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2023 G7 Hiroshima Summit Final Compliance Report

22 May 2023 to 15 May 2024

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5 June 2024

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Contents

7. Energy: Low Carbon and Renewable Hydrogen Markets

"We will enhance our efforts to develop the rule-based, transparent global market and supply chains for low carbon and renewable hydrogen based on reliable international standards and certification schemes adhering to environmental and social standards."

Hiroshima G7 Leaders Communiqué

Assessment

	No Compliance	Partial Compliance	Full Compliance
Canada			+1
France			+1
Germany			+1
Italy			+1
Japan			+1
United Kingdom			+1
United States			+1
European Union			+1
Average	+1.00 (100%)		

Background

In the ongoing global effort to address climate change and transition to more sustainable energy sources, G7 members have played a pivotal role in advancing the development and adoption of low carbon and renewable hydrogen markets. These commitments represent a key component of the G7 leaders' broader strategy to combat climate change, reduce greenhouse gas emissions (GHG), and promote energy security. While the G7 members' interest in low carbon and renewable energy markets can be traced back to the energy crises of the 1970s, focus on low carbon and renewable energy has gained greater prominence in recent years due to increasing concerns about climate change and the need to reduce GHGs, including hydrogen energy. Highlights of this on the G7's agenda follow:

At the 1978 Bonn Summit, G7 leaders acknowledged the need to explore alternatives to imported oil, particularly considering the oil crisis.[1277] It was during this summit that the importance of investing in research and development (R&D) initiatives for renewable energy alternatives was first highlighted. Emphasis was placed on reducing dependency on imported oils and recognizing the long-term significance of coal as an energy source.

At the 1990 Houston Summit, G7 members recognized the importance of cooperatively developing new technologies and processes to reduce carbon dioxide and other GHG emissions.[1278] Leaders also agreed to prioritize the development of alternative energy sources, such as nuclear energy, to protect health and the environment.

At the 1996 Lyon Summit, G7 leaders reemphasized the seriousness of threats such as global warming and climate change and expressed their commitment to aiding countries in developing more efficient energy policies.[1279]

[1277] Bonn Summit G7 Communiqué, G7 Information Centre (Toronto) 17 July 1978. Access Date: 30 September 2023. http://www.g7.utoronto.ca/summit/1978bonn/communique.html

[1278] Houston Economic Declaration, G7 Information Centre (Toronto) 11 July 1990. Access Date: 08 October 2023. http://www.g7.utoronto.ca/summit/1990houston/declaration.html

[1279] Chairman's Statement: Toward Greater Security and Stability in a More Cooperative World, G7 Information Centre (Toronto) 29 June 1996. Access Date: 08 October 2023. http://www.g7.utoronto.ca/summit/1990houston/declaration.html

At the 2005 Gleneagles Summit, G7 leaders committed to transforming the way they used energy and managing the impact of climate change.[1280] To this end, they indicated a commitment to support the development of clean energy technologies and frameworks through the collaboration of the public and private sectors. Although there was no direct mention of hydrogen technologies, the summer paved the way for future developments in the space.

At the 2007 Heiligendamm Summit, combatting climate change was addressed as one of the major challenges for humankind, and energy efficiency and technological cooperation were discussed as solution pathways.[1281]

At the 2015 Schloss Elmau Summit, the G7 emphasized the importance of decarbonizing the global economy and supporting renewable energy sources.[1282] Leaders committed to "decarbonize the global economy over the course of this century" and "to achieve a low-carbon global economy in the long-term including developing and deploying innovative technologies striving for a transformation of the energy sectors by 2050," indicating a long-term commitment to reducing carbon emissions using low carbon technologies. At the summit, the G7 leaders expressed their support for the Hamburg Initiative, which targeted "performance and reduction of the cost of technologies such as smart grids, systems optimization, energy storage, electric vehicles, offshore wind energy."[1283]

At the 2016 Ise-Shima Summit, G7 leaders reaffirmed their commitment to addressing climate change and energy security by accelerating the transition to a decarbonized economy.[1284] Leaders acknowledged the role of energy efficiency and the importance of renewable energy technologies in reducing greenhouse gas emissions by committing to further investments into innovating technologies with low GHG emissions.

At the 2017 Taormina Summit, discussions included topics on energy security and sustainability.[1285] Leaders affirmed their commitment to the Paris Agreement on climate change, which includes efforts to reduce carbon emissions and promote renewable energy.

At the 2019 Biarritz Summit, members focused on reducing inequality and addressing climate change.[1286] Various aspects of climate action were discussed, including transitioning to clean and sustainable energy sources.

At the 2021 Cornwall Summit, leaders committed to accelerating the shift away from unabated coal capacity and inefficient fossil fuel subsidies by 2021.[1287] They also pledged to support the development and deployment of hydrogen as a clean energy source, marking the first time that hydrogen was specifically targeted as an avenue to achieve net-zero by the G7.

