First Movers Coalition

WORLD ECONOMIC FORUM

In collaboration with
Boston Consulting Group

First Movers Coalition Impact Brief

IMPACT BRIEF

JANUARY 2026

Images: Unsplash +

Contents

Foreword

Noam Boussidan
Programme Head,
First Movers Coalition,
World Economic Forum

Established in 2021, the First Movers Coalition (FMC) has grown into the world's most significant private demand signal for deep industrial decarbonization.

That is what we showcase through this impact brief. Despite changes in the global context, we highlight how members are turning ambition into action, and staying true to the original FMC promise – to accelerate the market for deeply decarbonized technologies by 2030 in seven hard-to-abate industrial sectors. Together, FMC members have pledged more than $19 billion in demand for low-carbon products by 2030, representing a potential 26 million tonnes of CO_2 emissions reductions. Underpinning that there are more than 130 offtake agreements and investments demonstrating growing confidence in early markets which are collectively helping shift momentum from intent to implementation.

Progress has not come easily. Geopolitical fragmentation, economic headwinds and uneven technological readiness continue to challenge the transition. Yet FMC has shown that collective demand can create stability in uncertain contexts. By aligning corporate ambition with evolving policy landscapes, supporting credible market mechanisms and strengthening connections between buyers and suppliers, the coalition is helping unlock the investment and infrastructure needed for near-zero industrial pathways.

The next five years will be decisive. Delivering on FMC's 2030 ambitions will require deeper collaboration across regions, sectors and public-private actors. It will demand continued innovation in procurement models, clearer standards, more robust financing solutions and stronger policy support. Most importantly, it will require sustained leadership from companies and governments willing to move first.

This brief shines a light on a maturing coalition. With a strong track record, expanding membership and increasing engagement from governments and industry, FMC is well positioned to continue shaping the early markets that will define the net-zero economy.

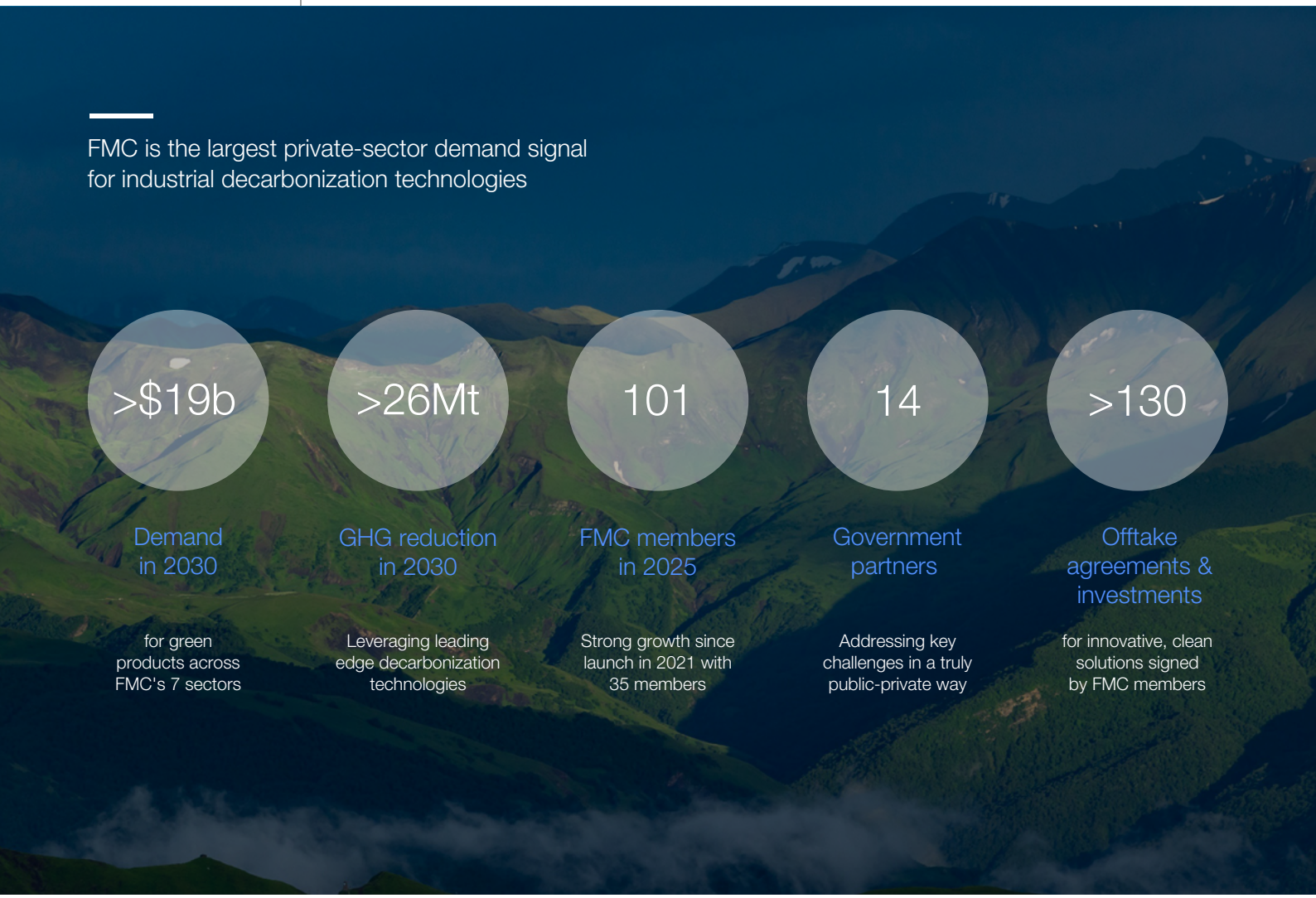
1

FMC updates | From signal to action: aggregating clean demand in a new global reality

1.1 Four years of FMC at a glance

Four years after its launch at COP26 in Glasgow, the FMC has evolved from a bold experiment in collective climate leadership to one of the most influential demand-side initiatives for industrial decarbonization. When it began in 2021, FMC brought together 35 founding members across aviation, steel, shipping and trucking, adding aluminium, carbon removal, and cement and concrete the following year. All FMC members are united in a simple yet transformative goal: aggregating corporate purchasing power to accelerate the commercialization of emerging clean technologies.

FIGURE 1 **FMC impact overview**



By the end of 2025, the coalition had almost tripled in size, today encompassing 101 members and 14 government partners who have collectively committed to more than $19 billion in green product demand by 2030 – equivalent to an estimated 26 million tonnes of CO_2 emissions reductions. Through more than 130 offtake agreements and investments, FMC members are already demonstrating that aggregated corporate demand can unlock new markets, catalyse innovation and drive the deployment of breakthrough decarbonization solutions.

