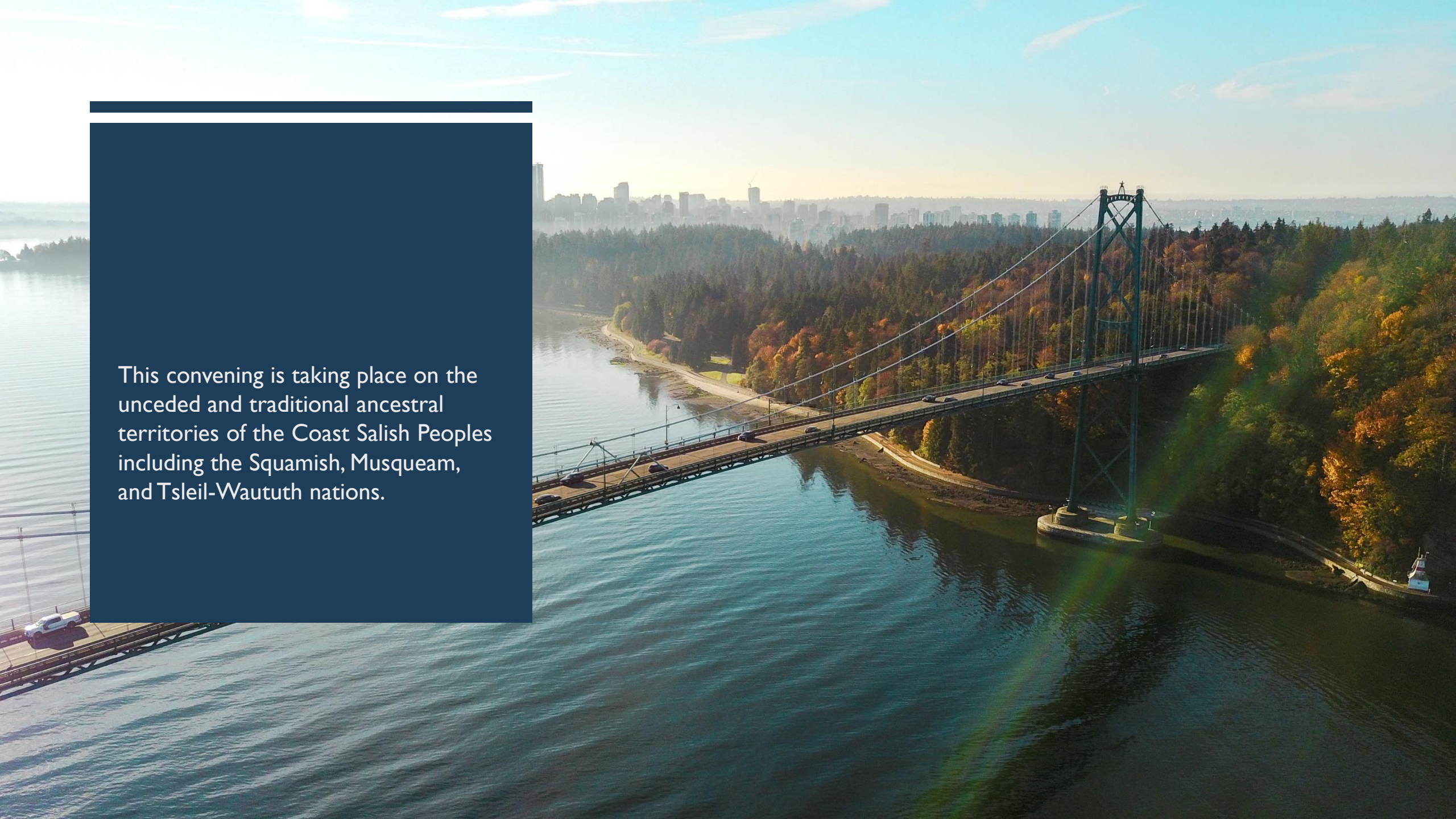


VANCOUVER MARITIME CENTRE FOR CLIMATE

MEMBER ROUNDTABLE
10 FEBRUARY 2022



This convening is taking place on the unceded and traditional ancestral territories of the Coast Salish Peoples including the Squamish, Musqueam, and Tsleil-Waututh nations.