[1280] The Gleneagles Communiqué, G7 Information Centre (Toronto) 08 July 2005. Access Date: 14 December 2023. http://www.g7.utoronto.ca/summit/2005gleneagles/communique.pdf
[1281] Chair's Summary, G7 Information Centre (Toronto) 08 June 2007. Access Date: 08 October 2023. http://www.g7.utoronto.ca/summit/2007heiligendamm/g8-2007-summary.html
[1282] Leaders' Declaration: G7 Summit, G7 Information Centre (Toronto) 08 June 2015. Access Date: 30 September 2023. http://www.g7.utoronto.ca/summit/2015elmau/2015-G7-declaration-en.html
[1283] G7 Hamburg Initiative for Sustainable Energy Security, G7 Information Centre (Toronto) 12 May 2015. Access Date: 30 September 2023. http://www.g7.utoronto.ca/energy/150512-hamburg.html
[1284] G7 Ise-Shima Leaders' Declaration, G7 Information Centre (Toronto) 27 May 2016. Access Date: 30 September 2023. http://www.g7.utoronto.ca/summit/2016shima/ise-shima-declaration-en.html
[1285] G7 Taormina Leaders' Communiqué, G7 Information Centre (Toronto) 27 May 2017. Access Date: 30 September 2023. http://www.g7.utoronto.ca/summit/2017taormina/communique.html
[1286] G7 Leaders' Declaration, G7 Information Centre (Toronto) 26 August 2019. Access Date: 30 September 2023. http://www.g7.utoronto.ca/summit/2019biarritz/declaration-of-leaders.html
[1287] Carbis Bay G7 Summit Communiqué: Our Shared Agenda for Global Action to Build Back Better, G7 Information Centre (Toronto) 13 June 2021. Access Date: 30 September 2023. http://www.g7.utoronto.ca/summit/2021cornwall/210613-communique.html

At the 2023 Hiroshima Summit, G7 members reaffirmed their commitment towards the Paris Agreement.[1288] G7 leaders committed to pursuing trade policies that drive emissions reduction and overall decarbonization, recognizing that carbon leakage can increase with divergent trade and climate policy. Leaders also pledged to help combat climate change by leveraging the World Trade Organization to mobilize additional funding for clean energy initiatives.

Commitment Features

At the 2023 Hiroshima Summit, leaders committed to "enhance [their] efforts to develop the rule-based, transparent global market and supply chains for low carbon and renewable hydrogen based on reliable international standards and certification schemes adhering to environmental and social standards."[1289] This commitment has two dimensions for G7 members to receive full compliance: a) developing low carbon and renewable hydrogen supply chains and b) developing the global market for hydrogen based upon international standards and certification schemes. Both dimensions must adhere to environmental and social standards.

Definitions and Concepts

"Enhance" is understood to mean heighten or intensify.[1290]

"Develop" is understood to mean to make active or promote the growth of.[1291]

"Rule-based" in the context of the commitment, refers to markets and supply chains operating according to the "rule-of-law" which is understood to mean "a principle of governance in which all persons, institutions, and entities, public and private … are accountable to laws that are publicly promulgated, equally enforced and independently adjudicated."[1292]

"Transparent global markets and supply chains" is understood to mean traceability through the production, sale, and use process.[1293] The Organization for Economic Cooperation and development defines traceability as the process by which enterprises track materials and products and the conditions in which they were produced throughout the supply chain.[1294] In the context of the commitment, transparency and traceability refer to calculating carbon content and intensity through the supply chain including inputs, production, and use.[1295]

"Low carbon hydrogen" refers to hydrogen produced from a) "abated fossil hydrogen production, in which hydrogen is produced using natural gas, steam methane reforming and a form of carbon capture and sequestration (commonly known as blue hydrogen)" or b) "pyrolysis of natural gas, in which hydrogen and a solid carbon black product are produced (such hydrogen is commonly known as turquoise hydrogen)."[1296]

[1288] G7 Clean Energy Economy Action Plan, G7 Information Centre (Toronto) 20 May 2023. Access Date: 08 October 2023. http://www.g7.utoronto.ca/summit/2023hiroshima/230520-energy-action-plan.html
[1289] G7 Hiroshima Leaders' Communiqué, G7 Research Group (Toronto). 20 May 2023. Access Date: 30 September 2023. http://www.g7.utoronto.ca/summit/2023hiroshima/230520-communique.html
[1290] Compliance Coding Manual for International Institutional Commitments, G7 and G20 Research Groups (Toronto) 12 November 2020. Access Date: 28 September 2023
[1291] Develop, Merriam Webster (Springfield) n.d. Access Date: 28 September 2023. https://www.merriam-webster.com/dictionary/develop
[1292] Rule of Law, LexisNexis Canada (Toronto) n.d. Access Date: 29 September 2023. https://www.lexisnexis.ca/en-ca/about-us/rule-of-law.page
[1293] Supply Chain Transparency as a Consumer or Corporate Tool: The Case of Nudie Jeans Co, Journal of Consumer Policy (New York) 12 February 2015. Access Date: 6 December 2023. doi.org.10.1007/s10603-015-9283-7
[1294] OECD Due Diligence Guidance for Responsible Business Conduct, Organization for Economic Cooperation and Development (Paris) 31 May 2018. Access Date: 6 December 2023. https://mneguidelines.oecd.org/OECD-Due-Diligence-Guidance-for-Responsible-Business-Conduct.pdf
[1295] Certification Schemes, CertifiHy (Brussels) n.d. Access Date: 6 December 2023. https://www.certifhy.eu/go-definition/
[1296] Identifying the differences in between Green, Low Carbon, and Renewable Hydrogen, United Nations Environment Program (Copenhagen) 27 April 2023. Access Date: 28 September 2023. https://c2e2.unepccc.org/wp-content/uploads/sites/3/2023/03/identifying-the-differences-in-between-green-low-carbon-and-renewable-hydrogen.pdf

"Renewable hydrogen" refers to hydrogen derived via the electrolysis of water powered by renewable sources such as hydro, solar, and wind.[1297] "Renewable hydrogen may also be produced through the reforming of biogas (instead of natural gas) or biochemical conversion of biomass, if in compliance with sustainability requirements."

"Reliable" is understood to mean able to be trusted.[1298] In the context of international standards and certification schemes, "reliable" is understood to mean standards or certifications developed by a G7 member body or an organization to which a G7 member is a party.

