CLEAN ENERGY MARINE HUBS

AN INITIATIVE OF THE CLEAN ENERGY MINISTERIAL

A MINISTERIAL CALL FOR COLLECTIVE ACTION ON ENERGY SECURITY

EXECUTIVE SUMMARY

November 2026



UNLOCKING CLEAN FUEL MARKETS BY TRANSFORMING THE ENERGY-MARITIME SUPPLY CHAIN AND ENABLING INFRASTRUCTURE

Coordinated by:

International Chamber of Shipping

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FOREWORD

CLEAN ENERGY MARINE HUBS

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The transition to a net-zero global economy requires system-wide transformation in how energy is produced, stored, transported and consumed, particularly in the maritime sector, a cornerstone of global trade and a critical enabler of future fuel deployment.

The Clean Energy Marine Hubs (CEM-Hubs) initiative brings together governments and industry in a first-of-a-kind partnership across the energy-maritime value chain to accelerate the production, transportation and use of low-carbon fuels at scale.

Coordinated by the International Chamber of Shipping (ICS), the International Association of Ports and Harbors (IAPH), and Clean Energy Ministerial, this initiative is supported by a coalition of governments and global industry partners, reflecting a shared commitment to coordinated action.

As the main transport energy initiative under the Clean Energy Ministerial, the mission of CEM-Hubs is to accelerate the production, transportation and use of low carbon fuels at scale as an essential component of the global energy transition, while ensuring shipping's fuel needs are understood and incorporated in the context of a net-zero future.

This executive summary is part of three CEM-Hubs deliverables to enable Clean Energy Marine Hubs. This *call to action* provides a concise, compelling and decision-ready articulation of the imperatives for CEM-Hubs. It sets out the case for change, the delivery concept and priority recommendations to enable coordinated cross-agency action, accelerate the resilience and diversification of alternative fuels, and catalyze global progress toward a net-zero energy future.

SUPPORTING GOVERNMENTS

SUPPORTING PARTNERS

ABS

IRENA
International Renewable Energy Agency

OCIMF

UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION

WORLD ECONOMIC FORUM

COORDINATED BY

International Chamber of Shipping

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ACKNOWLEDGEMENT

The CEM-Hubs initiative wishes to extend its utmost appreciation to EY-Parthenon, the International Chamber of Shipping, the International Association of Ports and Harbors, and the following governments and organizations for their time, insights, expertise, knowledge and feedback, generously shared and instrumental in enabling the synthesis and development of this important work.

CEM-HUBS LEADERSHIP, SUPPORTER AND PARTNER

- AET Tankers, CEM-Hubs Private Sector Co-chair
- Canadian government: Transport Canada, CEM-Hubs Public Sector Co-chair
- CEM-Hubs, Private Sector Advisory Group
- Clean Energy Ministerial (CEM Secretariat and CEM Future Fuels Group)
- Expert advisor, Prof. Stefan Ulreich
- Global Centre for Maritime Decarbonisation (GCMD)
- International Association of Ports and Harbors, CEM-Hubs lead agency
- International Chamber of Shipping, CEM-Hubs lead agency
- International Energy Agency (IEA)
- International Renewable Energy Agency (IRENA)
- Oil Companies International Marine Forum (OCIMF)
- Participating organizations and government representatives at the Clean Energy Ministerial Senior Officials' Meeting — Spotlight Session on Transport and Energy
- The Decarb Hub, Lloyd's Register
- World Economic Forum (WEF)

INDUSTRY

- Aurubis
- Envision Energy
- EVOS
- HIF Global
- Hapag-Lloyd
- MB Energy
- Mitsui
- Molecule Group
- Worley

GOVERNMENT

- Brazilian ministries: Ministry of Mines and Energy; Ministry of Foreign Affairs and Infrastructure
- China: Minister-Counsellor for Science and Technology at the Mission of China to the EU, representing the Ministry of Science and Technology (MOST)
- China General Certification Centre
- City of Hamburg: Ministry of Economy, Labor and Innovation
- Clean Hydrogen Partnership
- Cyprus: Ministry of Energy, Industry and Commerce; Ministry of Maritime
- European Commission: Directorate-General (DG) for Energy; DG for Mobility and Transport (MOVE)
- Italy: Ministry of Infrastructure and Transport; Ministry of the Environment and Energy Security
- Japan: Ministry of Economy, Trade and Industry; Ministry of Land, Infrastructure, Transport and Tourism
- Netherlands: Ministry of Economic Affairs
- UAE: Ministry of Energy & Infrastructure
- United Nations: Conference on Trade and Development (UNCTAD); Industrial Development Organization (UNIDO)
- Uruguay: Ministry of Industry, Energy and Mining

PORT

- Hamburg Port Authority
- HAROPA Port
- North Sea Port
- Port of Açu
- Port of Amsterdam
- Port of Antwerp-Bruges
- Port of Barcelona
- Port of Halifax
- Port of Marseille Fos
- Port of Prince Rupert
- Port of Rotterdam
- Port of Seattle
- Port of Vancouver

Clean Energy Marine Hubs: Solving the global energy “double bind”

Clean Energy Marine Hubs are a catalyst for energy, future fuels and maritime transformation — leveraging the flexibility, mobility and resilience of shipping and maritime infrastructure.