Despite changes in the global context, momentum among the coalition has remained strong. Engagement across working group meetings reached record levels in 2025, with over 320 participants contributing to active sector dialogues. In addition, the inaugural in-person FMC Day in Geneva in June 2025 brought together more than 100 members and partners to jointly explore how to continue meeting their collective commitments. At the same time, the coalition is still expanding its regional presence. Spain is the latest government partner to sign up, deepening collaboration in Europe and further broadening FMC's policy reach. FMC also engaged with existing and prospective members across Asia-Pacific, including by convening workshops on green iron and near-zero materials in Australia and meeting for the first time in China.

This expansion is guided by FMC's updated strategy, which focuses on aggregating demand, enabling tangible decarbonization by uncovering viable supply sources and deepening engagement – both regionally and with policy-makers – through six interlinked pillars:

FIGURE 2 **FMC strategy 2025-2026**

#1
Track & spotlight progress

- Highlight fast movers and success stories
- Convert commitments into deals, investments and deployments
- Share learning across sectors
- Use surveys and FMC website for recognition

#2
Foster demand & supply exchange

- Expand support for supply-side players
- Enhance First Suppliers Hub and collaboration with financiers
- Open new entry pathways under strict eligibility rules
- Share lessons via commitment reviews and cross-sectoral initiatives

#3
Deepen policy ties

- Align industrial demand with enabling policies
- Expand government network
- Co-create frameworks for clean industrial investment

#4
Diversify regional strategy

- Focus on high-potential regions: APAC, Europe and China
- Target regional engagement and localization
- Build green value chains
- Coordinate policy-makers, suppliers and buyers

#5
Boost cross-sector collaboration

- Promote collaboration on clean infrastructure, chain-of-custody and financing
- Build new chemical sector backed by at least five companies

#6
Amplify global impact

- Form high-level coalition of public- and private-sector champions
- Guide strategy and elevate global presence
- Engage at key international gatherings including UNGA, COP and the Forum's Annual Meeting in Davos

As FMC reaches the halfway point towards its 2030 targets, its impact has shifted from commitment to implementation. **Members are no longer signalling intent — they are executing offtakes**, investing in clean supply chains and shaping early market frameworks that turn pledges into commercial reality. In a decade defined by transition, the coalition's collective purchasing power continues to accelerate deployment where it matters most.

1.2 Global cross-sector trends and FMC's role

As the global decarbonization agenda enters the second half of this decisive decade, the landscape has become increasingly complex. Geopolitical fragmentation, economic volatility and uneven technological progress are testing collective resolve. Yet within this uncertainty, FMC stands as a mobilizing force. By providing stability, creating investment confidence, bridging the widening gap between supply and demand for near-zero products, leveraging credible market mechanisms to accelerate industry decarbonization and enabling collective solutions to infrastructure bottlenecks, FMC is contributing to accelerating the expansion of low-carbon supply across hard-to-abate sectors.

1 Providing stability amid geopolitical fragmentation

Growing geopolitical tensions and divergent regulatory agendas have made coordinated global climate action increasingly difficult. FMC offers stability and coherence by aligning more than 100 leading companies and 14 government partners around shared market signals. Through proactive policy engagement and regional collaboration, FMC helps connect private-sector demand with evolving policy frameworks.

This work is illustrated by FMC's workshop in Australia, which brought together more than 150 leaders from industry and government to explore the country's opportunity to be a leader in green iron. In Europe, FMC hosted a policy workshop in Copenhagen with more than 60 industry and public stakeholders, including European Union representatives, to discuss how the EU can drive the region's clean industrial transition. These efforts show how FMC fosters alignment between corporate commitments and national industrial policies, giving members a visible platform to influence markets and strengthen resilience in an uncertain political environment.

2 Creating investment confidence in a volatile economy

Inflation, rising capital costs and permitting delays are adding pressure on industrial decarbonization projects. FMC reduces investment risk by aggregating credible corporate purchasing commitments that signal long-term demand.

During New York Climate Week 2025, FMC held a series of finance roundtables to explore practical ways to unlock private capital. The carbon dioxide removal session, co-hosted with BlackRock and Carbon Direct, revealed that while capital exists, investment is hindered by unbankable offtake structures and a discrepancy between venture equity and project debt. Participants believed that change could be achieved by prioritizing bankable offtake templates, a shared diligence library on FMC's First Suppliers Hub and an aggregation vehicle to broaden buyer access. Similarly, the cement and concrete roundtable with Arup and Concrete Transition Capital highlighted the need for innovative financing models to de-risk early projects and attract institutional investors.

Since FMC's creation, members have made more than 130 offtake agreements, providing producers and financiers with the confidence to proceed with high-capex, low-carbon projects, such as those mentioned in the subsequent chapter on sector deep dives. FMC's shared demand framework provides predictability, unlocking capital that might otherwise remain sidelined.

3 Bridging the supply–demand gap for near-zero products

Corporate ambition to source near-zero materials has never been higher – but supply still lags behind. The number of companies aligned with the Science Based Targets initiative (SBTi) rose by 11% in 2025, reaching nearly 11,000 globally.[1] Despite economic and geopolitical uncertainty, around 70% of companies intend to sustain or expand their investment in sustainability.[2] However, according to the IEA's net-zero roadmap 2023 scenario, 35% of emissions reductions needed to reach net zero in 2050 depend on technologies that are not yet commercially available.[3]

FMC directly addresses this critical mismatch by aggregating demand across sectors, thereby providing powerful market signals to producers and investors that incentivize essential upstream investments and accelerate the creation of near-zero production capacities, bridging the widening gap between ambition and execution. FMC's aggregated demand for low-carbon materials has encouraged producers to scale near-zero manufacturing capacity and explore innovative partnerships, as described in the chapter on sector deep dives. To help members and wider buyers connect with suppliers that provide the products and services which enable them to meet their FMC commitments, the FMC's First Suppliers Hub is a publicly accessible database of FMC-aligned products and technologies. It serves as a platform to enable these connections, as well as those between final product suppliers (such as green steel or sustainable aviation fuel producers) and the companies providing the enabling technologies needed for their production.

4 Leveraging market mechanisms for industry decarbonization

Market mechanisms underpinned by alternative chain-of-custody models, such as book-and-claim, mass balance and digital accounting, have emerged to enable verified low-carbon procurement even where physical supply remains limited.[4] Where appropriate, FMC adapts its commitments to incorporate credible market mechanisms as they mature, supporting their development and ensuring transparency, integrity and genuine emissions reductions.

For example, in the aviation sector, non-airline corporates can purchase sustainable aviation fuels via book-and-claim platforms which enable verified transactions and stimulate early market growth. Additionally, cement and concrete members can also leverage mass-balance and book-and-claim frameworks to fulfil their commitment.

By aligning its commitments with evolving frameworks and convening members around shared principles, FMC helps ensure these mechanisms are deployed in a way that strengthens market confidence and accelerates the expansion of verified low-carbon production capacity.