AGENDA & WELCOME



Welcome

Welcome Guests



Guest Speaker

Lee Kindberg, Head of Environment & Sustainability,
Maersk



VMCC 2022 Outlook

Plans & Projects for 2022



Work Groups

Work Group Update
Joint Industry Projects



Green Shipping Strategy

Strategy Expansion Areas



Operation Flagship

Program Development



Announcements

VMCC Calendar



Q&A

Questions from Attendees

GUEST SPEAKER

Lee Kindberg, Head of Environment & Sustainability, Maersk,
North America

“Maritime Decarbonization Strategies”



VMCC 2022 OUTLOOK

STRENGTHEN & GROW



PLANS & PROJECTS FOR 2022



-  Strengthen Programs & Industry Engagement
-  Green Shipping Strategy Expansion
-  Joint Industry Projects
-  Pilot Project Deployment

INDUSTRY INVOLVEMENT

- 48 Members
- 27 MOU Signatories
- 21 Steering Committee
- 5 Industry Working Groups
- 3 Board Members



GREEN SHIPPING STRATEGY

- The purpose of the Green Shipping Strategy (GSS) is to set a collective strategy for the B.C. marine and shipping industry to guide and coordinate efforts towards a zero-emissions industry.
- The strategy contains,
 - Goals for CAC and GHG reductions for the Salish Sea, and by extension the province of B.C.
 - Development pathways to achieve the goal
 - Operational activities for VMCC's Work Groups



Environment and
Climate Change Canada

Environnement et
Changement climatique Canada

This project was undertaken with the financial support of the Government of Canada through the federal Department of Environment and Climate Change.

Ce projet a été réalisé avec l'appui financier du gouvernement du Canada agissant par l'entremise du ministère fédéral de l'Environnement et du Changement climatique.

VMCC STRATEGIC GOALS & EMISSIONS REDUCTION TARGETS

- Eliminate *domestic* shipping GHG & CAC emissions by 2050,
 - Intermediate reduction of **~40% by 2030** in line with federal & provincial targets.
- Decrease *deep-sea* shipping GHG & CAC emissions in BC waters **more rapidly than IMO ambitions.**



GREEN SHIPPING STRATEGY EXPANSION

Shore-Power Inventory & Impact

Overview of the current progress on supply of and infrastructure development/roll out of alternative marine fuels including electricity, LNG, methanol and hydrogen in our region of BC.

Alternative Fuels Forecast for BC

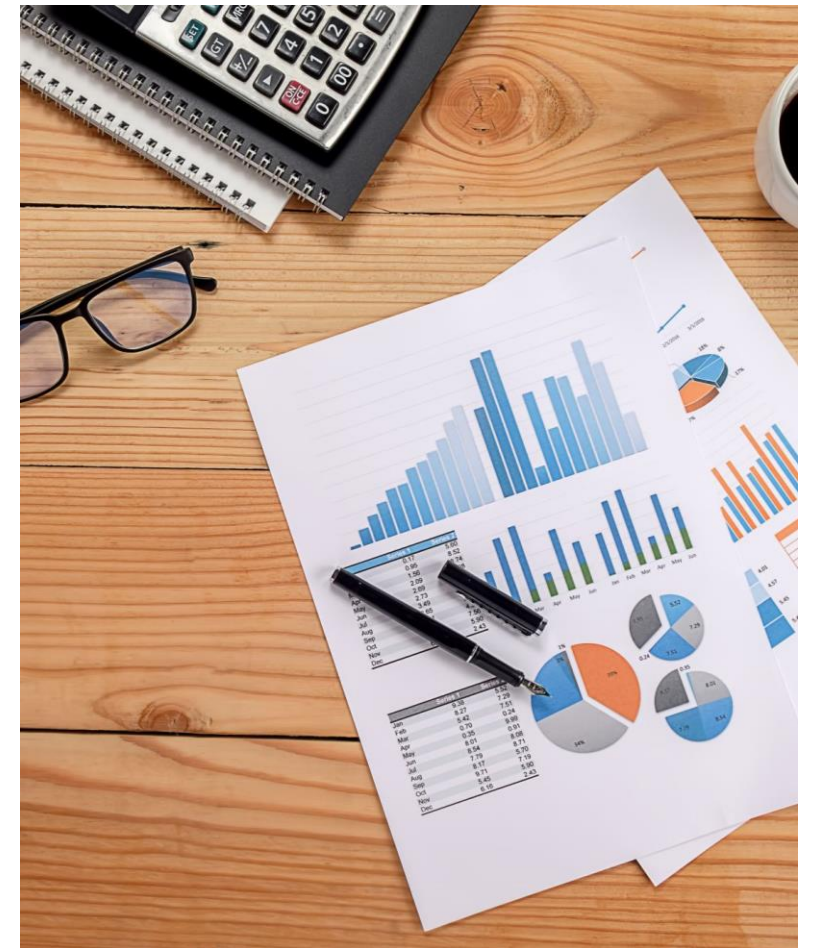
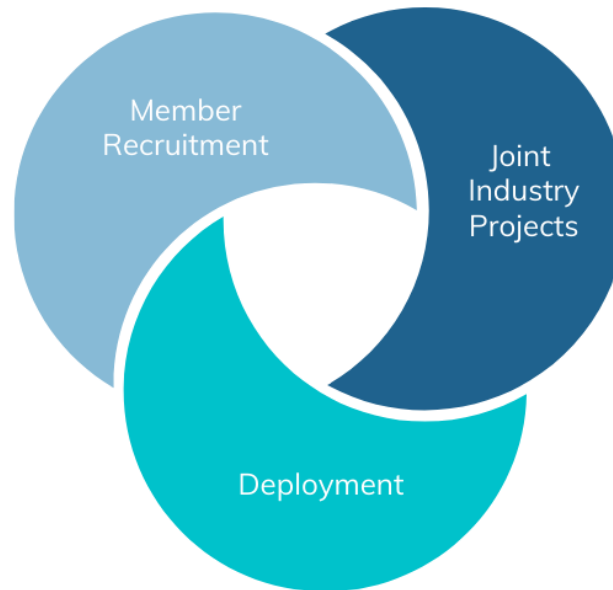
Identification of all terminals/berths in the province of BC where electric shore power is not already installed accompanied by emissions inventory and subsequent impact of electrification.