"International standards and certification schemes" refer to voluntary common conditions that can create certainty for cross-border trade.[1299] Existing examples include the Green Hydrogen Organisation's Green Hydrogen Standard and the EU's CertifiHy.

"Environmental and social standards" refers to "strengthening the social and environmental outcomes of markets and supply chains, avoiding adverse impacts to people and the environment, and minimizing, mitigating, and managing adverse impacts where avoidance is not possible."[1300] The following principles govern the United Nations Development Programme's (UNDP) Social and Environmental Standards (SES): leave no one behind, human rights, gender equality and women's empowerment, sustainability and resilience, and accountability.[1301] The SES covers standards for biodiversity conservation and sustainable natural resource management, climate change and disaster risks, community health, safety and security, cultural heritage displacement and resettlement, indigenous peoples labour and working conditions, pollution prevention and resource efficiency. The UNDP also identifies the following as management system requirements: quality assurance and risk management screening, categorization assessment and management, stakeholder engagement and response mechanisms, access to information, monitoring, reporting and compliance.

General Interpretive Guidelines

Full compliance, or a score of +1, will be given to G7 members that take strong actions to develop low carbon and renewable hydrogen supply chains, and to develop the global market for hydrogen based upon international standards and certification schemes while also ensuring that those supply chains and global market rules adhere to environmental and social standards.

Examples of strong actions include, but are not limited to, establishment and/or modernization and/or sharing of codes and standards to define types of hydrogen, account for emission thresholds/carbon intensity, and related accountability metrics. It may also comprise hydrogen policy and regulatory framework supports. Strong action can include national hydrogen strategies and inclusion of hydrogen in clean energy pathway maps. Fiscal supports including funds, subsidies, tax credits and/or loans for research and development, scale up of manufacturing processes, investment in infrastructure such as hydrogen pipelines, liquefaction plants, and refuelling stations all entail strong actions. G7 members' national hydrogen strategies endorse the inclusion of corollary policies including regulations, carbon pricing, clean fuel standards, zero emission standards, and other market signals to reflect GHG emissions in baseline fuel costs and de-risk investments in fossil-fuel alternatives

[1297] Identifying the differences in between Green, Low Carbon, and Renewable Hydrogen, United Nations Environment Program (Copenhagen) 27 April 2023. Access Date: 28 September 2023. https://c2e2.unepccc.org/wp-content/uploads/sites/3/2023/03/identifying-the-differences-in-between-green-low-carbon-and-renewable-hydrogen.pdf
[1298] Reliable, Encyclopedia Britannica (Chicago) n.d. Access Date: 28 September 2023. https://www.britannica.com/dictionary/reliable
[1299] Identifying the differences in between Green, Low Carbon, and Renewable Hydrogen, UN Environment Program, Copenhagen Climate Centre (Copenhagen) 27 April 2023. Access Date: 28 September 2023. https://c2e2.unepccc.org/wp-content/uploads/sites/3/2023/03/identifying-the-differences-in-between-green-low-carbon-and-renewable-hydrogen.pdf
[1300] FAO's environmental and social standards, Food and Agriculture Organization of the United Nations (Rome) n.d. Access Date: 29 September 2023. https://www.fao.org/environmental-social-standards/standards/fr/
[1301] Social and Environmental Standards, United Nations Development Program (New York) 1 January 2021. Access Date: 29 September 2023. https://ses-toolkit.info.undp.org/sites/g/files/zskgke446/files/2023-03/UNDP%20Social%20and%20Environmental%20Standards_2019%20UPDATE_rev%202023.pdf

as crucial actions towards developing hydrogen supply chains.[1302] For compliance, these corollary policies must explicitly state a goal to advance hydrogen or alternative fuels of which hydrogen is one. G7 members' strategies also identify R&D investments as necessary to reduce costs and enable scale up.[1303] Similarly, efforts to attract domestic businesses that can apply hydrogen use, as well as securing agreements with international governments and businesses constitute strong actions.

Partial compliance, or a score of 0, will be assigned to G7 members that take strong action in one or weak action towards both a) developing low carbon and renewable hydrogen supply chains or b) developing the global market for hydrogen based upon international standards and certification schemes. Supply chain and global market actions must adhere to environmental and social standards. Weaker actions include verbal statements of support, government studies on hydrogen supply chains, diplomatic meetings, and organization of forums that advance the commitment. Further, it is not enough for the country to take domestic action, given the international nature of the commitment and its focus on international standards and supply chains.

Non-compliance, or a score of −1, will be assigned if the G7 member demonstrates little to no effort on this commitment.

Scoring Guidelines

−1	The G7 member has taken little to no action to develop rules-based, transparent, and reliable low carbon and renewable hydrogen supply chains or to develop the global the global market for hydrogen based upon international standards and certification schemes.
0	The G7 member has taken weak actions towards both or strong actions towards one of developing low carbon and renewable hydrogen supply chains or developing the global market for hydrogen based upon international standards and certification schemes.
+1	The G7 member has taken several strong actions to develop both low carbon and renewable hydrogen supply chains and to develop the global market for hydrogen based upon international standards and certification schemes while also ensuring that supply chains and global market rules adhere to environmental and social standards.

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Canada: +1

Canada has fully complied with its commitment to enhance efforts to develop the rule-based, transparent global market and supply chains for low carbon and renewable hydrogen based on reliable standards and certification schemes adhering to environmental and social standards.