5 Enabling collective solutions to infrastructure bottlenecks

Infrastructure gaps – from grid capacity to transport and storage – remain among the most significant barriers to scaling low-carbon industry.[5] FMC addresses these systemic challenges by translating aggregated corporate demand into a coordinated voice for infrastructure development. Leveraging its position within the World Economic Forum ecosystem, the coalition brings together industry leaders, financiers and policy-makers to identify shared infrastructure needs and mobilize joint responses.

Through the First Suppliers Hub, FMC showcases enabling technologies that not only help members fulfil their commitments but also drive the infrastructure transformations required for large-scale decarbonization. The Hub features cross-sector enablers, such as green hydrogen, carbon capture and energy storage systems that are part of the wider infrastructure required for near-zero-emission products and services.

This impact brief captures FMC's tangible impact across sectors, providing concrete examples of how members translate ambitious corporate commitments into measurable climate action today. The following sector-specific analyses highlight some of these achievements, demonstrating FMC's crucial role in facilitating meaningful decarbonization progress, despite the challenging global context.

2 Sector deep dives

Aluminium

Commitment in brief: Members pledge to buy meaningful volumes of low-carbon aluminium by 2030. They aim to make at least 10% of their aluminium purchases low-carbon and can also choose to ensure 50% of total aluminium comes from recycled sources. Achieving this will require breakthrough technologies, such as inert anodes, CCUS, electrified refining and green hydrogen.

Read *the aluminium commitment in full*.

Current landscape

The aluminium sector is making steady progress towards greater sustainability. Global production continues to rise, yet total emissions have stabilized, with significant improvements in emissions intensity brought about by cleaner electricity sources and increased recycling rates.[6] However, inconsistent emissions-measurement standards and regional policy uncertainty still limit comparability and market confidence. By bringing together corporate leaders to consolidate their demand, FMC is accelerating investment into new, breakthrough aluminium smelting technologies and the expansion of lower-carbon supply chains.

Impact highlights

The aluminium industry faces the dual challenge of rising global demand and persistently high process emissions, particularly from alumina refining and anode consumption during smelting. FMC members are addressing these challenges through coordinated innovation across the value chain – from low-carbon production to recycling and end-use applications.

Rio Tinto and **Hydro** are piloting carbon capture for aluminium electrolysis, investing $45 million over five years in Norway and other parts of Europe to target an approximate 75% reduction in direct CO_2 emissions linked to anode use.[7] Building on this, **Hydro** and **Calix** are developing electrified calcination for near-zero-emissions alumina, aiming for commercial integration by 2026.[8]

In a further technological innovation, Canadian technology company **ELYSIS** - a joint venture between **Alcoa** and **Rio Tinto** with support from the governments of Canada and Québec - has achieved a breakthrough in high-amperage aluminium production with no direct carbon emissions from the smelting process. This marks the world's first implementation of 450 kiloampere-designed inert anode technology at a commercial scale.[9]

Further downstream, **Novelis** and **VELUX Group** are strengthening circularity through a multi-year supply agreement for flat-rolled aluminium with over 70% recycled content, supporting **VELUX**'s target of ≤3 kg CO_2e per kg by 2030.[10]

Together, these efforts show how FMC members are combining technological breakthroughs and closed-loop solutions to transform aluminium's hardest-to-abate processes into pathways toward deep decarbonization.

Outlook

The decarbonization of aluminium will hinge on stronger collaboration and regulatory alignment. In the short term, greater use of scrap and recycling will remain the fastest way to cut emissions. Further ahead, industry players must invest in and scale low-carbon technologies for primary production, as seen in **Hydro** and **Rio Tinto**'s carbon-capture pilots. To sustain momentum, stakeholders need to address tariff distortions, infrastructure gaps and inconsistent carbon accounting, while clear standards, transparent measurement and coordinated platforms such as the First Suppliers Hub will turn progress into lasting competitive advantage.

Bold text
FMC members
Red text
FSH members

Aviation

Commitment reviewed in 2025

Commitment in brief: Members commit to using sustainable aviation fuels (SAF) and new propulsion technologies like electric or hydrogen-powered flight by 2030. Airlines will replace at least 5% of their jet fuel with SAF that cuts life-cycle emissions by 85% or more or use zero-emission propulsion. Corporate travel and freight buyers will also ensure that at least 5% of the fuel used for their flights meets these same standards.

Read *the aviation commitment in full*.

Current landscape

The aviation sector is entering a decisive phase, with SAF emerging as one of the most viable pathways for deep decarbonization.[11] Progress remains constrained by a persistent gap between supply and demand that is driven by limited feedstocks, high production costs and supply challenges.[12] Within this context, FMC is helping to unlock scale by aggregating corporate demand and supporting market mechanisms that de-risk early investment. Through collective purchasing signals and collaboration with partners in policy-making and industry, FMC members are both providing the confidence SAF producers need to expand capacity and developing book-and-claim systems that enable SAF production and carbon benefit claims to be verified, even without physical supply. Together, these actions are turning corporate travel decarbonization from pilot to proof-of-scale.

Impact highlights

Avelia, launched in 2022 by Shell with support from **American Express Global Business Travel**, Accenture and Energy Web Foundation, was one of the first book-and-claim platforms for aviation. It is now a leading solution helping to scale SAF: as of June 2025, it had supported the addition of over 155.2 million litres of SAF into the existing fuelling network, helping to abate[i] over 370,000 tCO_2e.[ii] Avelia is now evolving into a multi-supplier industry solution with independent data hosting, multilateral governance and broader supplier choice.[13]

Moeve is the first external SAF supplier to have joined Avelia, integrating blockchain-verified transactions that enhance transparency and traceability across SAF procurement.[14] EasyJet has signed a six-year agreement with Moeve to secure SAF for its Spanish route network.[15]

BCG has committed to SAF certificates from **Twelve**'s E-Jet® power-to-liquid (PtL) fuel through 2029, reducing more than 4,000 tonnes of CO_2 as part of its goal of replacing at least 5% of conventional jet fuel by 2030. In parallel, **Autodesk** has entered into a multi-year PtL SAF certificate collaboration with **Twelve**, supporting both its Scope 3 decarbonization and Twelve's scaling efforts.[16]

Outlook

The aviation sector's near-term outlook depends on bridging the supply-demand gap through coordinated procurement, harmonized policy frameworks and transparent accounting to scale SAF. Collaborative platforms and pioneering corporate offtakes illustrate how collective action and early leadership can successfully overcome the sector's complexities, accelerating the path toward large-scale SAF adoption.

i Calculated based on representative life-cycle GHG emissions intensities of neat SAF and conventional jet fuel, which may vary per production pathway and geographical region.

ii CO_2 equivalent emissions include CO_2, CH_4 and N_2O. Life-cycle GHG emissions are calculated on a well-to-wake basis and include feedstock production and collection, feedstock processing, transport, distribution and combustion of SAF. The well-to-wake emissions have been calculated as per the SAF's verified life-cycle GHG emissions intensity from the relevant sustainability certification scheme.

