



GREEN HYDROGEN **ACTION PLAN**



EXECUTIVE SUMMARY

The world is undergoing a massive energy transition. Clean energy sources are in high demand amidst a global shift away from fossil fuels. Green hydrogen is an alternative clean energy source; when converted to heat or electricity it emits only water and heat, and no carbon dioxide.

Hydrogen has been used in various applications for many years. Traditional methods of producing hydrogen require fossil fuels and emit greenhouse gases. Green hydrogen, on the other hand, can be produced with no greenhouse gas emissions. To make green hydrogen, renewable electricity is used to split water into hydrogen and oxygen via a process called electrolysis.

Large-scale green hydrogen developments are still in early stages around the world. Nova Scotia is emerging as a region with ample opportunity for green hydrogen thanks to our world-class natural resources and export capability, clean economy leadership, responsive regulation, and alignment with the Government of Canada's vision for clean hydrogen.

Building on Nova Scotia's track record of leadership in sustainable prosperity, this Action Plan outlines a path for the Province to support the emergence of a sector that:

- makes best use of the province's natural resources to produce green hydrogen and hydrogen derivatives for export and domestic use;
- supports sustainable prosperity and the achievement of Nova Scotia's climate change goals; and
- produces local benefits that increase Nova Scotians' social and economic well-being.

The Province has been working diligently to lay the groundwork for sector development. The Green Hydrogen Action Plan lays out seven goals and 23 actions that consolidate and build upon these efforts.

GOAL 1

Create the conditions for a sustainable and prosperous green hydrogen sector that produces local benefits from both domestic and export opportunities.

GOAL 2

Support the development of competitive green hydrogen export opportunities.

GOAL 3

Ensure the green hydrogen sector is developed in alignment with Nova Scotia's environmental and climate change goals.

GOAL 4

Support engagement efforts to foster transparent communication and meaningful community participation in the green hydrogen sector.

GOAL 5

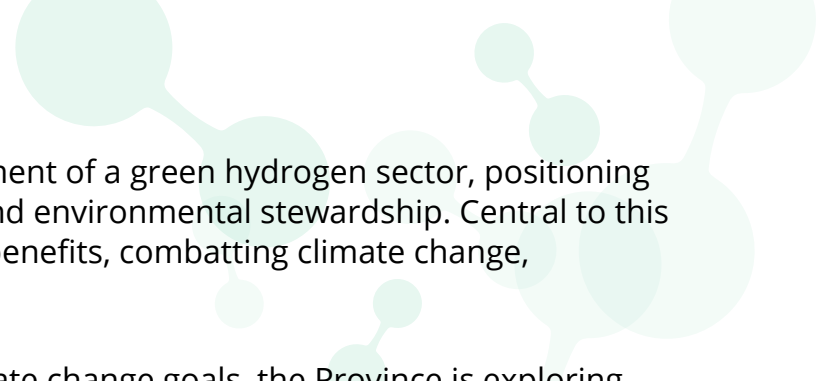
Ensure that safety is paramount along the entire green hydrogen supply chain.

GOAL 6

Invest in skills training and development to ensure a strong domestic workforce that supports the green hydrogen sector.

GOAL 7

Support green hydrogen sector development through research and innovation projects.



Nova Scotia is actively pursuing the development of a green hydrogen sector, positioning itself as a leader in clean economic growth and environmental stewardship. Central to this effort is the Province's commitment to local benefits, combatting climate change, and protecting the environment.

In alignment with its environmental and climate change goals, the Province is exploring the vast potential of offshore wind energy to produce green hydrogen, a move that could make renewable energy more viable and spur domestic green industries. Nova Scotia is dedicated to fostering transparent communication and public engagement in this sector, ensuring safety through stringent regulations, and investing in skills training to build a strong, inclusive domestic workforce. The Province's commitment extends to harnessing its robust network of research institutions for sector development and to demonstrate practical and responsible uses of hydrogen in Nova Scotia.

The green hydrogen landscape is changing quickly. To act in the best interests of Nova Scotians, the Province must remain flexible and responsive to new information and evolving circumstances. Following the release of this Action Plan, the Province will continue to engage project proponents, supply chain members, communities, and other interested parties to ensure that its approach to sector development appropriately balances agility, responsiveness, and diligence.

Altogether, the goals and actions laid out in this Action Plan will serve to foster a green hydrogen sector that will benefit Nova Scotians by delivering clean energy solutions, creating new clean economy jobs, strengthening rural communities, and driving economic growth.

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MESSAGE FROM THE PREMIER OF NOVA SCOTIA

Climate change is one of the most pressing challenges of our time and Nova Scotia has long been a leader in rising to that challenge.

Green hydrogen has the potential to help us reach our climate change goals and put us on the world stage as an exporter of clean energy.

This action plan will guide the government and all our partners in a united effort to develop this sector. It lays the groundwork for the best use of our natural resources, creating green jobs for Nova Scotians and contributing to our broader plans for a clean, sustainable future.

The plan considers domestic use of green hydrogen to help Nova Scotia move to clean fuels for transportation and industrial uses. It also takes advantage of tremendous export opportunities as places around the world seek green hydrogen to help them move to clean energy.

I thank all our partners for their commitment and their coordinated effort to build our emerging green hydrogen sector. By working together, we'll keep Nova Scotia in its position as a world leader in clean economic growth and environmental stewardship.

Tim Houston
Premier of Nova Scotia



PURPOSE

The Green Hydrogen Action Plan will set the conditions for the emergence of a green hydrogen sector that will deliver clean energy solutions, create new clean economy jobs, strengthen rural communities, and drive economic growth.

Building on Nova Scotia's track record of leadership in sustainable prosperity, this Action Plan outlines a path for the Province to support the emergence of a sector that:

1. makes best use of the province's natural resources to produce green hydrogen and hydrogen derivatives for export and domestic use;
2. supports sustainable prosperity and the achievement of Nova Scotia's climate change goals; and
3. produces local benefits that increase Nova Scotians' social and economic well-being.

WHAT IS GREEN HYDROGEN?

Green hydrogen is a low- or zero-emission replacement for fossil fuels that is produced using water and renewable electricity.

Green hydrogen can be used directly as an energy source, or it can be chemically combined with other natural resources such as nitrogen or forestry residues to create low-carbon hydrogen-derived fuels, and other low-carbon products (often called 'derivatives').

Unlike fossil fuels, hydrogen can be combusted to produce energy without emitting carbon dioxide. Because of this property, the demand for hydrogen as an alternative to fossil fuels is growing. However, pure hydrogen is not readily available; it must be extracted from the compounds in which it naturally occurs, such as water or methane.

While all hydrogen combusts without emitting carbon dioxide, some methods of producing hydrogen generate greenhouse gases. The degree to which hydrogen production creates greenhouse gas emissions is measured in terms of carbon intensity.

Carbon Intensity

In simple terms, carbon intensity represents how much carbon is emitted during the production and consumption of a product. Carbon intensity is a common metric used to understand the climate change impact of products. Higher carbon intensity means more carbon is released per unit of a product, while lower carbon intensity means fewer emissions per unit.

Carbon intensity exists on a spectrum. Fossil fuels like coal are at the high end of the spectrum, while fuels produced from renewable energy are at the low end. Replacing higher carbon intensity fuels with lower carbon intensity fuels is a critical part of the transition to net zero. Green hydrogen is generally considered to have a low or zero carbon intensity, depending on the mix of electricity sources used to produce it.

Colours are used to differentiate the carbon intensity of hydrogen produced via different processes. The most common processes rely heavily on fossil fuels and create a lot of greenhouse gas emissions, including carbon dioxide. Hydrogen is referred to as 'brown' when it is made using coal, and 'grey' when made using natural gas. Newer methods of making hydrogen from natural gas employ technologies to capture and store some of the carbon dioxide that is emitted. This lower-emission form of hydrogen is called 'blue'.