The global market for clean, alternative fuels is emerging, but is not yet scaling at the pace needed to meet the commitments of the Paris Agreement and avoid irreversible climate impacts. Simultaneously, long-standing reliance on fossil fuels has left economies exposed to successive geopolitical disruptions and the structural vulnerabilities of concentrated production and global choke points.

This creates a “double bind” for governments: Incumbent fuel systems are becoming less secure and resilient, while alternative fuel systems are not yet ready to replace them at scale, with significant social and economic consequences that fall disproportionately on vulnerable communities and import-dependent economies.

The strategic imperatives of energy security, economic development and decarbonization have now converged into a global call to action.

Clean Energy Marine Hubs provide a platform for government and private sector to accelerate the scaled production, trading, transport and deployment of alternative fuels, while ensuring that shipping’s fuel needs and maritime sector transformation are fully integrated into a net-zero future.



A structural transition gap is emerging in global fuel systems

Long-standing reliance on fossil fuels has exposed economies to geopolitical shocks, concentrated production (with just 10 countries accounting for ~73%)[1] and critical transit risks where around 80% of oil flows through a small number of maritime choke points.[2] At the same time, low- and zero-carbon fuel markets are not yet sufficiently mature, scaled or cost competitive to provide a readily available alternative.

This creates a “double bind” for governments: Incumbent fuel systems are becoming less secure and resilient, while alternative fuel systems are not yet ready to replace them at scale.

The cost of inaction is therefore twofold: continued exposure to fossil fuel shocks, and delayed formation of the markets and infrastructure needed for decarbonization.

Fossil fuel dependence is highlighting national and regional security risks

Successive disruptions across the Russia-Ukraine corridor, the Red Sea and the Strait of Hormuz have highlighted how reliance on concentrated supply routes and maritime choke points can affect fuel prices, freight costs, insurance premiums and delivery time frames, reinforcing energy resilience as a national and economic security priority.

These impacts are unevenly distributed. Import-dependent and vulnerable economies are facing compounding impacts on rising fuel costs, inflation, food insecurity and fiscal strain. As shocks transmit through interconnected systems spanning transport, agriculture and industry, energy disruptions can quickly escalate into broader economic instability, particularly in countries with limited fiscal capacity and high reliance on imports.

Globally, decarbonization remains off track—particularly in hard-to-abate sectors

At the same time, the trajectory of global decarbonization remains off track. Current policies and commitments are insufficient to meet Paris Agreement goals, and the gap between climate ambition and practical deployment remains significant.

Hard-to-abate sectors such as shipping, aviation, heavy industry, construction and mining remain dependent on high-energy-density fossil fuels. While electrification is increasingly viable in parts of road transport and lower-temperature manufacturing applications, many sectors will require alternative fuels, with biofuels and other drop-in solutions supporting nearer-term transition (where compatible with existing assets), and hydrogen-derived fuels, ammonia, methanol, synthetic fuels and sustainable aviation fuel forming part of longer-term, more infrastructure-intensive pathways.

The clean energy maritime supply chain and infrastructure will be central to the future fuel system

The maritime sector sits at the center of this transition. Shipping carries around 80% of global trade by volume[3], while energy products accounted for approximately 36% of global seaborne trade in 2021[4], positioning maritime infrastructure as a critical enabler of the future fuel system. Ports, shipping routes and maritime infrastructure will therefore have a dual role: They must decarbonize their own operations, while also enabling the development of new global fuel supply chains.

However, the maritime sector is often overlooked in broader energy planning because the sector is a relatively small energy consumer compared with other parts of the economy, despite its outsized role in connecting energy, trade and industrial systems. This undervalues its strategic importance as a global connector of energy, trade and industrial systems.



1. “Oil 2025: Analysis and forecast to 2030,” IEA, 17 June 2025
2. “World Oil Transit Chokepoints,” *U.S. Energy Information Administration (EIA)*, 3 March 2026 (last update)
3. “Shipping data: UNCTAD Seaborne trade statistics,” United Nations Trade and Development (UNCTAD), 23 April 2025
4. Clarksons 2022a. Clarksons Research Energy Transition Model. Clarksons Research.