Carbon dioxide removal (CDR)

Commitment in brief: Members commit to buy durable and scalable carbon removal by 2030, in addition to reducing their own emissions. Large companies (over $5 billion revenue) will contract for at least 50,000 tonnes or invest $25 million in carbon removal. Smaller companies will contract for at least 10,000 tonnes or invest $5 million.

Read *the CDR commitment in full*.

Current landscape

CDR is rapidly transitioning from a niche concept to a credible, market-based solution comprising tangible projects that promise meaningful climate impact. Although current CDR capacity is still modest, growing corporate interest and investment in durable removal technologies indicate substantial future potential.[17] Collectively, FMC members have made progress toward the 2030 emissions-abatement target. This illustrates how durable removals are scaling from pilot to portfolio and how FMC is speeding up this process, catalysing greater professionalization and investment in robust carbon-removal markets.[18]

Impact highlights

In 2025, FMC members helped move engineered carbon removal from pilots to industrial deployment. Corporate buyers are now channelling significant volumes into bio-oil, biochar, BECCS (bioenergy with carbon capture and storage),[19] CCS and DAC (direct air capture),[20] signalling a decisive shift toward durable removals.

This transition is led by companies forming long-term offtake agreements and partnerships. **Microsoft** continues to lead the CDR market, extending BECCS contracts and securing new credits from a CCS and waste-to-energy retrofit project.[21] Its latest 10-year deal with Hafslund Celsio for 1.1 million tonnes of removals,[22] along with an expanded 5.08 million-tonne contract with Stockholm Exergi,[23] underscores its commitment.

Google is advancing carbon removal and super-pollutant elimination through landmark deals that target critical levers for atmospheric cleanup. This includes a 200,000-tonne enhanced rock weathering agreement – the world's largest to date – with Terradot[24] and a collaboration with Vaulted Deep and Isometric that pairs 50,000 tonnes of carbon removal with methane elimination from deep organic waste injection.[25] It is also supporting next-generation, nature-based removal via Symbiosis[26] and a 50,000-tonne reforestation project with Mombak.[27] Agreements such as these diversify global supply of CDR and spur new entrants to invest.

Capgemini has similarly entered into two CDR offtake agreements,[28] with **Charm Industrial** (16,500 tonnes via bio-oil sequestration)[29] and **Climeworks** (13,000 tonnes via DAC).[30]

Collectively, these actions highlight a trend towards multi-year, high-volume agreements that de-risk emerging technologies, scale permanent carbon removal and strengthen a resilient, diverse market ecosystem.[31]

Outlook

Scaling carbon dioxide removal technologies will require significant advances in financing, policy support and measurement standardization. With durable CDR still costly and policy incentives limited, leadership from large corporates through long-term contracts is crucial. FMC members are setting valuable precedents by linking substantial multi-year offtakes directly with financing, highlighting the importance of clear, harmonized standards and complementary public-private frameworks to accelerate market maturity.

Cement and concrete

Commitment in brief: Members commit that by 2030 at least 10% of the cement or concrete they buy or use in projects will meet FMC's low-emission definition. Low-carbon production will rely on breakthrough solutions, such as carbon capture, clinker substitution and alternative binders.

Read *the cement and concrete commitment in full*.

Current landscape

The cement and concrete industry is making meaningful early progress towards deep decarbonization, particularly through pioneering projects in carbon capture and storage (CCS) and alternative cement materials and chemistries.[32] However, progress needs to be accelerated if the sector is to achieve net zero by 2050.[33] Recent flagship projects demonstrate the industry's capacity to innovate, laying the groundwork for broader adoption of low-carbon solutions. FMC supports these advances by pooling corporate demand and providing certainty for investment in CCS, alternative binders and other scalable, low-carbon cement solutions.[34]

Impact highlights

Vattenfall and **Cemvision** have joined forces to lead the shift toward more sustainable building materials. Together, they have agreed a commercial agreement for 20% of Vattenfall's cement demand to be met using **Cemvision**'s near-zero-emission cement from 2028 onwards, contingent on supply volumes reaching the required amounts. If these volumes are supplied, this agreement will fulfill **Vattenfall**'s FMC cement and concrete demand commitment. By 2028, **Cemvision**'s cement will produce 80% fewer CO_2 emissions than conventional alternatives.[35] The company aims to achieve 95% lower CO_2 emissions by 2030.

There are also other agreements and offtakes in the market. **Microsoft** has signed a binding multi-year purchase agreement with **Sublime Systems** for up to 622,500 tonnes of low-carbon Sublime Cement®.[36] The deal, which decouples environmental attributes from physical delivery, provides the long-term demand signal needed to finance Sublime's future facilities, including its Massachusetts-based first commercial plant. Through its Climate Innovation Fund, **Microsoft** has also invested in **Fortera** to secure access to the company's ReAct™ low-carbon cement. With this product, the technology business aims to help decarbonize its data-centre construction and reduce embodied carbon in one of the world's highest-emission industries.[37] Similarly, **Amazon** has partnered with **Brimstone** to secure its lower-carbon ordinary Portland cement and other related materials following successful third-party performance tests.[38]

Heidelberg Materials recently opened its plant in Brevik, Norway, producing net-zero evoZero cement using carbon-capture technology. Demand has been so strong that the company announced 2025's Brevik-produced evoZero is already fully sold out, despite premium costs.[39]

Finally, **Holcim** invested in **Sublime Systems**, securing an early offtake reservation and adding electrochemical cement production to its decarbonization portfolio.[40]

Outlook

The ability of the cement and concrete sector to accelerate its adoption of low-carbon solutions will hinge on addressing high costs, updating outdated and prescriptive regulations and developing robust supply chains. The sector's early movers have shown that developer-led procurement, transparent environmental data and coordinated action from industry and finance players across complex value chains can help overcome market scepticism.

Shipping

Commitment reviewed in 2025

Commitment in brief: By 2030, shipping companies will ensure at least 5% of their deep-sea operations use zero-emission fuels. Cargo owners will make sure at least 10% of their freight is shipped on vessels powered by zero-emission fuels.

Read *the shipping commitment in full*.

Current landscape

The shipping industry has reached a pivotal point. While the International Maritime Organization (IMO) has adopted a net-zero greenhouse gas emissions framework in 2023 targeting 2050,[41] the sector has had to confront significant challenges. Members continue to invest in battery, ammonia and methanol-ready dual-fuel vessels – a necessary step towards the adoption of zero-emission fuels. Transitioning to new fuel types requires major infrastructure changes and investment in compatible vessels, making early commitments critical.[42] By organizing significant corporate demand for fuels and the cargo moved by lower-emission vessels, FMC plays an essential role in accelerating investments in ports, infrastructure and zero-emission shipping solutions.

Impact highlights

FMC members are speeding up maritime decarbonization with their demand signals, demonstrating how coordinated action across the value chain can turn ambition into operation.