'Green' hydrogen is the form that Nova Scotia is best positioned to produce. To make green hydrogen, an electric current generated from a renewable energy source is run through fresh water, splitting that water into hydrogen and oxygen. Unlike blue hydrogen, making green hydrogen does not emit carbon dioxide, so carbon capture technology is not required. Regardless of colour, all hydrogen is chemically identical, and has the same properties (**Figure 1**).

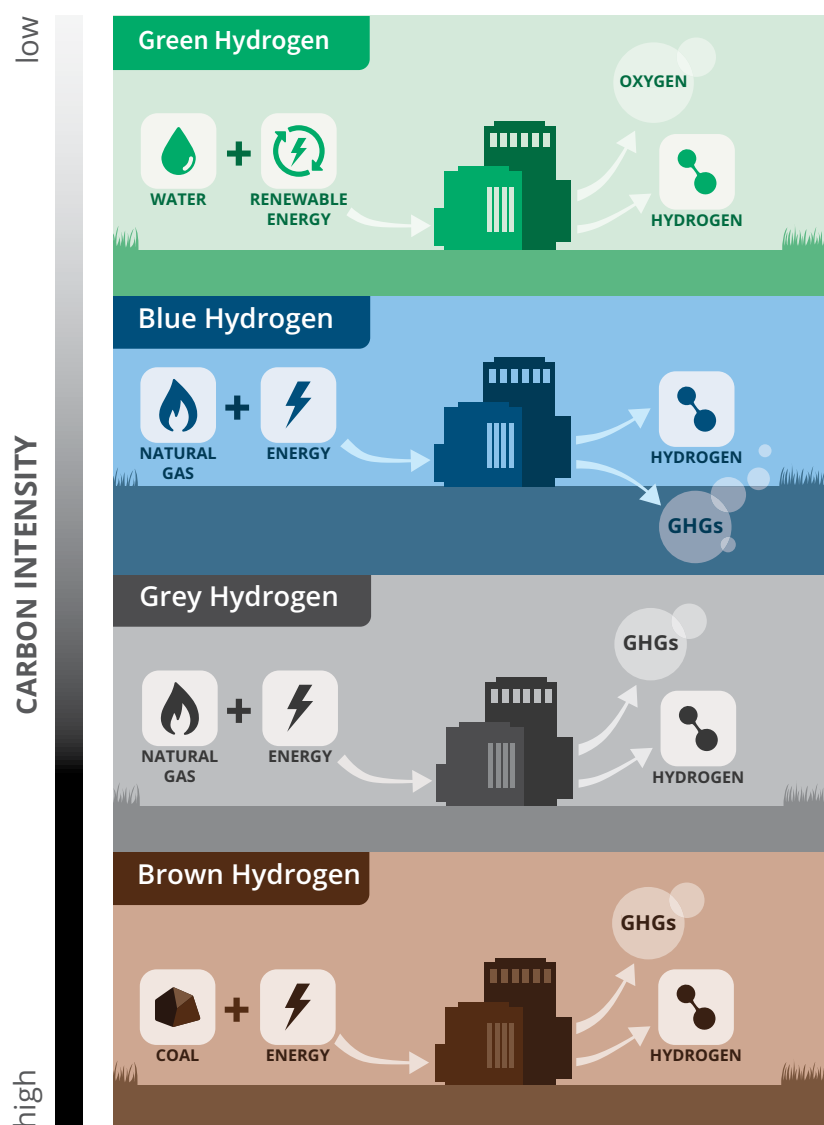


Figure 1

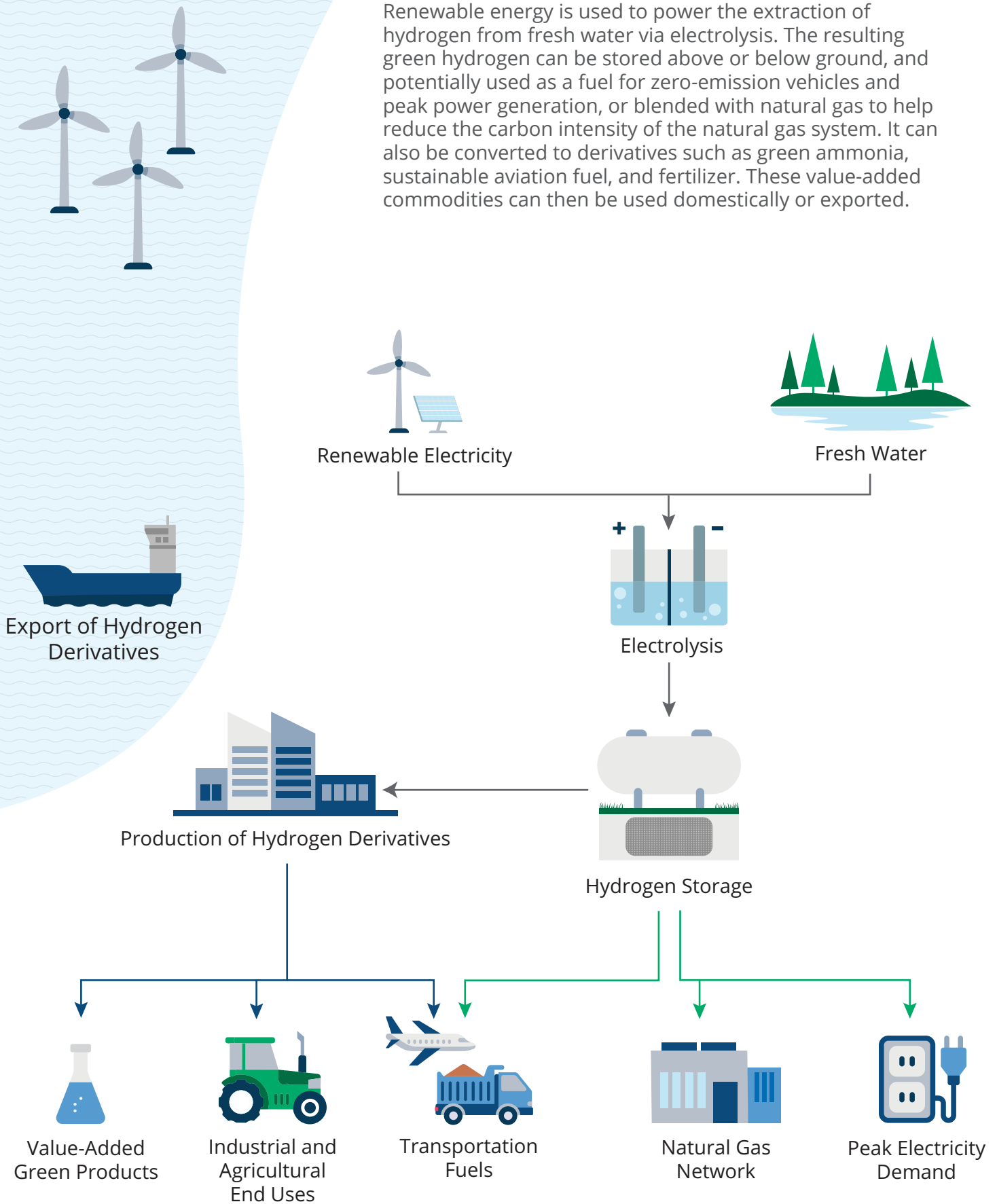
Illustration of some of the most common hydrogen 'colours', showing the fuel source and major outputs. The carbon intensity of each colour varies according to the specifics of how it is produced at each facility, but is on average higher for brown and grey, lower for blue, and lowest for green hydrogen.

