



**CANADA'S OCEAN  
SUPERCLUSTER**

# **AMBITION 2035: NEXT STEPS**

**GROWING CANADA'S OCEAN ECONOMY TO \$220B**

# BIG AMBITION FOR OCEAN IN CANADA

There has never been a more important time to be a part of the global ocean economy. With incredible momentum building; established, emerging, and new sectors growing; and a demonstrated commitment to changing the way we do business in the ocean, the world is increasingly turning its attention to Canada. Sustainable, made-in-Canada ocean innovation is helping address some of the world's biggest challenges including energy transition, food security, decarbonization of marine transport, and climate change while also producing significant economic opportunity in the process.

## WORLD LEADERS CALL FOR URGENT ACTION AND FINANCING OF OCEAN SOLUTIONS

In September 2023, the High Level Panel for a Sustainable Ocean Economy [released a report](#) with updates on impact highlighting the critical role the ocean plays in reducing emissions by up to 35 percent by 2050. Of all the UN Sustainable Development Goals, SDG 14 (the global goal to conserve and sustainably use the ocean, seas and marine resources for development) is the least funded, representing just 0.01 percent of all funding for development. The report calls for collective action, funding, and the implementation of ocean-based climate solutions, specifically:

- Scaling ocean-based renewable energy offshore
- Transitioning away from offshore oil and gas extraction
- Decarbonizing marine transport
- Conserving and restoring coastal and marine ecosystems
- Utilizing low carbon food from the ocean
- Developing marine carbon dioxide removal and carbon capture and storage under the seabed
- Decarbonizing ocean-based tourism

## OCEAN TO LEAD GLOBAL GROWTH

In 2016, the OECD evaluated the growth of the global ocean economy, projecting it would double in size by 2030 to \$4 trillion dollars Canadian, and outpace the growth of the broader economy by 20 per cent. In context of this global ocean potential, and in developing ocean solutions urgently needed, Canada can achieve transformative growth with significant opportunities for Canadian businesses and workers, from coast-to-coast-to-coast. This requires a collective approach and being bold in our ambition.

## LAUNCH OF AMBITION 2035

In the fall of 2022 Canada's Ocean Supercluster (OSC) released a discussion document introducing the concept of Ambition 2035. Informed by more than 400 stakeholders and leaders from across the country as well as economists, it was developed to provide an ambition for all of Canada's ocean network to rally behind and consider the role they play in delivering on it. This preliminary document can be found [here](#).



# AMBITION 2035

In May 2023, 235 OSC members, partners and leaders from across the country gathered in Ottawa to focus on how we work together on the path to realize Canada's full potential in ocean – a five times growth, \$220 billion dollar opportunity and leadership in solving global challenges with Canadian ocean solutions. Ambition 2035 represents a contribution of more than 5 per cent to Canada's GDP from the ocean economy compared to just 1.6 per cent today where the key drivers of growth align with the most pressing ocean solutions needed to contribute to a healthier, more productive planet.

## AMBITION 2035 IS FOCUSED ON SIX KEY DRIVERS OF GROWTH



**Energy** – the transition to less carbon intense solutions and with significant investment in renewables including offshore wind and the production of hydrogen.



**Ocean Technology** – the acceleration of ocean technologies as the enabler underpinning key growth areas in Canada's ocean economy for export to the world.



**Sustainable Seafood** – to help meet the world's growing demand for sustainable protein, including wild fisheries and aquaculture.



**Tourism and Recreation** – increasingly leveraging the opportunity for coastal communities in ocean tourism given the significant proportion of the global ocean economy it represents.



**Marine Transport** – innovative solutions to reduce emissions generated by marine shipping today and help make net zero emissions possible in the future.



**Public Sector** – generating ocean company growth through procurement and continued investment in research to support the ocean innovation ecosystem needed to reach this growth ambition.

## AMBITION 2035 MEANS OPPORTUNITIES FOR:

- Students in ocean research
- Increased data collection for decision making
- More, new and scaling ocean companies
- Increased participation and collaboration with Indigenous peoples
- Innovative solutions for rural, coastal, and northern communities that address the accelerated impacts of climate change and the need for adaptation
- Increased competitiveness and significant commercial opportunities for Canadian SMEs and companies of all sizes in global markets
- Tens of thousands of new jobs supported by a well-skilled, diverse workforce
- Opportunities for all Canadians, whether they live by the ocean or not

*While Canada's Ocean Supercluster plays a role, this is an ambition that will take all of us – it's a conversation, collaboration, and collective opportunity for us to do more together. As we define the path ahead, we reflect on the conversations, ideas, and momentum generated at the May 2023 Ambition 2035 event, and move forward with an action plan where everyone has a role to play.*