Market barriers continue to constrain scale and investment into new fuel systems

Despite growing momentum, significant barriers continue to constrain market development:

- **Cross-cutting barriers** include fragmented policy frameworks, limited coordination across government portfolios, inconsistent standards and certifications, and safety and public acceptance challenges.
- **Demand-side barriers** include weak and fragmented demand signals, persistent cost gap hindering uptake, and low sector readiness.
- **Supply-side barriers** include high capital intensity, immature project pipelines, hydrogen infrastructure dependencies, feedstock limitations and uncertainty across fuel pathways.

These barriers reinforce a central policy challenge: Governments and industry must bridge the gap between early stage innovation and system-wide deployment.

Without coordinated action, alternative fuel markets risk remaining fragmented, subscale and unable to deliver either decarbonization or energy security outcomes.

Market formation will require simultaneous action on both demand and supply of alternative fuels, including clearer policy signals, aggregated demand, bankable offtake, infrastructure planning, aligned standards, certification, lifecycle accounting, safety and traceability frameworks, long-term contracting mechanisms, and targeted support to close cost gaps.

SUPPLY-SIDE BARRIERS

- High capital intensity and cost barriers
- Scaling of low-carbon fuels relies on hydrogen-based supply chains
- Early stage project pipeline
- Uneven progress across fuel-production pathways
- Synthetic feedstock and system limitations
- Biomass feedstock and sustainability constraints
- CO2 supply and system-integration constraints

DEMAND-SIDE BARRIERS

- Weak and nascent demand signals
- Fragmented demand across fuel pathways and sectors, weakening investment signals
- Sector alignment and readiness constraints across industry, transport and maritime systems
- Cost competitiveness and end-user impact

CROSS-CUTTING BARRIERS

- Fragmentation across energy, transport and industrial policy frameworks
- Transition challenges for hard-to-abate sectors such as shipping, aviation and heavy industry
- Carbon-accounting and certification challenges
- Safety and public-acceptance barriers

Acceleration of alternative fuels create major strategic opportunities

Strengthening fuel resilience requires a fundamental shift from a “fail-safe” model that seeks to prevent all disruption, to a “safe-fail” model that builds flexibility, substitution options and recovery capacity into the fuel ecosystem.

A more diversified and flexible fuel system and supply chain can strengthen energy security and resilience to geopolitical disruption. It can also generate new trade corridors, as well as create fuel production, export and industrial opportunities for countries with strong renewable resources, availability of underused land or access to feedstocks.

Opening up new trade corridors and centers of supply is even more important in a world trending away from fully open cross-border trade to a more alliance-based trade model, reflective of broader geopolitical shifts.

For developing and emerging economies, this transition also presents an opportunity to reduce global inequity — supporting new investment, employment and economic diversification, if enabled by credible policy, infrastructure and financing frameworks.

The transition can also create an opportunity to repurpose existing fossil fuel infrastructure, including refineries, storage terminals and port assets, for future low-carbon fuel production, handling and distribution. Moreover, this can preserve local industrial capability and support workforce transition in regions affected by declining fossil fuel industries.

Lessons from front-runner countries in emissions trading and carbon regulation, such as the European Union (EU), recognize that maintaining industrial competitiveness under decarbonization critically relies on scaling clean energy technologies, supply chains and enabling infrastructure.[5]



5. “Net-Zero Industry Act,” European Commission, 16 March 2023

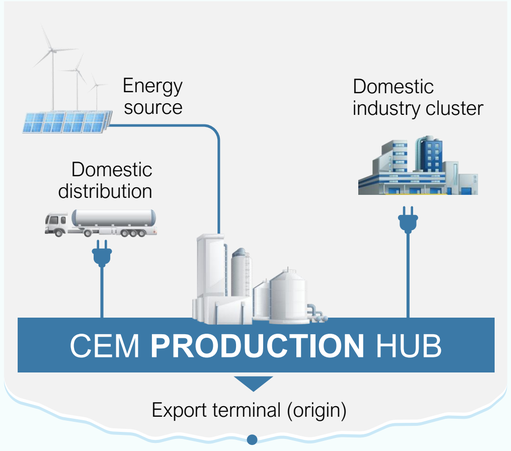
Advancing CEM-Hubs provides a catalyst and practical mechanism to enable fuel system transformation

Developing and implementing the Clean Energy Marine Hubs (CEM-Hubs) can act as a catalyst, providing a practical model to accelerate the development of alternative fuel production, infrastructure and markets.

The CEM-Hubs model envisages the development of fully integrated infrastructure precincts where local energy ecosystems and globally connected trading nodes come together, linking energy production, port infrastructure, shipping networks and cross-sector demand. By coordinating supply and infrastructure and aggregating end-use demand, the CEM-Hub model reduces market fragmentation, de-risks investment, improves cross-sectoral collaboration and accelerates the scaling of alternative fuels across hard-to-abate sectors, which are off track against Paris Agreement goals.[6] CEM-Hubs also provide a pathway to diversify historically concentrated fuel supply chains by creating new trade corridors and hubs for the aggregation, distribution and use of low- and zero-carbon fuels.