On 25 May 2023, Parliamentary Secretary to the Minister of Natural Resources and to the Minister of Environment and Climate Change Julie Dabrusin announced a new call for proposals for research, development and demonstration projects aimed at eliminating carbon emissions from Canada's transportation sector.[1304] The selected projects will help improve vehicle energy efficiency through implementing technologies such as hydrogen fuel cells to address the transportation sector's carbon footprint, particularly in medium and heavy-duty vehicles. Under Canada's Energy Innovation Program, successful research and development

[1302] Hydrogen Strategy for Canada, Natural Resources Canada (Ottawa) December 2020. Access Date: 28 November 2023. https://natural-resources.canada.ca/sites/nrcan/files/environment/hydrogen/NRCan_Hydrogen%20Strategy%20for%20Canada%20Dec%2015%202200%20clean_low_accessible.pdf

[1303] US National Clean Hydrogen Strategy and Roadmap, United States Department of Energy (Washington D.C.) 5 June 2023. Access Date: 28 November 2023. https://www.hydrogen.energy.gov/docs/hydrogenprogramlibraries/pdfs/us-national-clean-hydrogen-strategy-roadmap.pdf

[1304] New Federal Call for Proposals to Decarbonize On-Road Transportation, Natural Resources Canada (Ottawa) 25 May 2023. Access Date: 2 December 2023. https://www.canada.ca/en/natural-resources-canada/news/2023/05/new-federal-call-for-proposals-to-decarbonize-on-road-transportation.html

proposals receive up to 75 per cent of project costs to a maximum of CAD1.5 million and accepted demonstration projects receive up to 50 per cent of projects costs to a maximum of CAD5 million.

On 30 May 2023, Minister of Energy and Natural Resources Jonathan Wilkinson and provincial partners expanded the regulatory framework for Nova Scotia's and Newfoundland and Labrador's offshore energy regulators, with the new mandates including the mandate over developing offshore clean energy infrastructure.[1305] The Minister explained that the amendments help the provinces pursue the opportunity to develop, oversee, and implement offshore clean energy generation infrastructure, which includes infrastructure for producing clean hydrogen.

On 31 May 2023, Minister Wilkinson announced a CAD150,000 investment to launch a local awareness campaign into local hydrogen production.[1306] The campaign aims to close many Canadians' knowledge gap on clean energy and its use in the economy. The Minister also spoke about the Newfoundland and Labrador Collaboration Framework, identifying hydrogen and carbon capture utilization and storage as areas for the province to excel in developing a low-carbon economy.

On 14 June 2023, Minister Wilkinson discussed Canada's continued partnership on issues of common interest, such as hydrogen, with the Czech Minister of Industry and Trade, Jozef Síkela.[1307] The Ministers pledged to strengthen cooperation to create a more resilient green, sustainable, and low-carbon global economy and reaffirmed shared interest in understanding the renewable hydrogen's role as a clean energy source for the future. The discussion also involved the prospects of exporting clean and renewable hydrogen to the Czech Republic to satisfy its electricity demand through low-carbon means.

On 26 June 2023, Prime Minister Justin Trudeau underscored Canada's interest and commitment towards partnering with the Nordic countries to develop advanced technologies in carbon capture and storage, and clean hydrogen to transition toward a low-carbon economy.[1308]

On 27 June 2023, Minister Wilkinson pledged to invest over CAD100 million to advance and develop British Columbia's low-carbon economy, and announced the Collaboration Framework for Accelerating a Low-Carbon Economy, identifying clean hydrogen and carbon management systems as one of key opportunity areas.[1309] The investment includes almost CAD48.7 million for feasibility studies related to hydrogen as a clean fuel source and CAD15 million to further hydrogen fuel cell technologies development.

[1305] Building Offshore Renewables in Newfoundland and Labrador and Nova Scotia, Natural Resources Canada (Ottawa) 30 May 2023. Access Date: 2 December 2023. https://www.canada.ca/en/natural-resources-canada/news/2023/05/building-offshore-renewables-in-newfoundland-and-labrador-and-nova-scotia.html

[1306] Government of Canada Announces Support to Grow the Newfoundland and Labrador Clean Fuels Sector and Create Middle-Class Jobs, Natural Resources Canada (St. John's) 31 May 2023. Access Date: 2 December 2023. https://www.canada.ca/en/natural-resources-canada/news/2023/05/government-of-canada-announces-support-to-grow-the-newfoundland-and-labrador-clean-fuels-sector-and-create-middle-class-jobs.html

[1307] Minister Wilkinson and Minister Síkela Discuss Shared Interest in Advancing Climate Action and Clean Energy, Natural Resources Canada (Ottawa) 14 June. Access Date: 2 December 2023. https://www.canada.ca/en/natural-resources-canada/news/2023/06/minister-wilkinson-and-minister-sikela-discuss-shared-interest-in-advancing-climate-action-and-clean-energy.html

[1308] Prime Minister strengthens partnerships with Nordic countries, Prime Minister of Canada (Vestmannaeyjar) 26 June 2023. Access Date: 2 December 2023. https://www.pm.gc.ca/en/news/news-releases/2023/06/26/prime-minister-justin-trudeau-strengthens-partnerships-nordic-countries

[1309] First Regional Energy and Resource Tables Collaboration Framework for Accelerating a Low-Carbon Economy Released, Natural Resources Canada (Vancouver) 27 June 2023. Access Date: 2 December 2023. https://www.canada.ca/en/natural-resources-canada/news/2023/06/first-regional-energy-and-resource-tables-collaboration-framework-for-accelerating-a-low-carbon-economy-released.html

On 29 June 2023, Minister Wilkinson issued a call for funding proposals to promote clean fuels and zero-emission vehicle awareness.[1310] Natural Resources Canada will share up to 75 per cent of accepted proposal costs from not-for-profits and up to 50 per cent of costs from for-profit organizations. This funding advances the market for clean fuels including hydrogen.