Storing hydrogen for long periods is complex and expensive. For this reason, nitrogen is often added to green hydrogen to convert it into a new compound, or 'derivative', called green ammonia. Less energy is required to store ammonia than hydrogen, making it easier to transport over long distances (**Figure 2**).

Globally, hydrogen and ammonia have been used as fuels and industrial chemicals for well over a century. Their production, storage, transportation, and uses are governed by an extensive and well-developed safety framework.

Figure 2

Renewable energy is used to power the extraction of hydrogen from fresh water via electrolysis. The resulting green hydrogen can be stored above or below ground, and potentially used as a fuel for zero-emission vehicles and peak power generation, or blended with natural gas to help reduce the carbon intensity of the natural gas system. It can also be converted to derivatives such as green ammonia, sustainable aviation fuel, and fertilizer. These value-added commodities can then be used domestically or exported.



HOW MIGHT GREEN HYDROGEN BE USED IN NOVA SCOTIA?

Green hydrogen has potential to support carbon reductions across Nova Scotia's economy by reducing reliance on fossil fuels and serving as an ingredient for low-carbon, value-added products.

As envisioned by the [Nova Scotia's 2030 Clean Power Plan](#), most of Nova Scotia's greenhouse gas emission reductions through 2030 will come from adding more renewable energy and efficient electrification of the building and transportation sectors. The province's ample renewable energy resources can be developed to produce affordable clean electricity to meet most of the province's needs. Hydrogen is emerging as a complementary option to help strengthen the electricity system. Nova Scotia's 2030 Clean Power Plan forecasts a role for alternative fuels like green hydrogen as 'flex fuels' that can help meet peak or emergency demand in the electricity system.

Other potential applications for green hydrogen are attracting interest from industry. Some of the most common are discussed below.

Replacing Grey or Brown Hydrogen

Hydrogen is currently used in some Nova Scotian industries. Green hydrogen could replace the use of grey or brown hydrogen, resulting in direct greenhouse gas emissions reductions.

Replacing Fossil Fuels in Hard-to-Abate Applications

Green hydrogen is an option to help decarbonize processes or activities that are difficult to undertake without fossil fuels. These types of processes or activities are commonly referred to as 'hard-to-abate'. Common examples of hard-to-abate applications include cement production, petrochemical refinement, marine shipping, heavy-duty road transportation, and aviation.

Critical activities in these industries require sustained high-energy inputs that are difficult to achieve using electricity alone. Green hydrogen burns at a high temperature, making it suitable for applications that demand such conditions. In some cases, it may also be possible to generate electricity using the waste heat produced when green hydrogen is combusted. Such 'combined heat and power' systems can increase energy efficiency and save costs for industrial facilities.

While government is pursuing a path to decarbonize Nova Scotia's light-duty passenger and public transit vehicles through electrification, there are challenges to electrifying certain kinds of heavy-duty vehicles, such as long-haul, heavy-duty trucks and marine shipping vessels. Although the technology is still being developed, green hydrogen could be a viable option in helping to decarbonize these transportation modes.

Blending into the Natural Gas Network

Another potential use for green hydrogen is to blend it with natural gas to reduce the carbon intensity of Nova Scotia's natural gas system. Gas distribution companies across the world are exploring how to integrate progressively higher blends of hydrogen into their systems. Many of these companies rely on pipeline networks that can be up to a century old, which increases the complexity and risks associated with transporting hydrogen.

Eastward Energy, the utility that holds a franchise to distribute natural gas in some areas of the province, has one of the most modern pipeline networks in North America. Newer plastic pipes can carry hydrogen with less risk of leaks. This makes the province's natural gas distribution network technically well-suited for hydrogen blending.

Input for Producing Low-Carbon Value-Added Products

In addition to applications that use it directly for energy, green hydrogen can be used as an input to create low- or zero-carbon alternatives to common industrial chemicals and fuels. These value-added products represent an opportunity to develop additional economic activity in Nova Scotia along the green hydrogen value chain. One group of potential products are clean fuels, which can be made by combining green hydrogen with carbon extracted from natural materials like forestry residues. Green hydrogen can also be used in the creation of commodities such as fertilizers, textiles, low-carbon plastics, glues, and solvents.

WHAT ARE THE BENEFITS OF GREEN HYDROGEN FOR NOVA SCOTIA?

The development of a green hydrogen sector and allied supply chains will create social and economic benefits for Nova Scotia.



Delivering Clean Economy Jobs for Nova Scotians

Fostering the green hydrogen supply chain will open up a new clean economy workforce. These workers will be responsible for constructing, operating, and maintaining the infrastructure necessary for producing, storing, and transmitting green hydrogen and its derivatives, as well as for generating clean electricity. They will manage the transportation of green hydrogen within the province and overseas. Workers will also be required to install and service equipment that uses green hydrogen and its derivatives. Many of these jobs will be located in rural areas of Nova Scotia.

Beyond the jobs directly connected to green hydrogen, there will be indirect jobs created to support the sector in fields like business and financial services, technology and software support, education and training, and the service industry.



Sustainability for Nova Scotia's Industrial Sectors

Green hydrogen can serve as a low-carbon clean fuel option for industrial processes. By decarbonizing their operations, industries can become more sustainable, reduce cost volatility associated with fossil fuel use, and enhance competitiveness in response to ever-more stringent requirements to reduce emissions across their supply chains. The availability of green hydrogen for domestic use could also help to attract new companies and new industries to the province that would benefit from its use as a low-carbon fuel or manufacturing input.



Increased Tax Revenues

Expenditures associated with the construction and operation of green hydrogen production and export facilities, as well as the anticipated growth in supply chains, will generate tax revenues for all levels of government.



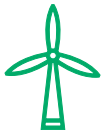
Launching Export Opportunities for Value-Added Nova Scotian Products

Green hydrogen and its derivatives can be combined with other Nova Scotian resources like wood wastes to create value-added products like sustainable aviation fuel. With increasing global demand for such products, Nova Scotian businesses could be well-placed to become producers and exporters.



Supporting Infrastructure Renewal

The green hydrogen sector will depend on critical infrastructure like ports, roads, and electricity transmission and distribution equipment. This same infrastructure is also needed for new and existing renewable electricity developments. The Province is analyzing the infrastructure investments required to further enable these developments and will encourage proponents to share the costs of strategic upgrades with shared benefits for both domestic and export-oriented renewable energy developments.



Unlocking Nova Scotia's Offshore Wind Resource

Green hydrogen represents a landmark opportunity for Nova Scotia. Its development is a key that can unlock not only social and economic benefits, but also the opportunity to develop Nova Scotia's vast offshore wind resource.

The recent surge in global demand for green hydrogen has sparked interest in Nova Scotia's offshore wind resource from green hydrogen proponents. Because the energy available in this resource is so much greater than the entire energy demand for the province, the domestic market alone is too small for private developers to justify the risk and cost of developing offshore wind.

Establishing supply chains and building offshore wind farms will take time. In a phased approach to development, the initial renewable energy required to produce green hydrogen will need to come from a source other than offshore wind. Green hydrogen proponents are exploring options to build onshore wind and solar farms. They are also working with Nova Scotia Power Inc. to explore the use of electricity from the grid as another near-term option to kickstart production. But to reach competitive scale, green hydrogen proponents will eventually require access to the substantial energy available from offshore wind.

WHY IS NOVA SCOTIA A GOOD PLACE TO PRODUCE GREEN HYDROGEN?

Nova Scotia's combination of world-class natural resources, strong export capability, clean economy leadership, responsive regulation, and alignment with the national vision for clean hydrogen make us well-suited for a green hydrogen industry.