Four core CEM-Hub archetypes have been identified, each with a distinct role in the emerging fuel system and supported by an enabling port. These are best understood as functional roles within the fuel value chain, rather than mutually exclusive.

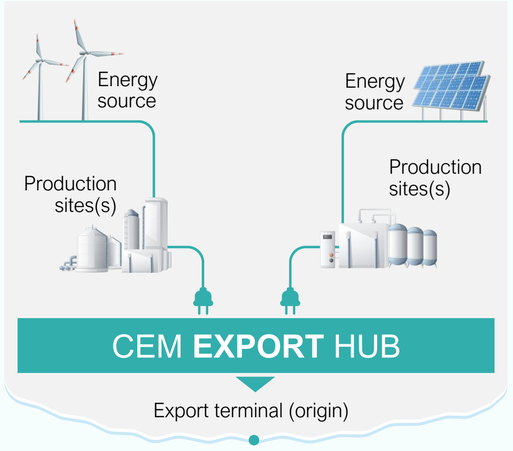
Overview of the four CEM-Hubs functional roles



Renewable resource and technology driven

Generate alternative or clean fuels from local energy resources, with scalable production typically co-located with port infrastructure and supported by integrated industrial ecosystems for domestic use and export.

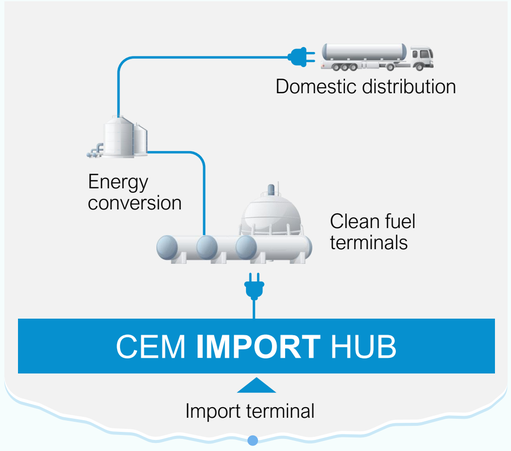
Where domestic supply of clean energy is competitive, typically suited to resource-rich regions.



Renewable resource and trade driven

Aggregate and dispatch domestically produced fuels to international markets, linking production sites to ports via transport infrastructure and requiring high-capacity storage, buffering and export facilities.

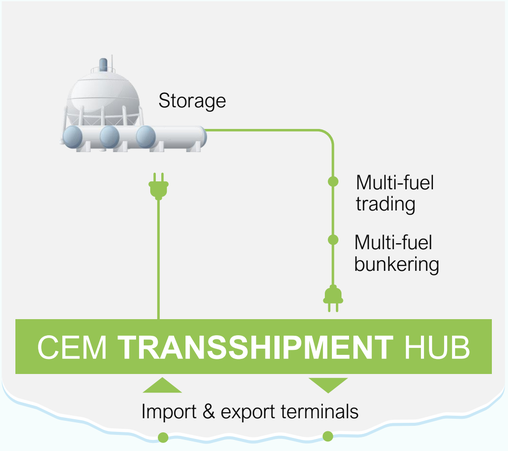
Where domestic supply surpasses domestic demand, typically suited to resource-rich regions.



Demand driven

Receive, store and distribute fuels from international suppliers in demand centers, typically integrated with industrial clusters and requiring compatibility with existing import, storage and distribution infrastructure.

Where domestic demand outstrips domestic supply.



Connectivity driven

Facilitate the redistribution, trading and transfer of fuels across routes, enabling flexible logistics through multi-fuel handling, short-term storage and bunkering infrastructure at high-traffic maritime locations.