On 29 June 2023, Minister Wilkinson announced installation funding for a Kelowna hydrogen refuelling station off the Trans-Canada Highway, enhancing the hydrogen supply chain.[1311]

On 1 July 2023, the Canadian government's Clean Fuel Standards regulations took effect.[1312] The regulation creates a credit system that incentivizes renewable emission reductions including by investment in hydrogen fuel cell vehicles and stations.[1313]

On 6 July 2023, Parliamentary Secretary Dabrusin participated in an event announcing the first public hydrogen refueling station for light and heavy-duty vehicles in Ontario which builds the hydrogen supply-chain out to consumers.[1314]

On 18 July 2023, Prime Minister Trudeau, in his speech at the Australia-Canada Economic Leadership Forum, reaffirmed Canada's commitment to building a clean world economy through global partnerships to develop low-carbon sources such as hydrogen.[1315]

On 22 July 2023, Minister Wilkinson and the G20 Energy Ministers committed to "support acceleration of production, utilization, as well as development of transparent and resilient global markets for hydrogen produced from zero and low emission technologies and its derivatives such as ammonia by developing voluntary and mutually agreed harmonizing standards as well as mutually recognized, and interoperable certification schemes."[1316] The Ministers also agreed to high level steps needed to achieve their commitment including collaboration on national standards development for low carbon hydrogen and movement towards global harmonization, free trade advancement, research and development cooperation for technological innovation, finance activation to support the entire supply chain, as well as voluntary information exchanges.

On 22 July 2023, Canada, along with Australia, Brazil, Chile, Germany, Japan, Saudi Arabia, Korea, the Netherlands, United Arab Emirates, the United Kingdom, the United States, Uruguay and the European Commission on behalf of the European Union jointly launched the International Hydrogen Trade Forum to

[1310] Now Open: Call for Applications Supporting Clean Fuels and Zero-Emission Vehicles Awareness Projects, Natural Resources Canada (Ottawa) 29 June 2023. Access Date: 7 November 2023. https://www.canada.ca/en/natural-resources-canada/news/2023/06/now-open-call-for-applications-supporting-clean-fuels-and-zero-emission-vehicles-awareness-projects.html

[1311] Federal Support for New Refuelling Options for Highway Drivers in Kelowna, Natural Resources Canada (Kelowna) 29 June 2023. Access Date: 7 November 2023. https://www.canada.ca/en/natural-resources-canada/news/2023/06/federal-support-for-new-refuelling-options-for-highway-drivers-in-kelowna.html

[1312] Climate policies and fossil fuel: Clean fuel regulations and carbon pricing explained, CTV News (Ottawa) 30 June 2023. Access Date: 7 November 2023. https://www.ctvnews.ca/climate-and-environment/climate-policies-and-fossil-fuel-clean-fuel-regulations-and-carbon-pricing-explained-1.6463483

[1313] Clean Fuel Regulations: Recap of June 2023 media technical briefing, Environment and Climate Change Canada (Gatineau) 30 June 2023. Access Date: 26 November 2023. https://www.canada.ca/en/environment-climate-change/news/2023/06/clean-fuel-regulations-recap-of-june-2023-media-technical-briefing.html

[1314] PS Dabrusin to Participate in Groundbreaking Event at Toronto Pearson International Airport, Natural Resources Canada (Mississauga) 6 July 2023. Access Date: 6 November 2023. https://www.canada.ca/en/natural-resources-canada/news/2023/07/ps-dabrusin-to-participate-in-groundbreaking-event-at-toronto-pearson-international-airport.html

[1315] Prime Minister's keynote speech at the Australia-Canada Economic Leadership Forum (Toronto) 18 July 2023. Access Date: 2 December 2023. https://www.pm.gc.ca/en/news/speeches/2023/07/18/prime-ministers-keynote-speech-australia-canada-economic-leadership-forum

[1316] Outcome Document and Chair' Summary, G20 Information Centre (Goa) 22 July 2023. Access Date: 10 November 2023. http://www.g20.utoronto.ca/2023/230722-energy.html#annex1

advance the global hydrogen market.[1317] The Forum aims to connect importers and exporters and reduce barriers to trade and bolsters the global market for hydrogen.

On 24 July 2023, Minister of Environment and Climate Change Steven Guilbeault released the Inefficient Fossil Fuel Subsidies Government of Canada Self-Review Assessment Framework and the Inefficient Fossil Fuel Subsidies Government of Canada Guidelines which phase out fossil fuel subsidies.[1318] Removing fossil fuel subsidies moves the energy market toward better reflecting baseline costs and helps cleaner fuels including hydrogen to compete.

On 10 August 2023, Ministers Guibeault and Wilkinson announced draft Clean Electricity Regulations to move Canada towards a net-zero electrical grid by 2035.[1319] Clean electricity forms a necessary component of renewable hydrogen supply chains.[1320]

On 7 September 2023, the Minister responsible for the Federal Economic Development Agency for Southern Ontario Filomena Tassi announced that Canada will invest CAD3.5 million for a green hydrogen-producing plant to adopt new manufacturing techniques and expand its capacity fivefold.[1321]

On 25 September 2023, Prime Minister Trudeau held a meeting with the Premier of British Columbia, David Eby, where the two leaders discussed joint efforts to foster clean economic growth in the province.[1322] The discussion also included increasing investments in the clean economy and nurturing partnerships with indigenous communities to open new areas of growth for clean hydrogen.

On 15 October 2023, the Canadian government issued payments to Canadians living in Ontario, Manitoba, Alberta, Saskatchewan, New Brunswick, Newfoundland and Labrador, Nova Scotia, and Prince Edward Island where the federal carbon pollution pricing system operates.[1323] The Climate Action Incentive Payment aims to facilitate the transition to cleaner fuels including hydrogen by helping households offset federal carbon pollution pricing costs through payments occurring quarterly.