# REFLECTING ON AMBITION 2035 INAUGURAL EVENT, OTTAWA, MAY 2023

**F**rom the inaugural Ambition 2035 event, there was a consensus that the opportunities before us in ocean are unprecedented. While the targets are ambitious, we heard many speakers and attendees reinforce that we are well positioned to meet them; that Canada is the right place with the right opportunities, and it is the right time. Session after session highlighted that collectively, we must continue to be bold within our vision and actions. Canada should be confident, collaborative, and conscientious in how we move forward together. The message was also clear that there is no room for delay, and in the face of obstacles, it will mean forging ahead and finding a way if we are to collectively be competitive with the rest of the world.

Discussions around drivers of growth areas, as well as ecosystem enablers required to unlock the potential of Ambition 2035, focused on what is required to propel the sector forward.

**“...CANADA IS THE RIGHT PLACE  
WITH THE RIGHT OPPORTUNITIES,  
AND IT IS THE RIGHT TIME.”**

 @FP\_CHAMPAGNE

**Great news that will help us achieve our net-zero objectives! The @CanadaOSC's efforts to develop innovative ocean energy tech will contribute to a cleaner and greener future, while also strengthening our economy from coast to coast to coast.**





## ENERGY

In addition to meeting demand, energy production has always been a key driver of economic output. Through energy transition, the ocean plays a significant role in not only meeting growing demand for energy and providing economic outputs, but also in helping deliver on the world's net zero commitments. The role of scaled ocean energy and its role in addressing climate change and energy security have never been more salient than they are today. Of the \$220 billion ocean ambition for Canada, \$100 billion of that is attributable to marine renewable energy. Discussion themes included:

- Offshore wind has huge potential. There are opportunities for Canada to decarbonize the northeastern seaboard and be a leader in this space.
- There is also going to be a significant need for technical advances in the way that we operate our grid in order to be competitive.
- The constraints of the renewable energy sector makes it a space really open to innovation.
- It's a challenge to get the energy where it needs to go especially when grid demand is so small in comparison to the resources and opportunities. Provinces need to be better interconnected.
- The most successful projects are going to be the ones that can integrate with the grid and provide backup power to make better utilization of capital equipment.
- Offshore renewables, and in particular offshore wind and hydrogen is at the centre of the ocean energy discussion now in relation to energy transition and the economic and environmental benefits it will deliver.
- Canada needs to be ready for the industry at a pace that doesn't hold back its development and impede competitiveness and benefits.

## SUSTAINABLE SEAFOOD

Canada's fish and seafood exports were worth \$8.79 billion in 2021. Ambition 2035 would see that sustainable seafood sector, including both traditional and emerging sources of seafood grow to \$25 billion by 2035. This goal is rooted in Canada's depth of expertise in seafood, including the connectivity and experience of Indigenous communities to the fishery and fish alternatives, and the rapidly growing global population. Discussion themes included:

- With an estimated population increase of 1 billion people from 2021 to 2035, the demand for protein to feed the world, especially healthy and sustainable seafood, continues to grow.
- Both sustainable aquaculture and wild fisheries are critical to meeting those demands.
- Emerging markets such as seaweed and fish alternatives, including circular economy solutions from the ocean, will also be significant contributors to this growth where Indigenous communities have particular experience and insight to draw on.
- There are opportunities to derive more value from seafood products, reducing or eliminating any waste.
- Regarding technology, DFO is concentrating on: enhancing the environmental sustainability of fishing, particularly through decarbonization; utilizing satellite and technology-enabled targeting to improve efficiency; advocating for 100% fish utilization; fostering technology enablement for marine spatial planning; and promoting data sharing and integration while respecting data sovereignty rights for Indigenous people.
- Globally, Canadian policy related to aquaculture is confusing and is a deterrent for investment and partnership opportunities.

 @NORTHLANDPOWER

**The potential in Canada's ocean environment and its role in the energy transition is staggering.**

## MARINE TRANSPORT

Almost ninety per cent of the world's goods are moved by marine transport producing 2.9 per cent of the world's emissions each year. Canada's shipping industry and ports are active with commercial activity and also in the advancement of the powering, control and autonomy of the sector as it adopts the greening of operations. With an increased focus on the reduction of carbon footprint, expectations of consumers, and economic efficiencies, global businesses who consider marine shipping over other forms of transport may increase. Discussion themes include:

- The pipeline of marine technology is the production, transport, and use of energy.
- There is significant investment happening in shipbuilding with the National Shipbuilding Strategy and the OSC's investment matching with industry in solutions across a number of projects including vessel coatings, electrification, and renewable diesel to address decarbonization of shipping.
- To achieve increased supply chain resilience, large investments are needed in port infrastructure including in their ability to support new technologies in ships and operational effectiveness.
- Both hydrogen and electric technologies are needed to decarbonize marine transportation. Hydrocarbon marine ecosystem took 100 years to develop – we need electric in 10 years.
- Will require both new builds and retrofits of existing vessels as well as interim solutions that require neither.
- Utilities must be introduced early for charging grid connections and vessel to grid. Inshore commercial vessels are a potential good option for electrification.
- Hybrid model, like EV cars, are part of the evolution of vessels as we overcome constraints.
- Regulatory environment and support is important. Marine is not getting as much attention for policy and funding programs compared to land decarbonization.
- We need to prepare for technological advances in autonomy in shipping as we are seeing in other parts of the world.

## OCEAN TECHNOLOGY

Canadian ocean technologies in areas such as robotics, communications, renewable energy technologies, batteries, biotechnology and genomics, and digital twins and their export to markets around the world have the potential to grow to \$13 billion. These are identified areas of strength and opportunity for Canada that have applications across ocean sectors and required to solve the most critical challenges we face. Discussion themes include:

- More focus is required on ocean engineering and data collection.
- Ocean technologies are a key driver of business transformation. Adoption of ocean technologies in traditional industries is necessary to ensure their survival and evolution in a new digital ocean economy.
- We are working to understand and predict climate change better than we can now through ocean observation, and also work on how we can mitigate climate change through ocean-based technologies.
- AI and data are key ingredients to growth. The ocean is largely unknown and there is very little data available on the ocean. Enabling data-driven decision-making requires us to better harness technology.
- Digitally improving processes through automation, efficiency, rapid monitoring, digital twins, quality assurance, procedural compliance, data reference for optimization, and results driven optimization will contribute to realizing the potential of all ocean sectors through their adoption.
- More investment is required in the accelerated development of ocean technologies to be competitive in a world that is recognizing the significance of the ocean to the regulation of the planet and to future prosperity and the tech-enabled solutions required to achieve it.

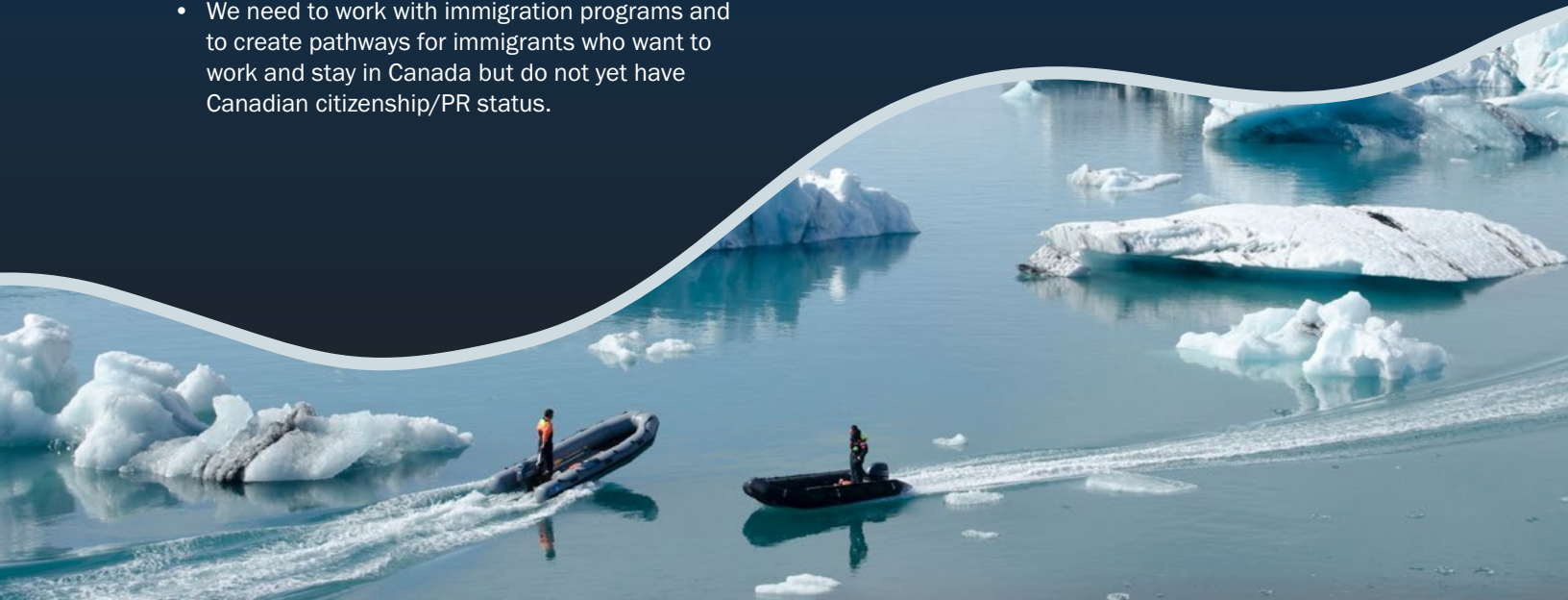
## PEOPLE AND TALENT – WORKFORCE DEVELOPMENT