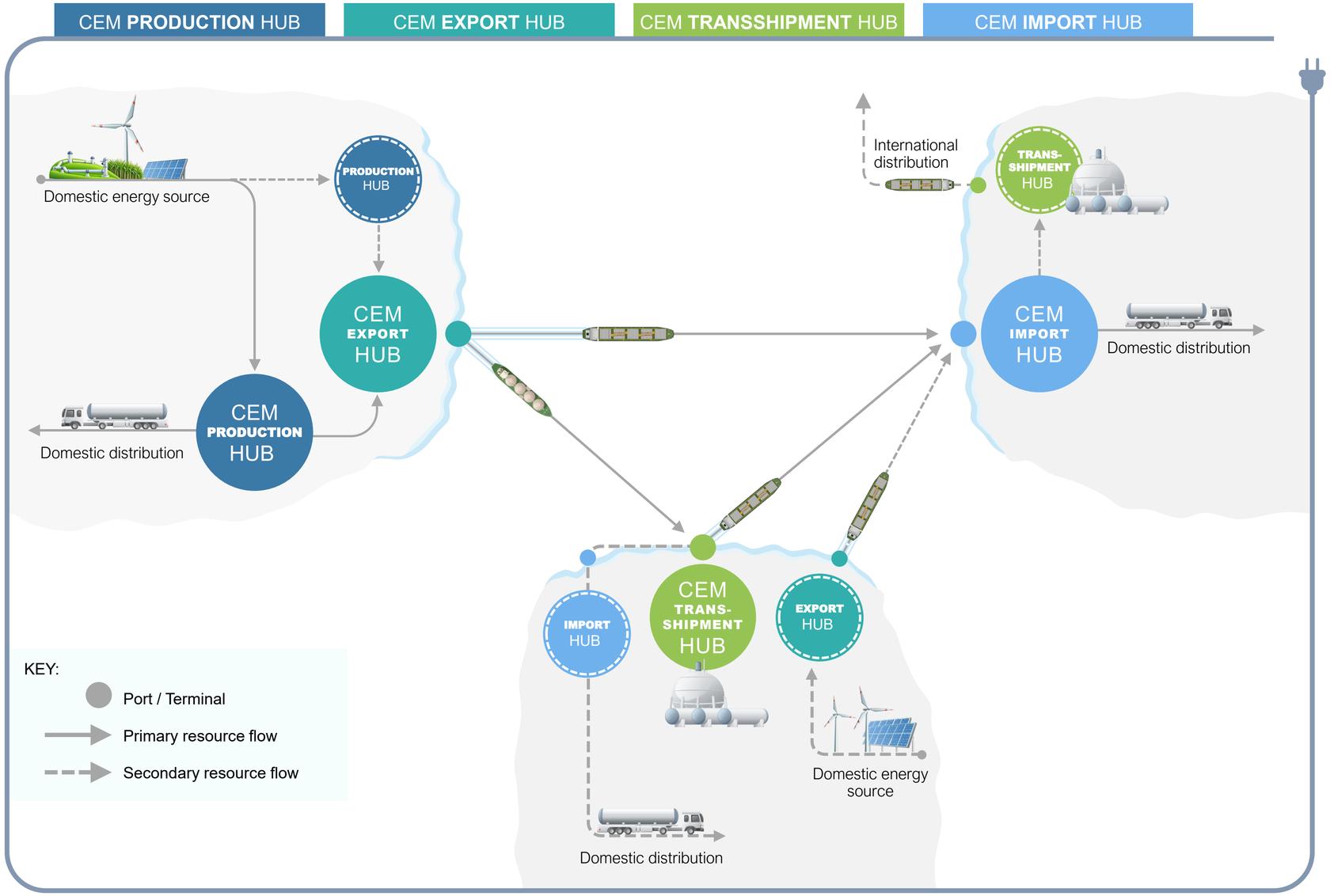
Strategically located along high-volume shipping routes.

6. "Emissions Gap Report 2024: No more hot air … please!" UN Environment Programme, April 2025

System view of the four CEM-Hub archetypes and their interconnections across functional roles

At a system level, the four archetypes operate collectively to enable a connected global clean fuel trading network, in which each hub performs a distinct function across production, trade, transport and consumption.

These archetypes reflect differentiated system roles rather than fixed categories and may coexist within a single hub depending on location characteristics, market requirements, maturity and strategic objectives. This means that CEM-Hub archetypes may have secondary flow, providing multiple functions.



Ministers face choices about role, timing and strategic positioning

Delivering CEM-Hubs will require coordinated action across government, industry and international partners. Ministers face a strategic choice about whether to deploy policy, regulatory and fiscal levers to accelerate CEM-Hub development and which archetype, or combination of archetypes, best aligns with national and regional priorities. These choices will depend on national policy and factors such as energy security objectives, industrial demand, port capability, decarbonization pathways, renewable resource endowments, land and water availability, and positioning within emerging global fuel trade.

Governments have a critical role in creating the enabling conditions for investment. This includes setting strategic direction; establishing policy and regulatory frameworks; signaling demand through mandates, standards or certification; coordinating energy-maritime infrastructure planning; and de-risking early investment where markets are not yet commercially mature. Industry, including industrial users, investors, fuel producers, ports and shipping companies, will be central to mobilizing capital, delivering infrastructure, developing offtake arrangements, operating supply chains and scaling markets over time.

Cross-ministerial portfolio coordination will be critical to delivery

Multiple government portfolios hold decision rights that shape and enable the delivery of CEM-Hubs, making effective institutional architecture and governance critical to success.

Ministers of energy, transport, maritime, industry, climate, finance, planning, trade, foreign affairs, workforce and safety portfolios may all hold decision rights that shape whether a hub proceeds, where it is located, and at what scale. Clear governance is critical to align efforts, coordinate delivery sequencing, expedite approvals and engender investor confidence. A whole-of-government approach, supported by structured engagement with ports, shipping companies, energy producers, industrial users and investors, will be essential to translate strategic ambition into deliverable projects.