Natural Resources and Export Capability

Nova Scotia is home to strong onshore and offshore winds, which have proven to be a valuable resource for generating renewable electricity. The province utilizes onshore winds to help supply the electricity grid and power industrial processes, and there are plans in place to expand the role of wind and other renewable energy sources in Nova Scotia's energy system. Simultaneously, the government is actively exploring pathways to develop offshore wind. The Province's ambitious renewable electricity targets, well-established onshore wind industry, and immense offshore wind potential place Nova Scotia in an excellent position to produce green hydrogen.

In addition to its renewable energy resources, Nova Scotia is also in a prime location for exporting green hydrogen and green hydrogen derivatives to Europe. The province boasts several large, deep-water harbours that are ice free and has geology that proponents could potentially use to store green hydrogen underground, which may be key to operating efficiently.

The province is also home to an experienced marine energy workforce, a vibrant network

of ocean and energy technology centres, and a wealth of universities and training institutions with expertise in renewable energy and clean fuel production, transmission, storage, and applications.

Established Clean Economy Leadership

Enacted in 2021, Nova Scotia's **Environmental Goals and Climate Change Reduction Act** builds on fifteen years' work across government to advance sustainable prosperity and chart a path for Nova Scotians to continue benefitting from the province's clean economy leadership. The Act sets a range of goals that inter-link environmental stewardship, economic growth, and well-being. In so doing, it signals the strength of Nova Scotia's commitment to supporting sustainable industries and creating a receptive climate for clean investments.

In December 2022, the Province published **Nova Scotia's Climate Change Plan for Clean Growth**, which outlines 68 actions to support the achievement of the goals legislated in the Environmental Goals and Climate Change Reduction Act. The Climate Change Plan for Clean Growth calls for the creation of this Action Plan, as part of a suite of actions intended to support sustainable growth in innovative clean technologies and services.

Another action calls on the Province to create a Nova Scotia Clean Fuels Fund to support industries and businesses in adopting low-carbon and renewable fuels like green hydrogen. This fund will help Nova Scotian businesses and communities find and adopt lower-carbon fuels to replace fossil fuels in heating, transportation, and industrial processes. More information about the Nova Scotia Clean Fuels Fund will be available in 2024.

In yet another action, the Province commits to investing in research on new clean technologies and practices via the **Emerging Concepts and Technologies Research Program**. This program seeks to identify gaps in carbon-reduction pathways for hard-to-abate emissions and to support made-in-Nova Scotia solutions to achieve net zero by 2050. Theme 7 under the Emerging Concepts and Technologies Research Program supports innovation around ‘Hydrogen as an Alternative Fuel’.

Beyond the actions laid out in the Climate Change Plan for Clean Growth, the Province is also working to enable early-stage green hydrogen production, distribution, and end uses in Nova Scotia through the **Hydrogen Innovation Program**. The forthcoming Program will enable smaller-scale project proponents to connect to utility electricity grids and access power to make green hydrogen for domestic use.

Finally, the provincial and federal governments have co-funded the groundwork for a scoping study to better characterize **potential pathways to market for offshore wind**, with green hydrogen being one of these potential

pathways. This study will identify the analyses required to understand the technical, economic, and environmental considerations for integrating offshore wind energy into the Atlantic Canadian electricity grid.

Responsive Regulation

The Province has been amending various Acts and pieces of legislation to clarify how they will apply to green hydrogen. These efforts are displayed throughout this Action Plan alongside their corresponding context.

This Action Plan describes actions supporting engagement efforts. Nova Scotia will respect the Aboriginal and treaty rights of the Mi’kmaq of Nova Scotia and meaningfully consult with the Mi’kmaq when contemplating decisions that may adversely impact their asserted or established rights.

The Province is also working to chart an efficient and responsible path for developing its offshore wind resource. In 2022, the Province announced a **target to offer licenses for five gigawatts of offshore wind energy by 2030**. It is anticipated that most of the renewable electricity produced by these projects will support the production of green hydrogen.

Nova Scotia and Canada have taken steps to expand the mandate of the Canada-Nova Scotia Offshore Petroleum Board into offshore renewable energy, including offshore wind. This builds off of decades of safe and responsible joint management of petroleum projects in the Canada-Nova Scotia Offshore Area. When

the legislative amendments come into force, the Board will become the Canada-Nova Scotia Offshore Energy Regulator.

In March 2023, Nova Scotia and Canada announced the launch of a **Regional Assessment of Offshore Wind Development in Nova Scotia**.

Overseen by an independent Committee, the Regional Assessment will provide recommendations to Governments that will help inform potential areas for development and future project specific federal impact assessments and decisions for wind projects.

In June 2023, the Province released the first module of its **Offshore Wind Roadmap** which outlines the legislative and regulatory regime for offshore wind. Subsequent modules of the Roadmap will consider supply chain and port opportunities and reflect input received from Nova Scotians regarding the development of offshore wind energy.

Shared Vision with the Government of Canada

In August 2022, Germany and Canada signed a **Joint Declaration of Intent** to establish the Canada-Germany Hydrogen Alliance, whereby both nations will invest in hydrogen and establish a transatlantic supply corridor. Capturing an opportunity of this scale will require close collaboration between the governments of the Atlantic Provinces and Canada. This Action Plan aims to further advance Nova Scotia's role in this collaboration.

The Hydrogen Strategy for Canada

(2020) creates a national framework to support the growth of low- and zero-emission hydrogen from coast to coast, making best use of each region's competitive advantages. To complement the Strategy, the federal government is developing measures such as the **Clean Fuels Fund**, the newly announced **Clean Hydrogen Investment Tax Credit** and the **Clean Technology Investment Tax Credit**.



GOALS AND ACTIONS

Against the backdrop of international competition to develop green hydrogen exports and the domestic demand for cleaner energy, Nova Scotia is committed to moving with the right balance of speed and diligence to enable the emergence of a green hydrogen sector.

The goals and actions laid out below will help drive momentum and support the realization of the opportunities and the mitigation of risks around green hydrogen.

GOAL 1

Create the conditions for a sustainable and prosperous green hydrogen sector that produces local benefits from both domestic and export opportunities.

Sustainable prosperity arises from the interconnection of economic growth, environmental stewardship, and social responsibility. In keeping with its commitment to sustainable prosperity, the Province aims to amplify local benefits from green hydrogen, such as the creation of skilled jobs in rural communities, opportunities for local businesses to participate in the green hydrogen supply chain, and options to help reduce Nova Scotia's greenhouse gas emissions.

Collaboration across the public and private sectors is essential to creating the conditions for sustainable prosperity. The Province's role in this collaboration will be an enabling one and it will lay the groundwork upon which the sector can grow. It will take a balanced approach to supporting this growth while safeguarding the interests of all Nova Scotians, now and into the future. This includes ensuring the sustainable use of natural resources and the health and well-being of the communities and businesses that depend on them.

ACTION 1

Foster collaboration across all levels of government to create a coordinated and effective policy and regulatory framework for the emergence of domestic and export green hydrogen opportunities.

Producing, storing, using, and exporting green hydrogen and its derivatives are new endeavours for Nova Scotia. Each of these processes will require supportive legislative, regulatory, and policy frameworks. In some cases, existing frameworks can be updated, while in other cases the Province may need to create new ones.

The complexity of this undertaking requires coordination across all levels of government to ensure a complete, coherent, and cohesive framework is in place. Existing processes and networks, such as the Province's Major Projects Coordination Initiative, can be drawn upon to support a harmonized policy approach to both domestic and export project development.



ACTION 2

Cultivate and maintain an active partnership with the federal government to optimize the coordination of existing financial support mechanisms.

