Hydrogen Council

Hydrogen for a resilient world | *A CEO-Led Call-to-Action*

Hydrogen is a strategic choice for achieving deep electrification and enduring resilience in a rapidly changing world

Amid compounding crises – including the most recent conflict in the Middle East – governments around the world are being forced to fundamentally rethink their energy strategies and reduce risk stemming from a narrow set of energy sources, regions and supply chains.

Electrification is set to accelerate worldwide, and hydrogen – as electrification's indispensable partner – will be key to enabling a historic reshaping of the global energy system and ensuring long-term resilience across priority areas:

- **Energy resilience:** Hydrogen will help democratise access to energy by maximizing the use of home-grown natural resources and as the only scalable means of diversifying energy imports across regions – through the trade of derivatives such as ammonia, liquid hydrogen, and e-fuels. Hydrogen therefore represents the cornerstone of energy security.
- **Industrial resilience**: Hydrogen will accelerate the integration of renewables, bolster the security of highly electrified energy systems through large-scale storage capacities, and speed up decarbonisation of hard-to-electrify heavy industries and transport applications key to countries' economic success. Importantly, it will keep industrial supply chains intact when energy markets turn volatile and reduce structural dependencies, including on critical raw materials.[1]
- **Socio-economic resilience**: Hydrogen will allow virtually every country to play to its strengths in responding to geopolitical and climate crises in the most cost-effective manner. As a cornerstone of modern agrifood systems, low-emission ammonia fertilisers also offer farmers and food companies a drop-in solution to mitigate exposure to market volatility and regional supply shortages caused by geopolitical crises.

Crucially, these solutions are now within reach. In just five years (2020-2025), investment in clean hydrogen has grown ten-fold. Today, more than **USD 110 billion is committed across 510+ projects, worldwide**.[2] Technologies along the value chain have moved from concept to industrial-scale construction – proven and ready to scale.

We call on governments to take three priority actions today

Guided by the **resilience imperative**, governments and industry must work together to build on these foundations with **urgency, focus, and pragmatism**.

Unlocking hydrogen's full impact hinges on rapid, large-scale deployment. Significant new hydrogen production must come online across the world in the next five years - led by priority demand sectors alongside major investment in infrastructure required to transport and store hydrogen at the lowest possible cost.

Technology neutrality must be at the heart of effective policymaking: Governments must enable all technology pathways, from renewable and low-carbon hydrogen at production level to all hydrogen derivative solutions at midstream and end-use level. Carbon intensity benchmarks underpinned by international standards should be the main yardstick to incentivize deployment – this is key to accelerate the scale-up and bend the cost curves. Specifically, we call on governments to:

[1] Hydrogen Council - World Bank Group, 2022.
[2] Hydrogen Council, 2025.

1. **Act now – embed hydrogen in emergency crisis response measures**. Recognize hydrogen's unique resilience benefits and systematically integrate hydrogen and derivatives into any new measures including electrification targets, supply diversification initiatives and funding schemes. International initiatives, such as the coordination group between the International Energy Agency, International Monetary Fund and the World Bank Group created in response to the conflict in the Middle East, should include practical recommendations on hydrogen rollout (see below) as part of package of measures for countries to prevent future energy crises.

2. **Activate demand creation tools.** Swiftly deploy pragmatic instruments that give industry the confidence to commit capital and offset initial cost – recognising a "resilience premium" through contracts for difference, offtake guarantees, lead-market programmes, public procurement, and quotas for clean industrial products. While China is already accelerating with an ambitious hydrogen program embedded in its 15th 5-year plan, other demand regions must follow:

   In Europe, fix the rules and accelerate lead markets:
   - *Maintain the integrity of the EU Emissions Trading System (ETS) and the Carbon Border Adjustment Mechanism (CBAM)*
   - *Urgently adapt renewable hydrogen rules to reflect market reality*
   - *Set clear targets and incentives for low-carbon hydrogen in heavy industry and transport*
   - *Accelerate the rollout of lead markets for clean industrial products and fertilisers*

   In Asia, stay the course and expand existing demand instruments, for example:
   - *Japan: accelerate public–private collaboration to scale the full hydrogen value chain - from production, infrastructure, and pricing to commercial mobility and end-use equipment- while replicating successful pilots across other sectors, including power generation*
   - *Korea: Ensure policy consistency for hydrogen-fuelled mobility and its infrastructure in the transport sector; finalize import scheme (CHPS)[3] and develop domestic electrolyser manufacturing to drive industrial growth and carbon neutrality*

3. **Boost critical infrastructure investments.** Accelerate investment in electrolyzers as strategic assets, complemented by significant low-carbon hydrogen production capacities as a bridge. Repurpose existing and invest in new cross-regional transport and storage (e.g. port terminals, pipelines, storage sites) to connect emerging supply and demand centres.[4] Ensure early affordability through the right mix of public and industrial strategies, enabling rapid uptake in new demand sectors.

Inaction is not an option. Just two months of the energy crisis triggered by conflict in the Middle East have cost importing countries in Europe and Asia over **USD 100 billion**[5]. Investing instead in technology diversification – pairing electrification with hydrogen and its derivatives – would mark a decisive step towards a more resilient world, better equipped to weather such shocks, or prevent them altogether.

As a global industry, we stand ready to work with governments, lead through this pivotal moment of change, build up hydrogen as a strategic system enabler, and together deliver a more resilient world.

[3] The administrative notice announced on 8 June 2026 confirms the launch of the clean hydrogen power market under the CHPS framework, with further expansion planned in accordance with the 12th Basic Plan for Electricity. We look forward to the continued scale-up of CHPS as a key driver of Korea's clean hydrogen market.
[4] Every USD 1 invested in cross-border infrastructure can save USD 25 in capital investment across the energy systems. Hydrogen Council - International Hydrogen Trade Forum, 2024.
[5] Based on official government sources indicating additional spending on fossil fuel imports and fiscal measures across Europe and Asia.

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