sur les résultats ministériels)

A report on a department's actual performance in a fiscal year against its plans, priorities and expected results set out in its Departmental Plan for that year. Departmental Results Reports are usually tabled in Parliament each fall.

experimentation (expérimentation)

The conducting of activities that explore, test and compare the effects and impacts of policies and interventions in order to inform decision-making and improve outcomes for Canadians. Experimentation is related to, but distinct from, innovation. Innovation is the trying of something new; experimentation involves a rigorous comparison of results. For example, introducing a new mobile application to communicate with Canadians can be an innovation; systematically testing

the new application and comparing it against an existing website or other tools to see which one reaches more people, is experimentation.

full-time equivalent (équivalent temps plein)

A measure of the extent to which an employee represents a full person-year charge against a departmental budget. Full-time equivalents are calculated as a ratio of assigned hours of work to scheduled hours of work. Scheduled hours of work are set out in collective agreements.

gender-based analysis plus (GBA Plus) (analyse comparative entre les sexes plus [ACS Plus])

An analytical process used to assess how diverse groups of women, men and gender-diverse people experience policies, programs and services based on multiple factors including race, ethnicity, religion, age, and mental or physical disability.

government-wide priorities (priorités pangouvernementales)

For the purpose of the 2022–23 Departmental Plan, government-wide priorities are the high-level themes outlining the government's agenda in the 2021 Speech from the Throne: protecting Canadians from COVID-19; helping Canadians through the pandemic; building back better – a resiliency agenda for the middle class; the Canada we're fighting for.

horizontal initiative (initiative horizontale)

An initiative in which two or more federal organizations are given funding to pursue a shared outcome, often linked to a government priority.

non-budgetary expenditures (dépenses non budgétaires)

Net outlays and receipts related to loans, investments and advances, which change the composition of the financial assets of the Government of Canada.

performance (rendement)

What an organization did with its resources to achieve its results, how well those results compare to what the organization intended to achieve, and how well lessons learned have been identified.

plan (plan)

The articulation of strategic choices, which provides information on how an organization intends to achieve its priorities and associated results. Generally, a plan will explain the logic behind the strategies chosen and tend to focus on actions that lead up to the expected result.

planned spending (dépenses prévues)

For Departmental Plans and Departmental Results Reports, planned spending refers to those amounts presented in the Main Estimates.

A department is expected to be aware of the authorities that it has sought and received. The determination of planned spending is a departmental responsibility, and departments must be able to defend the expenditure and accrual numbers presented in their Departmental Plans and Departmental Results Reports.

program (programme)

Individual or groups of services, activities or combinations thereof that are managed together within a department and that focus on a specific set of outputs, outcomes or service levels.

program inventory (répertoire des programmes)

An inventory of a department's programs that describes how resources are organized to carry out the department's core responsibilities and achieve its planned results.

result (résultat)

An external consequence attributed, in part, to an organization, policy, program or initiative. Results are not within the control of a single organization, policy, program or initiative; instead, they are within the area of the organization's influence.

statutory expenditures (dépenses législatives)

Expenditures that Parliament has approved through legislation other than appropriation acts. The legislation sets out the purpose of the expenditures and the terms and conditions under which they may be made.

target (cible)

A measurable performance or success level that an organization, program or initiative plans to achieve within a specified time period. Targets can be either quantitative or qualitative.

voted expenditures (dépenses votées)

Expenditures that Parliament approves annually through an Appropriation Act. The vote wording becomes the governing conditions under which these expenditures may be made.

Endnotes

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[xviii] Mission Innovation, http://mission-innovation.net/
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