Substantial early-stage capital investments will be required to build production, storage, transportation, and export capabilities and to create or update essential infrastructure like roads, ports, and the electricity grid. By continuing to align and coordinate their respective efforts, the provincial and federal governments can achieve maximum impact through the programs and initiatives each has made available to help support clean energy innovation and deployment.

As described on page 17, the Government of Canada has introduced the Clean Hydrogen Investment Tax Credit and the Clean Technology Investment Tax Credit to help attract private investment. The Clean Hydrogen Investment Tax Credit will provide a refundable tax credit of up to 40 per cent of project capital costs for proponents that produce hydrogen by any pathway that is at or below a threshold carbon intensity value (which is being determined as of 2023). The Clean Technology Investment Tax Credit aims to support investment in low-emitting energy generation and storage equipment. Eligible companies can receive a refundable tax credit of up to 30 per cent of capital costs for qualifying technologies, including zero-emission electricity generation technologies, electricity storage systems that do not rely on fossil fuels, and non-road zero-emission vehicles fully powered by electricity or hydrogen.

These measures are in addition to other supports for clean energy technologies like the Clean Fuels Fund, which provides \$1.5 billion over five years (2021-2026) to de-risk investment in building or expanding clean fuel production facilities. The \$15 billion [**Canada Growth Fund**](#), announced in 2022 and administered by the Canada Development Investment Corporation, is designed to attract large-scale private sector investment in low-carbon products, technologies, businesses, and supply chains.

The Province has already committed to developing several new programs that will provide support for the green hydrogen sector, including the Nova Scotia Clean Fuels Fund and the Hydrogen Innovation Program (described on page 15). In addition, Invest Nova Scotia has implemented updates to the [**Innovation Rebate Program**](#) that will better support decarbonization initiatives by Nova Scotian businesses, and has piloted a Low-Carbon Technology Stream of the [**Early Stage Commercialization Fund**](#).

ACTION 3

Make strategic investment decisions by continuing to aggregate and evaluate information from all relevant sources.

Strategic decision-making involves a systematic and thoughtful approach to allocating limited public resources, such as funding, staff, and Crown lands. Because these resources are constrained, investment decisions need to be evidence-based and made with the intention that they will return value to the people of Nova Scotia. Investment decisions can be informed by inputs like feasibility studies, economic analyses, and modelling to understand and quantify the economic, social, and environmental benefits that could result from an investment.

Adhering to existing government decision-making processes, and developing new processes when required, will help ensure that the Province balances opportunity with risk.

While the Province is responsible for properly allocating resources, the effort to collect data, model outcomes, and analyze the green hydrogen value chain is shared amongst many parties including the private sector, academia, communities, non-profits, and other levels of government. The Province will continue to aggregate and assess information from all relevant sources to support investment decisions.

ACTION 4

Position Nova Scotia as a compelling regional HUB candidate by continuing to align sector development efforts with the Hydrogen Strategy for Canada.

A key pillar in the Hydrogen Strategy for Canada is the creation of strategically concentrated hydrogen developments in regional HUBs. HUBs are sites for hydrogen developments that bring together regional supply chain members to make use of existing infrastructure and industrial sites to optimize competitive advantages. For example, locating a business that converts hydrogen to alternative fuels near a hydrogen producer reduces the economic and environmental costs associated with procuring the hydrogen.

At the national scale, the Hydrogen Strategy for Canada envisions a series of interconnected HUBs across the nation and highlights Atlantic Canada's potential as a gateway to international markets. Nova Scotia's renewable energy potential, robust ocean tech sector, and existing capabilities as a global export centre and offshore energy producer position it well to become a regional HUB.

ACTION 5

Continue to build relationships with other jurisdictions to support shared learnings and best practices along the whole green hydrogen supply chain.

In response to surging demand for green hydrogen, many jurisdictions are exploring their potential to develop green hydrogen production and export capability. Although the competitive pressures are significant, the Province can benefit from shared learnings by fostering strong relationships with other Canadian provinces and international states. These relationships enable information sharing that can help the Province avoid known pitfalls and better understand its assets and advantages relative to other jurisdictions.

Moreover, the coordination required to develop a green hydrogen sector means that Nova Scotia will have to partner with other jurisdictions to build and maintain robust supply chains. There are both overlaps and distinctions between the industrial supply chain capabilities of Nova Scotia, and those of neighbouring provinces and states. Understanding where Nova Scotia's capabilities align with broader supply chains will inform how government collaborates with supply chain members to build on strengths and address gaps.



NOVA SCOTIA'S EFFORTS TO DATE

1. Creating a cross-departmental Green Hydrogen Secretariat composed of Deputy Ministers and other senior government staff. The Secretariat provides strategic and cohesive leadership over the development of the green hydrogen sector.
2. Establishing a Renewable Energy Regulators forum to enhance coordination and information sharing across the various departments that regulate green hydrogen and renewable energy projects. The forum provides a 'one window' approach to streamline engagement with proponents seeking to establish projects in Nova Scotia.
3. Updating legislation and regulations to enable the development of the green hydrogen sector, including the Construction Projects Labour Relations Act, Electricity Act, Gas Distribution Act, Pipeline Act, and Subsurface Energy Storage Act.
4. Developing the Hydrogen Innovation Program to enable domestic green hydrogen proponents to access electricity to support small-scale production projects.
5. Developing the Nova Scotia Clean Fuels Fund to incent businesses and communities to adopt lower-carbon fuels like green hydrogen.
6. Piloting a Low-Carbon Technology Stream of the Early Stage Commercialization Fund and implementing updates to the Innovation Rebate Program that will better support decarbonization initiatives by Nova Scotian businesses.
7. Mapping the current regulatory pathways that green hydrogen proponents must follow to seek project approvals, as well as the changes to those pathways resulting from planned legislative and regulatory amendments.
8. Conducting a competitive process to award mineral exploration licenses related to the potential to store hydrogen in underground formations in the Port Richmond area.
9. Engaging in ongoing discussions with the Government of Canada to evaluate how the Clean Tech and Clean Hydrogen Investment Tax Credits could support the development of Nova Scotia's green hydrogen sector.
10. Coordinating and collaborating with the other Atlantic Provinces to jointly identify and advance areas of work that can accelerate the regional growth of cleaner energy sources, including renewable energy and green hydrogen, further to the [**Statement from The Council of Atlantic Premiers**](#) issued August 23, 2022.

GOAL 2

Support the development of competitive green hydrogen export opportunities.

A vibrant export sector will bring quality local jobs, attract investment to upgrade or build new infrastructure, and generate direct revenues for the province. The actions under this goal aim to better define these benefits and ensure they are realized where possible, while safeguarding Nova Scotia's natural resources and environment.

ACTION 6

Coordinate across government levels, departments, and agencies to map Nova Scotia's export infrastructure and supply chains.

Green hydrogen and offshore wind energy share many supply chain components, including key infrastructure assets like roads and ports. In collaboration with industry, the Province will build upon the supply chain mapping work under the Offshore Wind Roadmap to identify capabilities, gaps, and opportunities relating to green hydrogen development.

The Province will conduct a review of current and projected infrastructure needs in coordination with utilities, municipalities, green hydrogen proponents, and other interested parties. This multi-sectoral approach will support an informed and comprehensive needs inventory and allow for strategic prioritization of necessary work.



ACTION 7

Identify opportunities to leverage Nova Scotian resources to develop value-added export commodities.

Using green hydrogen as an input, manufacturers can produce a range of low-carbon, value-added products for domestic use and export. Some of these products could make use of natural resource wastes and byproducts available in Nova Scotia, thereby contributing to the growth of the circular economy.

For example, Nova Scotia could leverage its forestry and agricultural wastes as sources of carbon that can be combined with green hydrogen to make in-demand products like sustainable aviation fuel.