In May 2025, **A.P. Møller - Maersk**'s first methanol-enabled vessel, Laura Maersk, was fuelled with e-methanol from European Energy and Mitsui & Co's new Kassø plant in Denmark. This marked one of the world's first commercial-scale uses of green e-methanol in deep-sea shipping.[43]

Mitsui O.S.K. Lines' subsidiary, MOL Switch, and its investment in U.S.-based **Twelve** further reinforce this momentum by supporting the scale-up of maritime e-fuels capable of significantly reducing lifecycle emissions across shipping.[44] By uniting ship operators, fuel innovators and supply chain partners, FMC's convening role makes breakthrough clean shipping projects possible, pushing the entire sector towards zero-emission maritime transport.

Several major maritime players are progressing ammonia-fuelled shipping initiatives to help decarbonize their fleets. **Höegh Autoliners** is introducing four dual-fuel Aurora vessels capable of operating fully on ammonia, aiming for near-zero emissions by 2027.[45] **MOL** plans to deploy nine ammonia dual-fuel ships – three bulkers and six chemical tankers – beginning in 2026.[46] **Trafigura** has signed a contract for four ammonia dual-fuel gas carriers from Hyundai Mipo Dockyard.[47] Meanwhile, **BHP** has ordered two ammonia dual-fuel Newcastlemax vessels from COSCO Shipping Bulk for 2028 delivery[48] and is continuing its biodiesel pilot projects.[49]

These actions show how FMC members are taking action through vessel orders to send early signals for fuel supply, increasing the certainty required to help projects reach final investment decision.

Outlook

Shipping is already moving towards zero-emissions fuelling, with a rapidly expanding order book for methanol, ammonia and hydrogen-capable vessels and offtake agreements for the corresponding fuels. While the industry has made significant steps forward, global policy has taken a hit with IMO postponing a decision on global regulation. Some regional policies do exist, but it remains critical to ensure joined-up global policy frameworks. Continued progress will depend on coordinated action among shipowners, fuel producers and policymakers to harmonize standards, scale infrastructure and de-risk first-mover investments.

Steel

Commitment reviewed in 2025

Commitment in brief: Members commit to purchase at least 10% (by volume) near-zero-emission steel by 2030. Near-zero-emission steel is defined as per IEA guidelines – it should contain <0.4t (0% scrap inputs) to <0.05t (100% scrap inputs) of CO_2e per tonne of crude steel produced.

Read *the steel commitment in full*.

Current landscape

The steel industry is making efforts to decarbonize, with notable advances in hydrogen-based steel production and improved recycling across the sector.[50] While innovations such as these have helped stabilize emissions, near-zero production remains constrained by high input-energy costs, limited availability of high-quality scrap and the fundamental challenge that conventional processes inherently emit CO_2. Clear, harmonized, industry definitions of near-zero steel are also needed to accelerate action and build scale. By aggregating corporate demand for near-zero steel, FMC is helping producers confidently secure investment to scale up promising decarbonization technologies and accelerate the industry's transition.

Impact highlights

Several companies are already translating their near-zero materials commitments into action, signalling growing commercial maturity in green steel and low-carbon materials. In 2023, **SSAB** launched *SSAB Zero*™, a steel produced from recycled scrap using fossil-free electricity and hydrogen-reduced iron.[51] **Vattenfall** is procuring 120 tonnes of fossil-free steel from SSAB to build the world's first fossil-free dam gate at its Stornorrfors hydropower plant in Sweden, marking a key step in applying near-zero steel to energy infrastructure.[52]

The transition to lower-emission steel extends beyond the clean energy industry. In Finland, **Alfa Laval**, together with Outokumpu and **SSAB**, is installing *Concept Zero*™ heat exchangers at Helsinki's Laakso Joint Hospital[53] using *SSAB Zero*™ and *Outokumpu Circle Green*® steels.[54]

In 2025, **SSAB** further developed the *SSAB Zero*™ product at its Montpelier, Iowa facility. The facility's production now meets both International Energy Agency and FMC thresholds for near-zero emissions by adding hydrogen-reduced iron from HYBRIT® technology to the process.[55] The material has already been contracted for **GE Vernova's** wind tower production.[56]

Meanwhile, **EcoLab**, via the Japan Hydrogen Fund and partners including **Rio Tinto**, Siemens Financial Services and Engie New Ventures, joined a €60 million funding round for GravitHy,[57] a low-carbon iron start-up pioneering hydrogen-based direct-reduction technology that cuts emissions by up to 90% compared with conventional steelmaking.[58]

Together, these initiatives illustrate how early investment across sectors – from clean energy to industrial equipment and raw materials – are building the foundations for scalable, verified near-zero material markets and accelerating heavy-industry decarbonization.

Outlook

The future of decarbonizing the steel sector revolves around clearer industry definitions, greater supply transparency and substantial investment in infrastructure, science and technology. As near-zero steel remains expensive, establishing common emissions-reporting standards and prioritizing the production of green iron will strengthen market confidence. FMC's aggregated demand approach exemplifies how improving transparency, catalysing market mechanisms and establishing clear methodologies can combine to accelerate investments, overcoming critical infrastructure and cost barriers.

Trucking

Commitment reviewed in 2025

Commitment in brief: Members commit to buy only zero-emission trucks (battery or fuel-cell electric) for 100% of new medium-duty and 30% of new heavy-duty truck purchases by 2030. Companies using trucking services will require their logistics partners to meet the same targets.

Read *the trucking commitment in full*.

Current landscape

The trucking sector is on an encouraging trajectory. Driven by leaps in technology, adoption of zero-emission trucks is growing at pace, supported by favourable economics and helpful policy environments.[59] Although an infrastructure deficit remains a hurdle, charging networks are now expanding more quickly and vehicle technologies continue to improve. FMC enhances this positive trend by aggregating corporate procurement of zero-emission trucks, sending strong market signals to manufacturers and infrastructure developers to invest confidently and scale-up solutions.

Impact highlights

Across regions and sectors, members are accelerating the shift to zero-emission trucks, pioneering instructive pilots and large-scale investments.[60] In Finland, **SSAB** has launched local deliveries with two electric Scania semi-trailers, testing the charging and operational feasibility of a wider rollout.[61]

PepsiCo, through XPO Logistics, added six Mercedes-Benz eActros 600s in the UK, replacing over 1 million diesel-kilometres annually and cutting 1,200 tonnes of CO_2e.[62] **Cemex** has expanded its deployment of electric ready-mix concrete mixers across multiple EMEA markets.[63]

Volvo Group has so far delivered more than 10,000 battery electric vehicles through Volvo Trucks[64] and Renault Trucks.[65] In APAC, momentum is building at scale. **Toll Group** is investing $43 million to roll out 28 electric trucks and charging hubs,[66] while **Fortescue Metals Group** has committed $2.8 billion for 475 zero-emission mining machines with Liebherr, making it one of the trucking sector's largest electrification programmes.[67]

Outlook

Looking forward, the trucking sector's transition will increasingly rely on aligning infrastructure investments with operational needs and clarifying regulatory frameworks. With technology rapidly maturing, overcoming the remaining hurdles related to charging infrastructure, vehicle costs and policy volatility becomes critical. Successful pilots indicate that coordinated infrastructure deployment, focused technology choices and clearly defined roles among stakeholders are essential for enabling the widespread adoption of zero-emission trucks.