Proactive countries can shape the emerging global fuel system

The scale of the challenge is significant, but the strategic prize is larger. Proactive countries who are ready to move with high readiness now will be better positioned to shape the direction, attract investment, develop new trade partnerships and secure a role in emerging low- and zero-carbon fuel markets.

For ministers and agencies across energy, transport, finance, industry and climate portfolios in particular, the immediate task is to consider the range of levers available to support market development by creating the conditions for markets to form and infrastructure to scale. Governments can strategically enable the transition of fuel systems from concentrated fossil fuel dependency to more diversified, resilient and sustainable alternatives.



Multiple government portfolios hold decision rights that shape and enable the delivery of CEM-Hubs, making effective institutional architecture and governance critical to success.

- Industry feedback and market signals
- Commercial insights and investment signals
- Operational feedback and market response

CROSS-MINISTERIAL SECRETARIAT

Set national direction, aligns stakeholders, confirm priority hub location

- ENERGY
- FINANCE AND TREASURY
- INDUSTRY
- TRADE AND FOREIGN AFFAIRS
- TRANSPORT AND MARITIME
- PLANNING, LAND AND INFRASTRUCTURE
- ENVIRONMENT AND CLIMATE
- WORKFORCE, SKILLS AND EMERGENCY MANAGEMENT

CROSS-GOVERNMENT ENABLING FUNCTIONS

Sets policy, regulation, planning, coordination, funding and investment conditions to unlock markets

ENERGY
- Energy policy, fuel standards and pathways
- Demand aggregation across sectors
- Energy infrastructure, licensing, system planning

TRANSPORT AND MARITIME
- Port and maritime infrastructure planning
- Maritime regulation, licensing and safety
- Bunkering and seaborne trade, cargo connectivity

FINANCE AND TREASURY
- Investment planning
- Public funding, incentives and risk mitigation
- Fiscal and financing arrangements
- Procurement policy and framework

PLANNING, LAND AND INFRASTRUCTURE
- Spatial and land use planning
- Infrastructure investment, coordination and sequencing
- Approval frameworks

INDUSTRY
- Industrial policy
- Economic development
- Demand development
- Decarbonization support for local industries and value chains

ENVIRONMENT AND CLIMATE
- Environmental standards
- Emission policy and carbon pricing
- Climate resilience and risk frameworks

TRADE AND FOREIGN AFFAIRS
- Trade agreements and market access
- International partnerships
- Export and import frameworks and fuel corridors

WORKFORCE, SKILLS AND EMERGENCY MANAGEMENT
- Alignment with workforce planning, training and capability
- Emergency preparedness and response

INDUSTRY DELIVERY FUNCTIONS

Delivering infrastructure, operations and market development at scale

PRODUCTION AND SUPPLY
- Invest and develop new fuel production technologies, build and operate production facilities
- Secure energy inputs
- Ensure fuel quality and compliance

INFRASTRUCTURE AND OPERATIONS
- Build and operate storage, terminal, trading and transfer infrastructure at port and linkages to end-use
- Convert and repurpose existing assets

LOGISTICS AND SUPPLY CHAINS
- Manage fuel logistics across road, rail, pipeline and sea
- Integrate supply chains from production to end-use

COMMERCIAL AND MARKET DEVELOPMENT
- Long-term off-take and partnerships
- Demand aggregation and market creation
- Manage first mover risk and commercial, financial risk

STAKEHOLDERS AND ECOSYSTEM PARTNERS

- ENERGY PRODUCERS AND SUPPLIERS
- PORTS AND TERMINAL OPERATORS
- SHIPPING COMPANIES
- INDUSTRIAL USERS
- INVESTORS AND FINANCIAL INSTITUTIONS
- DOMESTIC AND INTERNATIONAL CONSUMERS

- Policy, funding and regulatory signals
- Demand shaping and building investment conditions
- Establish essential safeguard / standards, and minimize barriers to entry

Recommendations and action plans

Delivering and scaling CEM-Hubs will require coordinated action at both global or regional, and jurisdictional levels to enable market activation and formation and to mobilize investment.

Global Action Plan

The proposed elements under the consolidated Global Action Plan (see next page) should be developed and aligned with broader existing international efforts around key enablers of clean fuel markets. The plan should include harmonizing standards, strengthening demand signals, coordinating infrastructure and mobilizing investment — reducing fragmentation and enabling projects to scale from pilots to connected, investable global fuel systems.

In practice, delivering the Global Action Plan is most feasible through a set of priority, trailblazing initiatives led by a small coalition of front-runner governments, creating templates for wider emulation and scale globally.