According to the World Economic Forum, the ocean economy will become the biggest source of new jobs. In Canada today, more than 300,000 people work in ocean, with an immense growth trajectory in the realization of Ambition 2035. Creating awareness around the sustainable ocean economy and building the diverse, equitable and inclusive workforce is a key strategy for overcoming skilled labour shortages that organizations of all sizes in Canada's ocean sector are facing. How can we make ocean careers more attractive to Indigenous workers as well as youth, women, and others? How do we appeal to more diverse segment of experience and perspective? How can we work together to minimize competition as we develop the workforce? There are ways to engage non-traditional sources of talent to ensure inclusive growth, the most innovative solutions, and the strongest outcomes. Discussion themes included:

- To achieve Ambition 2035, we need to build awareness, create pathways, and champion diversity, inclusion, and environmental stewardship.
- This sector needs to thrive on multi-cultural and multi-generational innovation, nurture professional growth, and promote unbiased recruitment.
- Commitment to Indigenous engagement and participation will create a dynamic, sustainable, and socially responsible ocean economy.
- Promoting the wide variety of jobs in the ocean space, from mentoring networks to engaging children and youth through school systems into college years is necessary to address the knowledge gap.
- We need to work with immigration programs and to create pathways for immigrants who want to work and stay in Canada but do not yet have Canadian citizenship/PR status.
- Promoting ocean economy opportunities for the broader technology community will help attract innovators and workers that may not have otherwise considered a role in ocean.
- Better coordination between industry, NGOs, communities, and the federal government are needed to align efforts, breakdown silos, and maximize results.
- As the sector is poised for growth and job creation outpacing other sectors, Canada needs to prioritize the ocean sector thereby opening up more funding opportunities for workforce development to support the magnitude of this potential.

 @DRFREDOLAYELE

**#Ambition2035 in Ottawa hosted by Canada's Ocean Supercluster. The potential of the #Canadian ocean economy is enormous.**





# NEXT STEPS – AMBITION 2035

## EXCELLING CANADA'S LEADERSHIP IN EMERGING OCEAN OPPORTUNITIES

Where do we go from here? As a follow-up to the May 2023 Ambition 2035 event, three key sets of focused activities have been put into place to begin to shape the path to a \$220 billion dollar ocean economy in Canada. These activities are designed to help provide the information we need to advance emerging areas of growth; bring together focused groups to map out solutions in priority areas identified through Ambition 2035 event discussion; and build out annual opportunities to reconvene, take stock of activity in support of the ambition, building on it and planning for the years ahead.

### ACTION 1

National Strategic Committees to meet regularly for a period of at least one year to lead planning for the acceleration of emerging opportunities in ocean:

- **Blue Bioeconomy:** Mapping Canada's current blue bioeconomy activity and building recommendations for growth.
- **AI in Ocean:** Building awareness of significant role of AI in the future of the ocean economy and build recommendations for growth.
- **Ocean Talent:** Establishing national baseline research for the ocean sector, mapping existing programming and sharing insights across Canadian ocean network to help maximize existing activities and identify gaps.

### ACTION 2

Curated Roundtables that convene potential partners and project consortiums to formulate ideas with a deep focus on key growth areas including:

- Ocean energy solutions
- Arctic and cold ocean solutions
- Marine transport and port solutions
- Smart seafood solutions
- Community adaptation and ocean solutions
- AI and ocean data solutions and standards
- Talent and workforce development solutions

\*Winter 2023/2024 roundtables in Charlottetown, PEI, Iqaluit, NU and Vancouver, BC.

### ACTION 3

Annual Ambition 2035 events to reconvene leaders in ocean in Canada annually to explore the work of national steering committees, curated roundtables, and other activity while shaping next set of steps to further advance progress to five times growth in ocean.

- **Ambition 2035:** Pan-Canadian hybrid event – May 2024
- **Ambition 2035:** Pan-Canadian bi-annual, in person event – May 2025





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