Conclusion

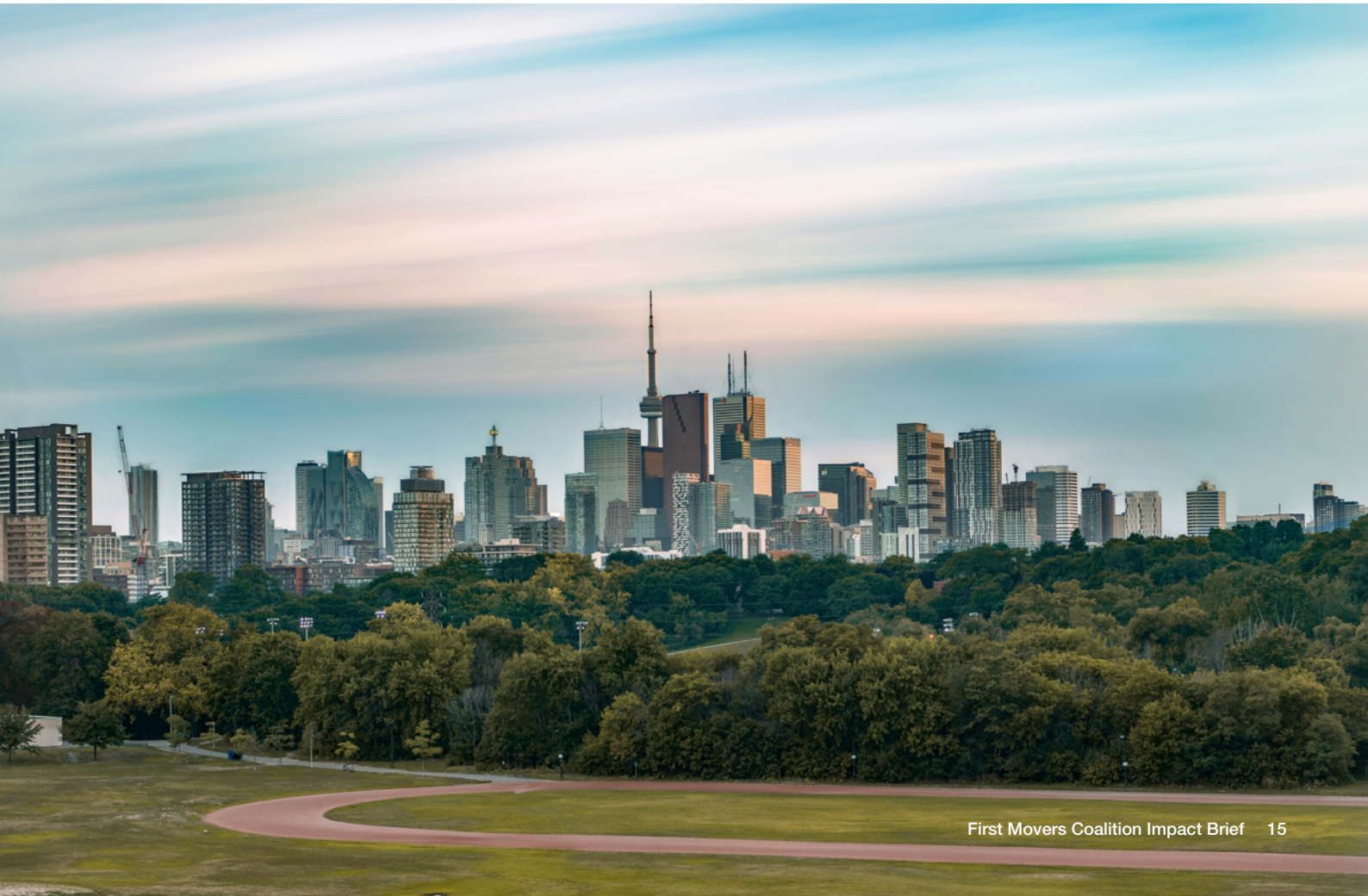
In its first four years of existence, the First Movers Coalition has generated considerable momentum. It has welcomed more than 100 members – who have collectively made more than 125 commitments across seven critical sectors – and assembled a community of 14 government partners with whom it is deepening regional engagement and helping to match demand with supply. This rapid growth underscores the unique value of FMC as a platform for ambitious corporate action and transformative climate leadership.

The five years remaining until the 2030 commitment deadline will be pivotal for determining FMC's impact. Substantial work is still required to achieve the ambitious targets, set by the coalition's members, that will genuinely and permanently transform these sectors.

The path forward is undeniably challenging. Nevertheless, FMC members have consistently reaffirmed their commitments and ambition levels, collectively signalling their readiness to confront these difficulties head-on. FMC, as an initiative, remains fully committed to supporting its members to deliver on their ambition. This includes by facilitating access to suppliers with the lowest emissions profiles, addressing market complexities and engaging with policy-makers to develop enabling regulatory environments for supportive policies.

Going forward, FMC will intensify efforts to help its members navigate complex market landscapes through, among other endeavours, leveraging innovative market mechanisms such as book-and-claim and alternative chain-of-custody models, deepening regional engagement to better align global corporate demand with local policy landscapes, working with certification and standardization frameworks, and fostering collaborative infrastructure and financing solutions among stakeholders.

FMC's clear vision and established track record provide a robust platform for addressing evolving challenges. As a time-bound initiative with a 2030 horizon, FMC stands ready to not simply maintain but amplify its ambition, continuing to attract committed corporate stakeholders dedicated to meaningful climate action. The already-demonstrated ability of the coalition to deliver credible market signals, foster collaboration and support practical implementation provides strong confidence in FMC's capability to achieve its transformational goals.