On 16 October 2023, Minister Wilkinson, Minister of Housing, Infrastructure and Communities Sean Fraser, and Minister of Public Safety, Democratic Institutions and Intergovernmental Affairs Dominic Leblanc met with Nova Scotia Premier Tim Houston and New Brunswick Premier Blaine Higgs to discuss collaboration on

[1317] LAUNCH OF THE INTERNATIONAL HYDROGEN TRADE FORUM TO ACCELERATE GLOBAL COLLABORATION, Clean Energy Ministerial (Goa) 22 July 2023. Access Date: 15 December 2023. https://www.cleanenergyministerial.org/launch-of-the-international-hydrogen-trade-forum-to-accelerate-global-collaboration/

[1318] Government of Canada delivers on key climate commitment to phase out inefficient fossil fuel subsidies, Environment and Climate Change Canada (Montreal) 24 July 2023. Access Date: 7 November 2023. https://www.canada.ca/en/environment-climate-change/news/2023/07/government-of-canada-delivers-on-key-climate-commitment-to-phase-out-inefficient-fossil-fuel-subsidies.html

[1319] Canada powers toward more clean, affordable, and reliable electricity with draft regulations, Environment and Climate Change Canada (Toronto) 10 August 2023. Access Date: 7 November 2023. https://www.canada.ca/en/environment-climate-change/news/2023/08/canada-powers-toward-more-clean-affordable-and-reliable-electricity-with-draft-regulations.html

[1320] Identifying the differences in between Green, Low Carbon, and Renewable Hydrogen, UN Environment Program, Copenhagen Climate Centre (Copenhagen) 27 April 2023. Access Date: 28 September 2023. https://c2e2.unepccc.org/wp-content/uploads/sites/3/2023/03/identifying-the-differences-in-between-green-low-carbon-and-renewable-hydrogen.pdf

[1321] Government of Canada Invests Over $3.5 million to Support Growth of Clean Hydrogen in Owen Sound, Federal Economic Development Agency for Southern Ontario (Ottawa) 7 September 2023. Access Date: 4 November 2023. https://www.canada.ca/en/economic-development-southern-ontario/news/2023/09/government-of-canada-invests-over-35-million-to-support-growth-of-clean-hydrogen-in-owen-sound.html

[1322] Prime Minister Justin Trudeau meets with British Columbia Premier David Eby, Prime Minister of Canada (Ottawa) 25 September 2023. Access Date: 2 December 2023. https://www.pm.gc.ca/en/news/readouts/2023/09/25/prime-minister-justin-trudeau-meets-british-columbia-premier-david-eby

[1323] Climate action incentive payment, Canada Revenue Agency (Ottawa) 5 October 2023. Access Date: 7 November 2023. https://www.canada.ca/en/revenue-agency/services/child-family-benefits/cai-payment.html

phasing out coal-fired power generation and transitioning to green energy.[1324] They announced further cooperation on introducing hydrogen-capable flex-fuel fast start generators and agreed to assess what federal investments are needed to facilitate a faster transition to net-zero carbon electricity generation.

On 30 October 2023, Parliamentary Secretary Dabrusin and Minister Wilkinson announced a call for proposals for projects set to improve Canada's smart grid system and address the barriers of scaling small-scale pilot projects into large-scale grid deployments.[1325] The move aims to improve the overall grid reliability, energy efficiency, and make it easier for pilot projects, such as hydrogen-generating plants, to deploy on a macro-scale.

On 2 November 2023, Minister of Export Promotion, International Trade and Economic Development Mary Ng attended a tour of liquefied hydrogen terminal and storage facility in Osaka, where she promoted Canada as a reliable investment destination and energy security partner in clean energy.[1326]

On 9 November 2023, Deputy Prime Minister and Minister of Finance Chrystia Freeland and Manitoba Premier Wab Kinew announced a joint CAD475.6 million investment into Manitoba's energy grid to support clean energy.[1327] A strong renewable electricity supply chain forms part of the hydrogen supply chain. This investment will service Manitoba's hydrogen plants, like H2MB, and support future hydrogen production development projects.[1328]

On 14 November 2023, Minister of Foreign Affairs Mélanie Joly and the other ministers participating in the Asia-Pacific Economic Cooperation (APEC) forum released a statement that included the goal to identify best practices and frameworks for producing hydrogen from zero to low emissions technologies in the APEC region.[1329]

On 16 November 2023, Minister of Emergency Preparedness and Minister Responsible for the Pacific Economic Development Agency Harjit Sajan announced over CAD1.1 million to grow the clean energy sector in Burnaby, British Columbia.[1330] The investment aims to improve the development and production of clean energy equipment including hydrogen fuel cells.

[1324] Joint Policy Statement on Developing and Transmitting Clean, Reliable and Affordable Power in Nova Scotia and New Brunswick, Natural Resources Canada (Ottawa) 16 October 2023. Access Date: 29 April 2024. https://www.canada.ca/en/natural-resources-canada/news/2023/10/joint-policy-statement-on-developing-and-transmitting-clean-reliable-and-affordable-power-in-nova-scotia-and-new-brunswick.html

[1325] New Federal Call for Proposals for Smart Grid Projects, Natural Resources Canada (Moncton) 30 October 2023. Access Date: 2 December 2023. https://www.canada.ca/en/natural-resources-canada/news/2023/10/new-federal-call-for-proposals-for-smart-grid-projects.html

[1326] Minister Ng celebrates successful Team Canada Trade Mission to Japan, Global Affairs Canada (Ottawa) 2 November 2023. Access Date: 13 December 2023. https://www.canada.ca/en/global-affairs/news/2023/11/minister-ng-celebrates-successful-team-canada-trade-mission-to-japan.html