Jurisdictional-level Ministerial Action Plans

At an individual jurisdiction level, ministers and policymakers should develop jurisdiction-specific action plans to translate the global CEM-Hub concept into policy, investment and delivery action. These plans should be tailored to each country's strategic position, including its energy resources, industrial base, port infrastructure, trade relationships, fiscal capacity and decarbonization priorities.

The objectives of the action plans are to strengthen linkages across existing or emerging initiatives in the energy-maritime system for collective outcomes, unlock additional resources to accelerate CEM-Hub priorities, minimize duplication, and accelerate the transition from the current state to tangible projects and scalable markets.

Global Action Plan

PHASE 1

Build alignment and prioritize early delivery opportunities

- ✓ Establish a global roadmap for CEM-Hubs
- ✓ Identify implementation coalition, broaden coordination and shift from concept to implementation
- ✓ Clarify roles across government and industry
- ✓ Identify early movers and high-readiness partners
- ✓ Identify priority geographies and archetypes
- ✓ Prioritize early demonstration projects

PHASE 2

Standardize, de-risk and enable replication

- ✓ Harmonize standards, certification and life cycle assessment (LCA) frameworks
- ✓ Develop shared evidence base and planning guidance
- ✓ Codify replicable delivery and commercial models
- ✓ Continue to establish safety and operational readiness
- ✓ Build capability in emerging markets

PHASE 3

Mobilize finance and scale a connected global fuel system

- ✓ Mobilize coordinated international finance
- ✓ Support equitable participation
- ✓ Scale common-user infrastructure
- ✓ Connect hubs into regional and global networks
- ✓ Embed continuous learning and adaptation

0–3 years — 0–5 years — 3–10 years

Jurisdiction-level Ministerial Action Plans

PHASE 1

Establish strategic direction and institutional alignment

- ✓ Establish a clear national position on CEM-Hubs
- ✓ Identify the most relevant archetype pathways
- ✓ Establish cross-portfolio coordination
- ✓ Clarify the public-private interface
- ✓ Engage industry on market readiness
- ✓ Assess strategic feasibility

PHASE 2

Activate markets and de-risk early investment

- ✓ Develop an integrated national clean fuel strategy
- ✓ Aggregate demand across sectors
- ✓ Use policy and procurement levers to signal demand
- ✓ Support early project development
- ✓ Mobilize capital and improve bankability
- ✓ Progress priority hubs and trade corridors

PHASE 3

Scale infrastructure and integrate into regional and global markets

- ✓ Scale hub capacity in line with demand growth
- ✓ Integrate hubs with industrial and energy precincts
- ✓ Embed safety, certification and traceability systems
- ✓ Develop regional and bilateral partnerships
- ✓ Review and adapt policy settings

Decision Tree 1: Ministerial decision guide for hub selection

Selecting the CEM-Hub archetype that best aligns with strategic need and readiness

Use this guide to short-list the hub archetypes, or combination of roles, that best fits the jurisdiction. Start with establishing accountable cross-government leadership; assess resources, demand, trade position, port capability, policy readiness and investor interest; then apply four gates: strategic value, market evidence, delivery readiness and bankability. The outcome is a clear prioritization pathway identifying which opportunities should be prioritized now, further developed or monitored for future consideration.

1 START

Establish accountable, inter-secretariat leadership

Establish an authoritative national coordinating body, typically led by the energy ministry, with representation from transport, industry and economic development ministries, and with involvement from port authorities, energy producers and shipping stakeholders. Empower the body to develop national energy transition objectives and strategy action plan required to assess, select and mobilize CEM-Hubs.

2 ASSESS

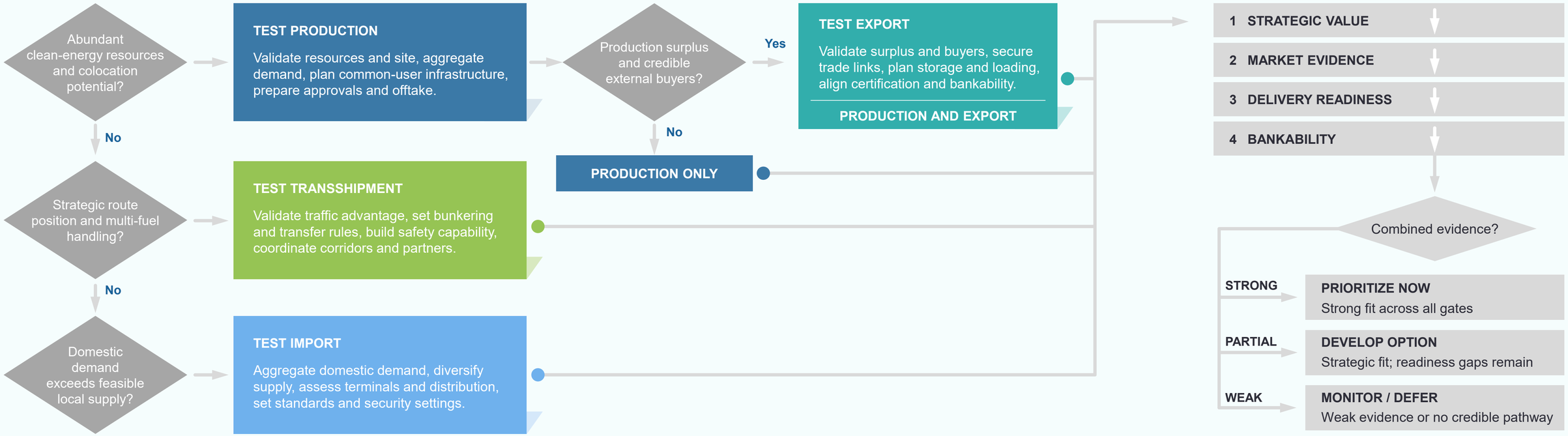
What is the jurisdiction's strongest source of strategic advantage and most appropriate Hub type for prioritization?