Green Shipping Corridors

Defining “Green Shipping Corridor” for British Columbia, including scope and requirements. Complimented by quantification of emissions reduction potential on specific routes.

INDUSTRY WORK GROUPS

1. Research & Development
2. Pilot Projects & Commercialization
3. Policy & Regulation
4. Green Financing & Funding
5. VMCC



JOINT INDUSTRY PROJECTS

- JIP's relevant to the following categories,
 - Low-Carbon and Carbon-Neutral Fuel Solutions
 - Maritime Electrification
 - Port Operations & Infrastructure
 - Vessel Energy Efficiency
 - Emissions Abatement

Note:

- All JIP partners must have the support of their employer.
- Project partners are expected to support the JIP with resources such as technical expertise, test bed space and/or financial support depending on your organizations level of interest.
- VMCC will facilitate the signing of MOUs or NDAs as required for each JIP.

JOINT INDUSTRY PROJECTS

Pilot Projects

- VoltSafe Trial of Marine Magnetic Plug
- Corvus Blue Whale Trial on Seaspan Ferry
- A2o Trial Biofouling Coating on small craft

Feasibility Studies

- Maersk Supply Electric Buoy Application on BC Coast

Strategy

- Shore-Power Inventory & Impact
- Alternative Fuels Forecast for BC
- Green Shipping Corridors for BC (Phase 1) & International (Phase 2)