[1327] Governments of Canada and Manitoba invest nearly $500 million to deliver clean, reliable, and affordable electricity to Manitobans, Department of Finance Canada (Winnipeg) 9 November 2023. Access Date: 13 December 2023. https://www.canada.ca/en/department-finance/news/2023/11/governments-of-canada-and-manitoba-invest-nearly-500-million-to-deliver-clean-reliable-and-affordable-electricity-to-manitobans.html

[1328] The Fuel of the Future, H2MB (Winnipeg) n.d. Access Date: 16 December 2023. https://www.h2mb.ca

[1329] 2023 APEC Ministerial Meeting, Asia-Pacific Economic Cooperation (San-Francisco) 17 November 2023. Access Date: 13 December 2023. https://www.meti.go.jp/press/2023/11/20231116004/20231116004-a-eng.pdf

[1330] Government of Canada announces over $1.1 million to grow the clean technology sector in Burnaby, Pacific Economic Development Canada (Burnaby) 16 November 2023. Access Date: 13 December 2023. https://www.canada.ca/en/pacific-economic-development/news/2023/11/government-of-canada-announces-over-11-million-to-grow-the-clean-technology-sector-in-burnaby.html

On 17 November 2023, Parliamentary Secretary Dabrusin on behalf of Minister Guibeault announced the launch applications for a CAD170 million Low Carbon Challenge in an effort to generate green growth.[1331] Eligible projects would bring forward innovative solutions to reduce emissions and cut energy costs, which includes hydrogen energy-related submissions.

On 21 November 2023, Minister Freeland outlined the implementation timetable for the Clean Hydrogen Tax Credit and introduced Carbon Contracts for Difference as part of the Fall 2023 Economic Statement.[1332] Consultations on draft legislation will commence in Fall 2023. Subject to consultation results, legislation for the Clean Hydrogen Tax Credit will be introduced in Parliament early in 2024. The tax credit will be backdated to take effect 28 March 2023. To achieve the maximum tax credit, projects must pay prevailing union wages and offer apprenticeship opportunities. The companion legislation to implement these labour requirements will be introduced during Fall 2023 based on consultations which ended 8 September 2023. Further tax credits to support clean electricity will support a renewable energy supply for hydrogen; these tax credits will follow Summer 2024 consultations and Fall 2024 legislation but will also be effective 28 March 2023. In the statement, Minister Freeland also announced Carbon Contracts for Difference as a new tool in the Canada Growth Fund's financial offerings suite. Carbon Contracts for Difference represent a means to backstop future carbon prices and to ensure predictability for businesses making large-scale investments in emissions reduction projects; Carbon Contracts for Difference will also facilitate robust carbon credit markets and encourage alternative energy production such as hydrogen. The Canada Growth Fund will allocate up to CAD7 billion of its current CAD15 billion in capital for Carbon Contracts for Difference as well as Offtake Agreements.

On 24 November 2023, Prime Minister Justin Trudeau, European Commission President Ursula Von der Leyen, and European Council President Charles Michel launched the Canada-EU Green Alliance.[1333] The Alliance's General Principles include clauses on collaboration towards international hydrogen standard and certification schemes as well as strategies to incentivize hydrogen development and uptake.[1334]

On 29 November 2023, Minister Fraser announced CAD125 million debt financing to support the development of a clean energy hub by EverWind in Nova Scotia.[1335] The loan is designed to support electricity generation through clean hydrogen production, intended for domestic consumption and exports to foreign markets such as Germany.[1336]

[1331] Government of Canada launches applications for $170 million Low Carbon Economy Challenge, highlighting University of Victoria pollution-cutting project, Environment and Climate Change Canada (Victoria) 17 November 2023. Access Date: 13 December 2023. https://www.canada.ca/en/environment-climate-change/news/2023/11/government-of-canada-launches-applications-for-170-million-low-carbon-economy-challenge-highlighting-university-of-victoria-pollution-cutting-project.html

[1332] Deputy Prime Minister and Minister of Finance Freeland Announces Fall 2023 Economic Statement, Ministry of Finance (Ottawa) 21 November 2023. Access Date: 11 December 2023. https://www.budget.canada.ca/fes-eea/2023/report-rapport/FES-EEA-2023-en.pdf

[1333] Creating good, middle-class jobs, and building a strong, secure future with European partners, Office of the Prime Minister of Canada (St. John's) 24 November 2023. Access Date: 2 February 2024. https://www.pm.gc.ca/en/news/news-releases/2023/11/24/creating-good-middle-class-jobs-and-building-strong-secure-future-european

[1334] Canada - European Union Green Alliance, Environment and Climate Change Canada (Ottawa) 24 November 2023. Access Date: 9 March 2024. https://www.canada.ca/en/environment-climate-change/corporate/international-affairs/partnerships-countries-regions/europe/green-alliance-canada-european-union.html

[1335] Canada announces support for new hydrogen project in Nova Scotia, Global Affairs Canada (Ottawa) 29 November 2023. Access Date: 2 December 2023. https://www.canada.ca/en/global-affairs/news/2023/11/canada-announces-support-for-new-hydrogen-project-in-nova-scotia.html

[1336] The Government of Canada announces funding to accelerate clean energy development in Atlantic Canada, Newswire (Port Hawkesbury) 17 November 2023. Access Date: 2 December 2023. https://www.newswire.ca/news-releases/the-government-of-canada-announces-funding-to-accelerate-clean-energy-development-in-atlantic-canada-837814849.html

On 11 December 2023, the Government of Canada launched a call for national energy systems modelling project proposals.[1337] The modelling of emerging energy technologies including hydrogen aims to guide and inform creation of national climate change mitigation strategies by optimizing the costs of achieving net-zero emissions.