ACTION 8

Pursue the development of green hydrogen clusters to optimize the use of natural resources, existing trade infrastructure, and co-located industries that could enhance the development of value-added export products.

As explained in Action 4, the federal government will be pursuing a regional HUB strategy on the national level. At the provincial level, the government will work with municipalities, green hydrogen proponents, and other industry and supply chain members to pursue opportunities to cluster complementary businesses. Locating related industries near green hydrogen production and processing facilities can support the efficient use of Nova Scotian resources and infrastructure.

ACTION 9

Ensure that provincial investment decisions relating to the green hydrogen sector are made in the best interest of utility ratepayers.

As the green hydrogen sector is still in the early stages of development, the details of how proponents will source necessary fresh water and renewable energy are still being refined. Considering this uncertainty, the Province remains committed to the best interests of Nova Scotian utility ratepayers. Any potential costs to utility ratepayers remain subject to appropriate regulatory approvals to maximize ratepayer benefits. Where possible, the Province will encourage infrastructure investments by proponents that would result in the greatest possible benefits to ratepayers.

ACTION 10

Pursue a coordinated approach for granting rights to provincial Crown lands for green hydrogen development that safeguards these lands and ensures the best use of a limited resource.

Some of the lands that are being contemplated for green hydrogen project development are Crown lands. The Province will assess and grant licenses for the use of Crown lands in a coordinated manner that ensures effective land management and allocation. This assessment will consider community perspectives and will evaluate potential projects and their alignment with provincial objectives. In this way, the Province can ensure Crown lands allocation proceeds in a manner that safeguards the interests of Nova Scotians.

Legislated environmental goals, such as the Province's commitment to conserving at least 20 per cent of the total land and water mass of the Province by 2030, will be one of many considerations used to determine the allocation of Crown lands. The Province will also take account of the existing industries and natural resource areas within the footprint of proposed green hydrogen developments.

ACTION 11

Continue to promote Nova Scotia's green hydrogen business opportunities to a global audience.

Nova Scotia's competitive advantages make the Province an attractive destination for businesses looking to invest in the green hydrogen sector. By continuing to promote the province's assets on the international stage, the province can support the attraction of an increasingly diversified portfolio of businesses to the province.



NOVA SCOTIA'S EFFORTS TO DATE

1. Developing and implementing a request for application process to govern access to Crown lands by green hydrogen proponents seeking to develop renewable energy projects.
2. Hosting a cross-sectoral workshop to facilitate a collective approach between government and proponents to enable the development of a green hydrogen export sector.
3. Engaging in ongoing discussions with Natural Resources Canada regarding Nova Scotia's role in meeting Canada's export ambitions under the Canada-Germany Hydrogen Alliance.
4. Reviewing the environmental assessments for the EverWind Point Tupper Green Hydrogen/Ammonia Project – Phase 1 and the Bear Head Energy Green Hydrogen and Ammonia Production, Storage and Loading Facility projects. The approval of each project is contingent on each proponent fulfilling a series of terms and conditions to ensure the environment and human health remain protected.

GOAL 3

Ensure the green hydrogen sector is developed in alignment with Nova Scotia's environmental and climate change goals.

Nova Scotia is committed to protecting the environment, acting against climate change and growing the clean economy. The Environmental Goals and Climate Change Reduction Act and Nova Scotia's Climate Change Plan for Clean Growth provide protective measures for the environment and our natural resources, and outline pathways to mitigate and adapt to climate change.

The green hydrogen sector will draw on Nova Scotia's natural resources and interact with its environment and climate. To responsibly develop a sustainable and prosperous green hydrogen sector, the Province will work with industry and across government departments to ensure developments align with Nova Scotia's environmental and climate change commitments.

ACTION 12

Ensure the development of the green hydrogen sector aligns with Nova Scotia's climate change goals.

Establishing a large-scale green hydrogen sector would increase the province's overall energy demand, due to the electricity required for green hydrogen production. It is imperative that the green hydrogen sector does not operate in a manner that jeopardizes Nova Scotia's 2030 and 2050 climate change goals. Nova Scotia's Clean Power Plan outlines the path for the province to achieve its domestic clean electricity targets, and the green hydrogen sector will need to grow in alignment with this path.

At the same time, the availability of green hydrogen may present specific opportunities to reduce provincial greenhouse gas emissions. Green hydrogen represents a potential decarbonization pathway for applications that depend on fossil fuels. It is still too early to be certain of the best domestic uses for green hydrogen; however, the Province will work with proponents, local industries, and supply chain members to identify domestic applications for green hydrogen that could support near- or long-term carbon reductions in hard-to-abate applications.



ACTION 13

Require that the green hydrogen sector prioritizes the sustainability of Nova Scotia's natural resources, including fresh water.

The production of green hydrogen requires large amounts of fresh water. It is crucial to prioritize ecologically sustainable water usage and preserve this vital resource for current and future generations. The provincial government must ensure that water utility ratepayers continue to have access to sufficient fresh water.

Large-scale hydrogen production projects have a substantial physical footprint and often involve land use conversion. The sustainability of Nova Scotia's natural resources and the biodiversity of Nova Scotia's ecosystems will remain a priority as this sector is developed. The Province will continue to diligently apply and enforce its environmental regulations to protect Nova Scotia's natural resources.



NOVA SCOTIA'S EFFORTS TO DATE

1. Partnering with other levels of government to grant funds for an engineering study to identify infrastructure upgrade requirements to the Landrie Lake Water Utility operated by the Town of Port Hawkesbury and the Municipality of the County of Richmond. This utility is anticipated to supply the fresh water required for the proposed green hydrogen projects at Point Tupper.
2. Reviewing and updating legislation and regulations to develop clear regulatory triggers for green hydrogen development and to ensure potential environmental impacts of green hydrogen are mitigated through terms and conditions, should green hydrogen projects receive environmental approvals.
3. Reviewing and updating existing industry guidance for the conduct of environmental assessments and, where necessary, developing new guidance specific to renewable energy and green hydrogen development projects.

GOAL 4

Support engagement efforts to foster transparent communication and meaningful community participation in the green hydrogen sector.

Building a green hydrogen sector will be complex, both technically and socially. An understanding of the sector and the developments associated with it will help enable Nova Scotians to meaningfully participate in discussions about its future. Significant projects such as the buildout of renewable electricity infrastructure and green hydrogen production and storage facilities are needed. An open, two-way dialogue between communities, proponents, the Mi'kmaq, and all levels of government will contribute to successful outcomes for both communities and the green hydrogen sector.



ACTION 14

Coordinate with other groups that are engaging the public on green hydrogen to deliver credible, accessible, and timely information to Nova Scotians.

As the green hydrogen landscape evolves, many parties are working to support engagement and education efforts. Collaboration and coordination helps avoid duplication, deepens reach, and ensures consistency in the information provided. It allows for the inclusion of many voices and perspectives, including members of Mi'kmaq, African Nova Scotian, and African Descent communities, as well as other underrepresented and underserved groups. A coordinated engagement approach can also drive benefits through information sharing, resource pooling, and avoiding 'engagement fatigue'.

ACTION 15

Build the capacity of communities directly involved in green hydrogen projects to participate in decision-making and realize local benefits.

The Province recognizes that building facilities to produce, store, use, transport, and export green hydrogen will create opportunities and risks for the communities whose lands, built infrastructure, and resources are needed to develop the sector. Residents in these communities, and the organizations and officials who represent them, should be equipped to make the most of these opportunities while minimizing risks.

The Province is sensitive to the challenges that communities may have in responding to the scale of these developments. The proposed export projects are large-scale and complex. The Province will work to empower communities, including Mi'kmaq communities, to capture local benefits by advocating for the interests of their residents and negotiating with proponents.