Research & Development

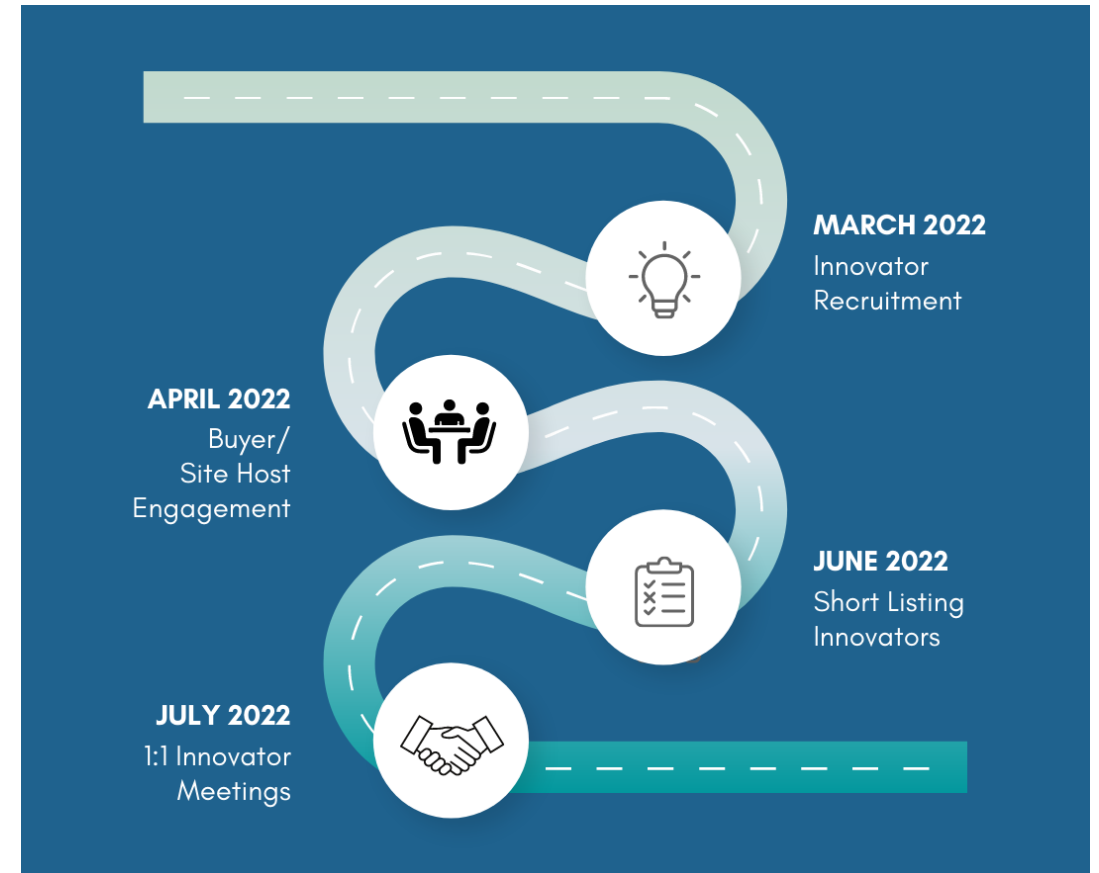
- Liquid Air Propulsion System
- Recommendations for Marine Vessel Charging Standard

Other

- Climate Risk Guide for Maritime Directors

OPERATION FLAGSHIP

- Strengthen & Grow Program
 - Innovator Recruitment
 - Buyer/Site Host Engagement
 - Innovator Shortlisting
 - 1:1 Innovator & Buyer/Site Host Meetings
- 2023 Pilot Project Deployment

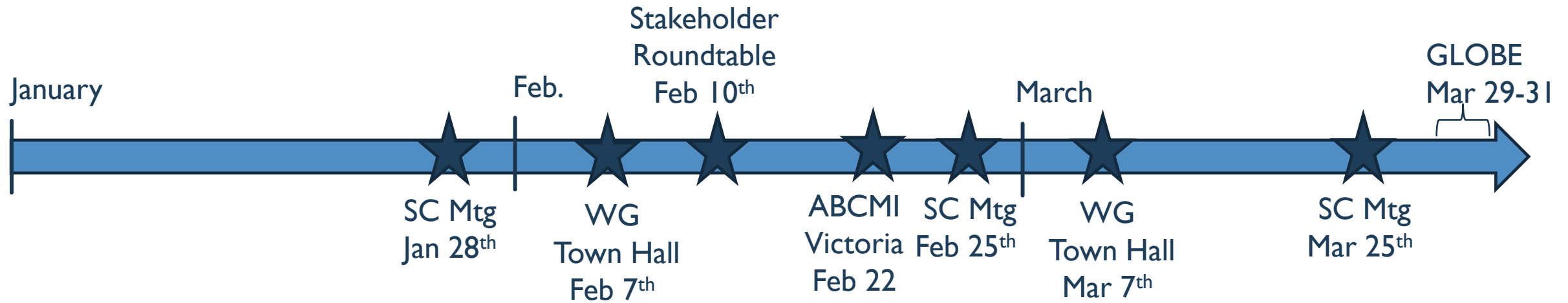


OPEN CALL: SALISH SEA CHALLENGE

- **Low-carbon and carbon-neutral fuel solution**
 - Sustainable fuel supply
 - Alternative fuel port and bunkering infrastructure
 - Shipboard machinery
 - Competence development and operating practices
- **Maritime electrification**
 - Clean energy supply
 - Onshore power infrastructure
 - Energy storage and shipboard electrification
- **Port Operations and infrastructure**
 - Harbour operations and scheduling efficiency and digitalization
 - Zero-emission port operations
 - Port as a decarbonization-hub
- **Vessel energy efficiency**
 - Hull and propulsion
 - Machinery and consumers
 - Vessel operation efficiency and digitalization
- **Emissions abatement**
 - Treatment and capture of GHG and CACs



VMCC CALENDAR





THANK YOU

QUESTIONS?

THANK YOU



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