Contributors

World Economic Forum

Noam Boussidan
Programme Head, First Movers Coalition

Anne-Lise Hadzopoulos
Decarbonization Specialist, First Movers Coalition

Boston Consulting Group

Martin Feth
Managing Director and Partner

Cornelius Pieper
Managing Director and Senior Partner

Finja Stampa
Associate

Merle Stepke-Müller
Principal and Forum Project Fellow

Valentina Wilhelm
Associate

Production

Bianca Gay-Fulconis
Designer, 1-Pact Edition

Chris Parsons
Freelance Writer, chrisparsonswrites.com

Endnotes

1. Science Based Targets initiative (2025). *SBTi Trend Tracker*.
2. BCG. (2025). *Corporate sustainability investment trends 2025*.
3. IEA (2023) *Net Zero Roadmap: A Global Pathway to Keep the 1.5°C Goal in Reach*.
4. Center for Green Market Activation. (2025). *Why System Boundaries Matter: Exploring Various Market-based Approaches to Deep Value Chain Decarbonization*. https://gmacenter.org/news/gma-insights-why-system-boundaries-matter-exploring-various-market-based-approaches-to-deep-value-chain-decarbonization/
5. IEA. (2025). *Policy Toolbox for Industrial Decarbonisation 2025*.
6. International Aluminium Institute. (2024). *Global aluminium sector emissions data 2024*.
7. Rio Tinto. (2025). *Rio Tinto and Hydro partner on carbon capture technologies for aluminium smelters*. https://www.riotinto.com/en/news/releases/2025/rio-tinto-and-hydro-partner-on-carbon-capture-technologies-for-aluminium-smelters
8. Calix (2025). *Calix and Hydro Partner to develop Zero Emissions ALumina*. https://calix.global/news/calix-hydro-partner-develop-zero-emissions-alumina/
9. Elysis. (2025). *ELYSIS achieves breakthrough with commercial-size cell: a first in aluminium production using the inert anode technology*. https://elysis.com/en/elysis-achieves-breakthrough-with-commercial-size-cell-a-first-in-aluminium-production-using-the
10. VELUX Group. (2025). *VELUX Group signs long-term agreement with Novelis to supply low carbon aluminium*. https://press.velux.com/velux-group-signs-long-term-agreement-with-novelis-to-supply-low-carbon-aluminium/
11. IEA. (2025). *Policy Toolbox for Industrial Decarbonisation 2025*.
12. IATA. (2025). *Global Feedstock Assessment for SAF Production*. Montreal: International Air Transport Association.
13. Avelia Solutions. (2025). *Avelia sustainable aviation fuel platform update*.
14. Moeve. (2025). *Moeve becomes the first external SAF supplier to join Avelia*. https://www.moeveglobal.com/en/press/moeve-first-saf-supplier-avelia-blockchain
15. Moeve. (2024). *EasyJet reaches an agreement with Moeve for the supply of sustainable aviation fuel (SAF) for the next six years*. https://www.moeveglobal.com/en/press/easyjet-moeve-saf-sustainable-fuel-agreement
16. Twelve. (2025). *Twelve Announces Collaboration with Autodesk, Accelerating Sustainable Aviation Fuel Adoption & Climate Technology Solutions*. https://www.twelve.co/post/twelve-announces-collaboration-with-autodesk-accelerating-sustainable-aviation-fuel-adoption-clim
17. State of Carbon Dioxide Removal. (2024). *State of Carbon Dioxide Removal 2024 Report*.
18. World Economic Forum. (2024). *First Movers Coalition Progress Report 2024*.
19. Charm Industrial. (2025). *Why Capgemini's Long-Term Deal with Charm Industrial Matters—For Everyone*. https://charmindustrial.com/blog/why-capgemini-s-long-term-deal-with-charm-industrial-mattersfor-everyone
20. ESG Post. (2025). *Capgemini signs first durable carbon removal deals with Climeworks and Charm Industrial*. https://esgpost.com/capgemini-signs-first-durable-carbon-removal-deals-with-climeworks-and-charm-industrial/
21. ESG Dive (2025) *Microsoft signs offtake deal for waste-to-energy facility CCS retrofit*. https://www.esgdive.com/news/microsoft-signs-waste-to-energy-ccs-retrofit-deal-gaia-cip-denmark/752595/.
22. Carbon Capture Magazine. (2025). *Hafslund Celsio Announces a 10-year Carbon Removal Agreement with Microsoft*. https://carboncapturemagazine.com/articles/hafslund-celsio-announces-a-10-year-carbon-removal-agreement-with-microsoft
23. Stockholm Exergi. (2025). *Stockholm Exergi extends landmark carbon removal agreement with Microsoft*. https://www.stockholmexergi.se/nyheter/stockholm-exergi-extends-landmark-carbon-removal-agreement-with-microsoft/
24. ESG Today. (2024). *Google Signs its Largest Ever Carbon Removal Deal to Capture CO_2 in Crushed Rocks and Soil*. https://www.esgtoday.com/google-signs-its-largest-ever-carbon-removal-deal-to-capture-co$_2$-in-crushed-rocks-and-soil/
25. ESG Dive. (2025). *Google inks deal to remove carbon dioxide, measure waste-generated methane emissions*. https://www.esgdive.com/news/google-inks-deal-remove-carbon-dioxide-measure-waste-generated-methane-vaulted-deep-isometric/760400/
26. Symbiosis Coalition. (2025). *Symbiosis Announces Technical Advisory Board of Leading Scientists and Experts to Guide Nature-Based Carbon Removal Criteria*. https://www.symbiosiscoalition.org/perspectives/technical-advisory-board-to-guide-criteria
27. Reuters. (2024). *Google buys carbon removal credits from Brazil startup, joining Microsoft* https://www.reuters.com/sustainability/climate-energy/google-buys-carbon-removal-credits-brazil-startup-joining-microsoft-2024-09-19/