ACTION 16

Ensure the meaningful participation by Nova Scotian residents in the green hydrogen sector, including the Mi'kmaq of Nova Scotia and individuals from underrepresented and underserved communities.

Government is committed to advancing the principles of equity, diversity, inclusion, and accessibility, and to pursuing reconciliation with the Mi'kmaq of Nova Scotia. Nova Scotian communities, including Mi'kmaq communities, individuals and organizations that represent African Nova Scotians and Persons of African Descent, and members of other underrepresented and underserved communities, must be able to participate meaningfully in the development and life cycle of the green hydrogen sector. Meaningful participation means that communities are involved in decision-making phases for green hydrogen projects such as initial project assessments, construction, operation and maintenance, and end-of-life decommissioning.

Meaningful participation is about more than hosting engagement events and activities in communities, though these are vital ingredients. It is a process, not an event. It is a commitment to creating and holding a space where community members can ask questions, challenge proposals, and offer support around key decision-making. The Province will foster this by providing accurate and timely information, supporting the capacity of communities to understand and respond to new technologies, and making direct efforts to create welcoming places at the table for voices that have not always been included in major resource and economic decisions.



NOVA SCOTIA'S EFFORTS TO DATE

1. Creating opportunities for meaningful dialogue with the Mi'kmaq of Nova Scotia as well as Indigenous organizations, interest groups, community groups, academia, nongovernmental organizations, developers, others in the public, and the Province about the development of the green hydrogen sector.
2. Collaborating and communicating with organizations that are currently working in the engagement space for green hydrogen and its associated renewable energy sources. Several such organizations are anticipated to or are already funded to carry out public engagement and/or to develop and share science-based information relevant to green hydrogen.
3. Partnering with other levels of government to grant funds to the Municipality of the District of Guysborough and the Municipality of Richmond County to support community impact studies relating to green hydrogen development in their regions. These studies will help identify opportunities to realize local economic benefits and provide guidance in conducting meaningful community engagement.
4. With the federal government, the Province announced the launch of a Regional Assessment of Offshore Wind Development in Nova Scotia. Overseen by an independent Committee, the Regional Assessment is engaging with the Mi'kmaq, the public and with interested parties through 2023 and 2024 with respect to the potential for development of offshore wind in the Canada-Nova Scotia Offshore Area.

GOAL 5

Ensure that safety is paramount along the entire green hydrogen supply chain.

Ensuring safety along the entire green hydrogen supply chain is crucial. As with most industrial activities, producing, storing, transporting, and using green hydrogen requires complex processes with potential risks to human health and the environment. For example, hydrogen gas is flammable, and ammonia is toxic to humans in high concentrations. Additionally, research indicates that hydrogen gas can contribute to climate change if leaked to the atmosphere. Some of these risks are consistent with those related to fossil fuels like oil and natural gas, while others are specific to hydrogen and its derivatives.

Green hydrogen projects are subject to regulatory oversight by multiple departments, through which the Province can understand and mitigate risks. This oversight will ensure that projects are developed in a safe, responsible, and sustainable manner.

ACTION 17

Continue to review safety best practices along the green hydrogen supply chain and harmonize safety legislation, regulations, codes, and standards with other jurisdictions.

While interest in green hydrogen at this scale is a new phenomenon, hydrogen and derivatives like ammonia have been used in Canada and around the world for generations. The Province will strive to learn from the successes and challenges in these jurisdictions to inform the development of a safe and environmentally responsible framework for green hydrogen production, storage, transportation, and end uses.

The Province will look to harmonize its safety measures with those of other jurisdictions. Applying harmonized safety measures will benefit Nova Scotians and the sector by ensuring consistency and compliance with other regions' market requirements. The Province has begun this work by participating in the Canada-wide Hydrogen Codes and Standards Working Group.



This work will focus not only on human health and safety but also on environmental safety, to avoid risk of harm to natural resources such as groundwater, soil, and air.

ACTION 18

Work with industry, labour, and training organizations to support knowledge and skill building around the safe handling, storage, and use of green hydrogen.

It is critical to ensure that existing training programs are updated and that, where needed, new training programs are developed and implemented to enhance the knowledge and skills of workers involved in the green hydrogen supply chain. This will require collaboration with organizations like trade unions, industry associations, professional colleges, certification bodies and skills training institutions. These programs will focus on safety practices, emergency response, personal protective equipment, and the proper handling of hazardous materials.



NOVA SCOTIA'S EFFORTS TO DATE

1. Collaborating across departments to update and, where necessary, develop new fuel safety regulations relating to the production and transportation of green hydrogen.
2. Collaborating with other provinces and territories and the Government of Canada to establish the Hydrogen Codes and Standards Working Group, which supports the implementation of the Hydrogen Strategy for Canada and its alignment with regional clean hydrogen development efforts.

GOAL 6

Invest in skills training and development to ensure a strong domestic workforce that supports the green hydrogen sector.

Launching a green hydrogen sector will require Nova Scotia to build a skilled workforce. As with other clean technology and clean energy sectors, attracting or cultivating enough workers with the right skills will be a challenge, but one that Nova Scotia is well-suited to handle. The province has an existing skills base and training programs related to many different career paths that government and proponents can leverage, such as those relating to offshore and onshore energy production, fuel transportation and logistics, and construction and electrical trades. Many careers in green hydrogen and across the clean energy industry require similar skillsets. Developing employment pathways that emphasize these shared skills will streamline the transition for workers.

Due to high demand for skilled workers in sectors such as construction, not all the near-term requirements for skilled labour to establish the green hydrogen sector can be met from within Nova Scotia's existing workforce. The Province will work with industry members and training institutions to develop new skills training and retraining programs for green hydrogen occupations. However, to remain current in a rapidly developing global marketplace, in the near-term proponents will likely also need to recruit skilled workers from out of province to kickstart their operations.

ACTION 19

Coordinate with industry, skills training institutions, and workforce experts to map the skills needed to develop a green hydrogen sector.

The Province will coordinate a strategic assessment of core skills required to first establish, and then scale, the green hydrogen supply chain. The Province will conduct this assessment in partnership with proponents and supply chain members, industry experts, permitting and compliance bodies, skills training institutions, and labour organizations to



understand the job roles, technical competencies, and qualifications needed for various positions within the industry.

This assessment should consider the role of the green hydrogen workforce relative to other provincial priorities, such as the need for more affordable housing, to identify potential human resource synergies or challenges.

ACTION 20

Support the growth of the workforce needed to build a green hydrogen sector in Nova Scotia, with a focus on including members of underrepresented and underserved communities in skills training programs.

Building on the cross-sectoral effort to complete the green hydrogen skills assessment called for by Action 19, the Province will support the development of programs needed to train new workers and to upskill or reskill workers from other fields. This work will seek to identify and leverage existing training curricula where appropriate, and to optimize tools such as microcredentials and work-based learning.

To ensure that career development opportunities are inclusive of all Nova Scotians, this work will include initiatives to promote green hydrogen career paths and develop culturally appropriate training and barrier-reduction supports for members of underrepresented and underserved groups.

It is also important to consider the employer side of the equation. Small and medium enterprises are the backbone of many Nova Scotian supply chains and will be essential partners in building green hydrogen career pathways. They will require supports such as sector intelligence to enable the identification of emerging skillsets and training paths, and to develop on-the-job training capability. The Province may also have a role in supporting employers with additional training to make their workplace inclusive to underrepresented and underserved employees.

Finally, though it is beyond the scope of this Action Plan to address, it is vital to recognize that growing a new workforce will also require that these workers have access to necessities like affordable housing, quality health care, and safe schools: all priorities of the Province of Nova Scotia.