Assess domestic demand, resources and feedstocks, ports and industry, shipping routes, trade links, land and water, policy readiness, and investor interest.

3 CONTINUE

Assess each candidate option against all four readiness gates

Readiness gate details: page 58 of the report

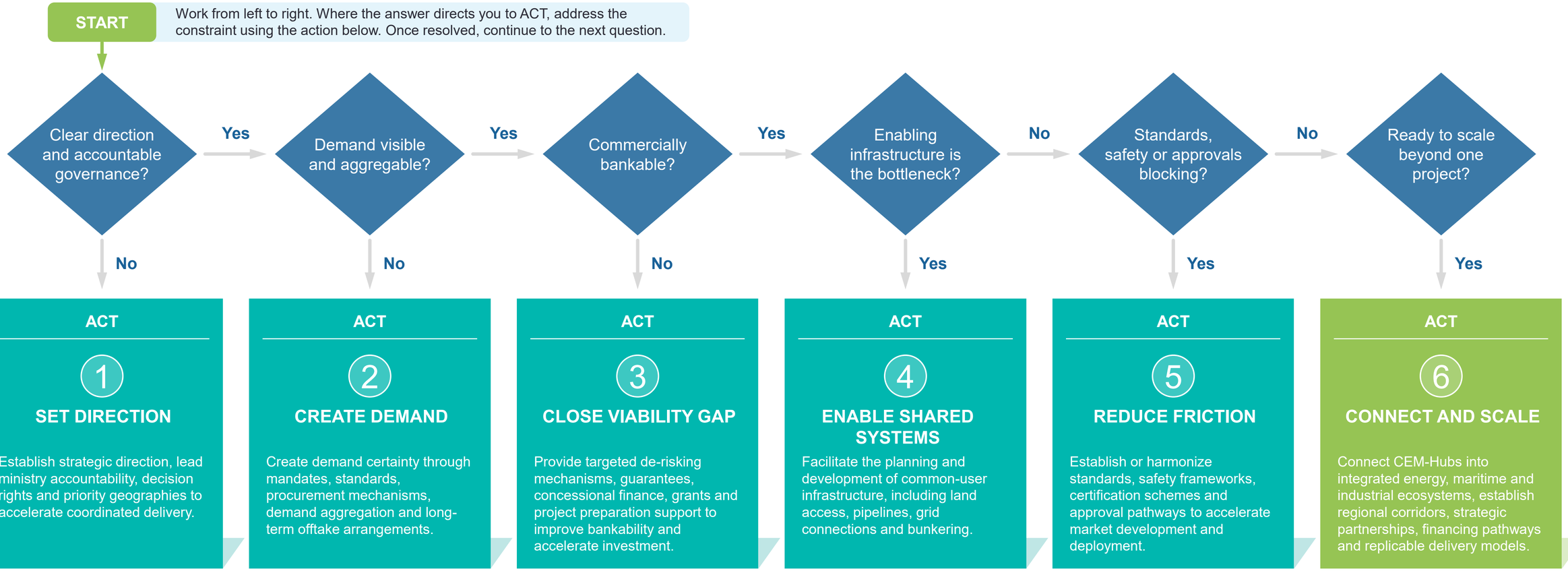


Decision Tree 2: Ministerial decision guide for government support

Identifying market constraints and targeting government support for maximum impact

Use this guide after selecting a hub opportunity. Diagnose the first constraint blocking progress — governance, demand, bankability, infrastructure, standards or the ability to scale — and apply the corresponding intervention.

This keeps public support targeted: Governments create enabling conditions and reduce first-mover risk, while ports, shipping, producers, users and finance lead delivery and operations.



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