28. Charm Industrial. (2025). *Why Capgemini's Long-Term Deal with Charm Industrial Matters—For Everyone*. https://charmindustrial.com/blog/why-capgemini-s-long-term-deal-with-charm-industrial-mattersfor-everyone
29. Charm Industrial. (2025). *Why Capgemini's Long-Term Deal with Charm Industrial Matters—For Everyone*. https://charmindustrial.com/blog/why-capgemini-s-long-term-deal-with-charm-industrial-mattersfor-everyone
30. ESG Post. (2025). *Capgemini signs first durable carbon removal deals with Climeworks and Charm Industrial*. https://esgpost.com/capgemini-signs-first-durable-carbon-removal-deals-with-climeworks-and-charm-industrial/
31. Data Centre Dynamics. (2025). *Frontier strikes $31.6m energy-from-waste carbon removal deal with Hafslund Celsio in Norway*. https://www.datacenterdynamics.com/en/news/frontier-strikes-316m-energy-from-waste-carbon-removal-deal-with-hafslund-celsio-in-norway/
32. IEA. (2024). *Breakthrough agenda report 2024*.
33. IEA. (2023). *Achieving Net-Zero Heavy-Industry Sectors in G7 Members*.
34. World Economic Forum. (2024). *First Movers Coalition Progress Report 2024*.
35. Vattenfall. (2025). *Industry decarbonisation*. https://group.vattenfall.com/sustainability/climate-transition-plan/industry-decarbonisation/cemvision
36. Businesswire. (2025). *Microsoft signs multi-year purchase agreement with Sublime Systems for low-carbon cement*. https://www.businesswire.com/news/home/20250522620990/en/Sublime-Systems-and-Microsoft-Sign-Binding-Long-Term-Purchase-Transforming-the-Market-for-Clean-Cement
37. Renewability (2025). *Microsoft invests in Fortera to accelerate low-carbon cement adoption*. https://renewability.net/2025/09/24/microsoft-invests-in-frontera/
38. Business Wire (2025). *Amazon and Brimstone Advance Lower-Carbon Cement Collaboration*. https://www.businesswire.com/news/home/20250728210392/en/Amazon-and-Brimstone-Advance-Lower-Carbon-Cement-Collaboration
39. Buli N. (2025). *Heidelberg sells out of net-zero cement from Norway plant, CEO says*. Reuters. https://www.reuters.com/sustainability/climate-energy/heidelberg-sells-out-net-zero-cement-norway-plant-ceo-says-2025-06-18/
40. Holcim. (2024). *Holcim invests in Sublime Systems to expand electrochemical cement portfolio*. https://www.holcim.com/media/company-news/investment-sublime-systems-low-carbon-technology
41. IMO. (2023). *Revised GHG reduction strategy for global shipping adopted* https://www.imo.org/en/mediacentre/pressbriefings/pages/revised-ghg-reduction-strategy-for-global-shipping-adopted-.aspx
42. Global Maritime Forum. (2024). *Zero-emission shipping progress report 2024*.
43. Maersk. (2025). *A.P. Møller – Mærsk and Mitsui O.S.K. Lines collaboration on e-methanol supply for Laura Maersk*. https://www.maersk.com/zh-tw/sustainability/all-the-way-to-net-zero#:~:text=Laura%20M%C3%A6rsk%2C%20Maersk's%20first%20dual,production%20capacity%20of%2042%2C000%20tonnes.
44. Mitsui O.S.K. Lines (MOL). (2025). *MOL Switch Invests in Twelve, U.S. Developer of E-fuels - Contributing to the Spread and Expansion of Clean Energy*. https://www.mol.co.jp/en/pr/2025/25021.html#:~:text=TOKYO%2DMitsui%20O.S.K.,have%20also%20invested%20in%20Twelve.
45. Höegh Autoliners. (2025). *Aurora class*. https://www.hoeghautoliners.com/aurora-class
46. MOL (2025) *MOL Deploys the World's First Ammonia-fueled Capesize Bulkers and Chemical Tankers*. https://www.mol.co.jp/en/pr/2025/25037.html
47. Trafigura. (2025). *Trafigura orders four dual-fuel ammonia powered vessels from HD Hyundai Mipo Dockyard*. https://www.trafigura.com/news-and-insights/press-releases/2024/trafigura-orders-four-dual-fuel-ammonia-powered-vessels-from-hd-hyundai-mipo-dockyard/
48. BHP. (2025). *BHP awards charter contracts for two ammonia dual-fuelled vessels*. https://www.bhp.com/news/media-centre/releases/2025/07/bhp-awards-charter-contracts-for-two-ammonia-dual-fuelled-vessels
49. Offshore Energy. (2025). *Berge Bulk and BHP join forces for biodiesel-powered iron ore voyages*. https://www.offshore-energy.biz/berge-bulk-and-bhp-join-forces-for-biodiesel-powered-iron-ore-voyages/
50. IEA. (2020). *Iron and Steel Technology Roadmap*.
51. SSAB. (2025). *Enabling sustainable performance*. https://www.ssab.com/en/fossil-free-steel/ssab-zero
52. Vattenfall. (2025). *Vattenfall orders the world's first fossil-free steel dam gate from SSAB*. https://group.vattenfall.com/press-and-media/pressreleases/2025/vattenfall-orders-the-worlds-first-fossil-free-steel-dam-gate-from-ssab
53. Alfa Laval. (2025) *Alfa Laval, Outokumpu and SSAB announce new collaboration to reduce emissions at Laakso Joint Hospital in Helsinki*. https://www.alfalaval.com/media/news/investors/2025/alfa-laval-outokumpu-and-ssab-announce-new-collaboration-to-reduce-emissions-at-laakso-joint-hospital-in-helsinki/
54. Outokumpu. (2025). *Outokumpu Circle Green® low-carbon stainless steel initiative*. https://www.outokumpu.com/en/products/circle-green

55. SSAB. (2025). *First U.S. sales of SSAB Zero™ steel used in GE Vernova Onshore Wind Towers*. https://www.ssab.com/en-us/fossil-free-steel/ssab-zero/customers/ge-vernova

56. SSAB. (2025). *First U.S. sales of SSAB Zero™ steel used in GE Vernova Onshore Wind Towers*. https://www.ssab.com/en-us/fossil-free-steel/ssab-zero/customers/ge-vernova

57. GravitHy. (2025, 26 March). *GravitHy announces a €60 million fundraising round to accelerate the decarbonization of the steel industry* [Press release].

58. InnoEnergy. (2025). *GravitHy announces €60 million fundraising to advance hydrogen-based direct-reduced-iron production*. https://innoenergy.com/news-resources/gravithy-announces-a-60-million-fundraising/

59. IEA. (2017). *The Future of Trucks: Implications for Energy and the Environment*.

60. IEA. (2025). *Tracking Industrial Decarbonisation 2025*.

61. SSAB. (2025). *SSAB and VR to introduce e-trucks in local deliveries in Finland*. https://www.ssab.com/en/news/2024/02/ssab-and-vr-to-introduce-etrucks-in-local-deliveries-in-finland

62. Fleetpoint. (2025). *6 eActros 600s power XPO Logistics and PepsiCo toward zero emissions*. https://www.fleetpoint.org/mercedes-benz-trucks/6-eactros-600s-power-xpo-logistics-and-pepsico-toward-zero-emissions/

63. Agg-Net. (2025). *Cemex expands deployment of electric ready-mix concrete mixers across EMEA markets*. https://www.agg-net.com/news/cemex-invest-in-electric-truckmixers-across-emea-operations

64. Volvo. (2025). *Volvo reaches milestone with 5,000 electric trucks sold worldwide*. https://www.volvotrucks.com/en-en/news-stories/press-releases/2025/apr/volvo-reaches-milestone-with-5-000-electric-trucks-sold-worldwid.html

65. Renault. (2025). *Renault Trucks delivers its 5,000th electric vehicle!*. https://www.renault-trucks.com/en/newsroom/news/renault-trucks-delivers-its-5000th-electric-vehicle

66. Toll Group. (2025). *Toll Group invests US$43 million in electric truck fleet and charging infrastructure*. https://scope3magazine.com/supply-chain-sustainability/toll-decarbonisation-heavy-electric-fleet

67. Fortescue Metals Group. (2025). *Fortescue signs US$2.8 billion green equipment partnership with Liebherr for zero emission mining solutions*. https://www.fortescue.com/en/articles/fortescue-signs-us-28-billion-green-equipment-partnership-with-liebherr

WORLD ECONOMIC FORUM

COMMITTED TO IMPROVING THE STATE OF THE WORLD

The World Economic Forum, committed to improving the state of the world, is the International Organization for Public-Private Cooperation.

The Forum engages the foremost political, business and other leaders of society to shape global, regional and industry agendas.

World Economic Forum
91–93 route de la Capite
CH-1223 Cologny/Geneva
Switzerland

Tel.: +41 (0) 22 869 1212
Fax: +41 (0) 22 786 2744
contact@weforum.org
www.weforum.org