ACTION 21

Explore opportunities to coordinate green hydrogen workforce development efforts with the Government of Canada's Sustainable Jobs Plan and other related federal and provincial programs and initiatives.

The Province will identify opportunities to coordinate its efforts with existing workforce development and training programs offered by the Government of Canada, such as the Sustainable Jobs Plan. This Plan lays out actions to advance economic prosperity and sustainable jobs in every region of the country, and aims to support workers in traditional, high-carbon industries to retrain for quality careers in clean energy sectors like green hydrogen.

Provincially, there is opportunity to build on Nova Scotia's Microcredential Framework to develop green hydrogen training programs. A microcredential is a "recognition of an assessed competency or skill earned through a short-duration or applied learning experience." The Microcredential Framework aligns the definition and accreditation of microcredentials with programs being offered by various universities and community colleges across Canada to support skills development in the transition to a clean economy.



NOVA SCOTIA'S EFFORTS TO DATE

1. Leading cross-departmental initiatives with the Nova Scotia Community College to conduct skills mapping and support the development of training for the green hydrogen sector.
2. Supporting research to understand the socio-economic impacts of large-scale green hydrogen production in Nova Scotia, including the potential for job creation, increased economic activity, and impacts and opportunities around housing and accommodation, health services, emergency services, and public and community services.

GOAL 7

Support green hydrogen sector development through research and innovation projects.

Nova Scotia can capitalize on its robust network of research institutions to propel hydrogen innovation forward. Research and innovation efforts will allow Nova Scotian businesses to optimize green hydrogen processes and technologies for deployment both in Nova Scotia and abroad. Supporting innovation projects conducted by academic, non-profit, and private sector partners will help provide real world feedback to the Province about the potential advantages and risks of green hydrogen technologies and their applications.



ACTION 22

Explore opportunities to support innovation projects that demonstrate domestic opportunities for green hydrogen.

Green hydrogen can play a role in advancing Nova Scotia's decarbonization efforts and in building allied export opportunities around value-added green products derived from hydrogen. Applied research initiatives like feasibility studies and demonstration projects will point to the best use cases for green hydrogen in Nova Scotia.

In addition to using green hydrogen as a direct energy source, it has potential to be used as an input for producing low- or zero-carbon industrial chemicals and fuels. One avenue for innovation is to develop pathways for synthesizing clean fuels from green hydrogen that can make use of the carbon derived from forestry residues that would otherwise go to waste. Producing these kinds of value-added products could generate additional economic activity as part of the green hydrogen value chain.

Support research to identify the safest, most environmentally sound, and economic options for long-term storage of green hydrogen.

Storage is a crucial infrastructure component for the development of a competitive green hydrogen sector. Hydrogen and ammonia must be stored in large quantities to be economically viable at-scale. This requires specialized conditions and a suitable above-ground container or underground reservoir.

Nova Scotia appears to have geology suitable for this purpose. Investigating the economic viability and environmental safety of potential storage options will enable evidence-based decision-making as the sector develops.



NOVA SCOTIA'S EFFORTS TO DATE

1. Providing three million dollars in funding for Net Zero Atlantic to deliver the **Emerging Concepts and Technologies (ECT) Research Program**, aiming to improve research on natural carbon sinks and new clean technologies, including green hydrogen.
2. Funding desktop research on Nova Scotia's natural gas distribution system to determine its suitability for transporting a blend of green hydrogen and natural gas.
3. Supporting academic research into green hydrogen production, utilization, and its potential socio-economic impacts.



IMPLEMENTATION

In this Action Plan, the Province outlines its role in developing a sustainable and prosperous green hydrogen sector.

Over the last year, the Province has worked diligently to lay the groundwork for sector development. The Green Hydrogen Action Plan provides a forum to consolidate and build upon these efforts and to map out the next steps.

The green hydrogen landscape is changing quickly. To act in the best interests of Nova Scotians, the Province must remain flexible and responsive to new information and evolving circumstances. The Province will continue its efforts to cultivate a better understanding of the sector's technical, economic, social, and environmental opportunities and risks. Additionally, the province is in the early stages of its ongoing efforts to collaborate and engage in genuine dialogue with interested parties and communities. This enhanced understanding of opportunities, risks, and community perspectives is a critical input for refining the Province's approach to sectoral development and setting realistic targets and timelines.

SUMMARY OF GOALS AND ACTIONS

GOAL 1

Create the conditions for a sustainable and prosperous green hydrogen sector that produces local benefits from both domestic and export opportunities.

1. Foster collaboration across all levels of government to create a coordinated and effective policy and regulatory framework for the emergence of domestic and export green hydrogen opportunities.
2. Cultivate and maintain an active partnership with the federal government to optimize the coordination of existing financial support mechanisms.
3. Make strategic investment decisions by continuing to aggregate and evaluate information from all relevant sources.
4. Position Nova Scotia as a compelling regional HUB candidate by continuing to align sector development efforts with the Hydrogen Strategy for Canada.
5. Continue to build relationships with other jurisdictions to support shared learnings and best practices along the whole green hydrogen supply chain.

GOAL 2

Support the development of competitive green hydrogen export opportunities.

6. Coordinate across government levels, departments, and agencies to map Nova Scotia's export infrastructure and supply chains.
7. Identify opportunities to leverage Nova Scotian resources to develop value-added export commodities.
8. Pursue the development of green hydrogen clusters to optimize the use of natural resources, existing trade infrastructure, and co-located industries that could enhance the development of value-added export products.
9. Ensure that provincial investment decisions relating to the green hydrogen sector are made in the best interest of utility ratepayers.
10. Pursue a coordinated approach for granting rights to provincial Crown lands for green hydrogen development that safeguards these lands and ensures the best use of a limited resource.
11. Continue to promote Nova Scotia's green hydrogen business opportunities to a global audience.

GOAL 3

Ensure the green hydrogen sector is developed in alignment with Nova Scotia's environmental and climate change goals.

- 12. Ensure the development of the green hydrogen sector aligns with Nova Scotia's climate change goals.
- 13. Require that the green hydrogen sector prioritizes the sustainability of Nova Scotia's natural resources, including fresh water.

GOAL 4

Support engagement efforts to foster transparent communication and meaningful community participation in the green hydrogen sector.

- 14. Coordinate with other groups that are engaging the public on green hydrogen to deliver credible, accessible, and timely information to Nova Scotians.
- 15. Build the capacity of communities directly involved in green hydrogen projects to participate in decision-making and realize local benefits.
- 16. Ensure the meaningful participation by Nova Scotian residents in the green hydrogen sector, including the Mi'kmaq of Nova Scotia and individuals from underrepresented and underserved communities.

GOAL 5

Ensure that safety is paramount along the entire green hydrogen supply chain.

- 17. Continue to review safety best practices along the green hydrogen supply chain and harmonize safety legislation, regulations, codes, and standards with other jurisdictions.
- 18. Work with industry, labour, and training organizations to support knowledge and skill building around the safe handling, storage, and use of green hydrogen.

GOAL 6

Invest in skills training and development to ensure a strong domestic workforce that supports the green hydrogen sector.

19. Coordinate with industry, skills training institutions, and workforce experts to map the skills needed to develop a green hydrogen sector.
20. Support the growth of the workforce needed to build a green hydrogen sector in Nova Scotia, with a focus on including members of underrepresented and underserved communities in skills training programs.
21. Explore opportunities to coordinate green hydrogen workforce development efforts with the Government of Canada's Sustainable Jobs Plan and other related federal and provincial programs and initiatives.

GOAL 7

Support green hydrogen sector development through research and innovation projects.

22. Explore opportunities to support innovation projects that demonstrate domestic opportunities for green hydrogen.
23. Support research to identify the safest, most environmentally sound, and economic options for long-term storage of green hydrogen.



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