On 1 February 2024, Minister Wilkinson committed CAD3.3 million to a hydrogen feasibility study in Gazifère's gas fired plant in Gatineau.[1338] The study will assess the potential for an electrolysis facility enabling low-carbon and green hydrogen production.

On 15 February 2024, Minister Wilkinson attended the Canada-UK Industrial Decarbonization Forum to discuss how two countries can increase partnership to decarbonize their industrial sectors.[1339] He identified hydrogen and carbon capture technologies as key contributors to joint decarbonization efforts.

On 23 February 2024, Minister Sajjan announced CAD2.5 million in funding to upscale Quantum Technology's green hydrogen liquification technology production and enhance green transportation options in the region.[1340]

On 28 February 2024, Minister of Rural Economic Development Gudie Hutchings and Minister of Labour and Seniors Seamus O'Regan on behalf of Minister Ng announced new federal investments in a first commercial-scale green hydrogen plant in Newfoundland and Labrador, providing a CAD128 million credit facility to incentivize project that further strengthens Canada's renewable energy production capabilities.[1341]

On 8 March 2024, Minister Wilkinson announced an investment of CAD4.5 million, supporting a hydrogen-derived clean fuel production project in Thorold and supporting the initital stages of a hydrogen hub.[1342]

On 19 March 2024, Minister Wilkinson and German Federal Minister of Economic Affairs and Climate Action Robert Habeck signed a Memorandum of Understanding to strengthen partnership in developing a transatlantic hydrogen corridor.[1343] The deal is projected to accelerate bilateral, commercial-scale hydrogen trade between Germany and Canada through Germany's H2Global Foundation, which will conduct price matching between

[1337] New Federal Call for Proposals for National Energy Systems Modelling, Natural Resources Canada (Ottawa) 11 December 2023. Access Date: 2 February 2024. https://www.canada.ca/en/natural-resources-canada/news/2023/12/new-federal-call-for-proposals-for-national-energy-systems-modelling.html

[1338] Government of Canada Announces Federal Investment in Gatineau Clean Hydrogen Production, Natural Resources Canada (Ottawa) 1 February 2024. Access Date: 27 February 2024. https://www.canada.ca/en/natural-resources-canada/news/2024/02/government-of-canada-announces-federal-investment-in-gatineau-clean-hydrogen-production.html

[1339] Canada to Boost Supply of Critical Minerals and Strengthen Value Chains With Investment in the Saskatchewan Research Council, Natural Resources Canada (Ottawa) 15 February 2024. Access Date: 27 February 2024. https://www.canada.ca/en/natural-resources-canada/news/2024/02/canada-to-boost-supply-of-critical-minerals-and-strengthen-value-chains-with-investment-in-the-saskatchewan-research-council.html

[1340] Squamish-based business receives over $2.5 million to help build British Columbia's hydrogen ecosystem and fuel green transportation, Pacific Economic Development Canada (Squamish) 23 February 2024. Access Date: 27 February 2024. https://www.canada.ca/en/pacific-economic-development/news/2024/02/squamish-based-business-receives-over-25-million-to-help-build-british-columbias-hydrogen-ecosystem-and-fuel-green-transportation.html

[1341] Canada announces support for new green hydrogen project in Newfoundland and Labrador, Global Affairs Canada (Ottawa) 28 February 2024. Access Date: 1 March 2024. https://www.canada.ca/en/global-affairs/news/2024/02/canada-announces-support-for-new-green-hydrogen-project-in-newfoundland-and-labrador.html

[1342] Government of Canada invests $15 Million in Clean Fuels Projects in the Niagara Region and Across Canada, Natural Resources Canada (Thorold) 8 March 2024. Access Date: 28 April 2024. https://www.canada.ca/en/natural-resources-canada/news/2024/03/government-of-canada-invests-15-million-in-clean-fuels-projects-in-the-niagara-region-and-across-canada.html

[1343] Government of Canada and Germany Land Arrangement Securing Early Market Access for Clean Canadian Hydrogen, Natural Resources Canada (Hamburg) 18 March 2024. Access Date: 28 April 2024. https://www.canada.ca/en/natural-resources-canada/news/2024/03/government-of-canada-and-germany-land-agreement-securing-early-market-access-for-clean-canadian-hydrogen.html

supply and demand price for hydrogen, in addition to coordinating supply and demand side auctions, connecting Canadian hydrogen to potential buyers in Germany.

On 11 April 2024, Prime Minister Trudeau and French Prime Minister Gabriel Attal signed an agreement on hydrogen collaboration that includes the commitment to create a Franco-Canadian International Research Network on hydrogen.[1344]

Canada has fully complied with its commitment to enhance efforts to develop the rule-based, transparent global market and supply chains for low carbon and renewable hydrogen based on reliable international standards and certification schemes adhering to environmental and social standards. Canada advanced strong actions to develop the supply chain for low carbon and renewable hydrogen through funding, tax credits, and loans for hydrogen production plants, supply chain supportive funding for fuel cell technologies, zero-emission vehicles, and renewable electricity access for hydrogen production facilities, investments in research and development, legal framework amendments to empower hydrogen infrastructure deployment, and regulatory incentives for fuel-switching and de-risking hydrogen investments. Canada supported the development of the rule-based global market for hydrogen, with strong actions, by jointly establishing an organization dedicated to facilitating hydrogen trade. Canada's Clean Hydrogen Tax Credit creates eligibility requirements around labour standards and demonstrates their commitment for hydrogen to adhere to social standards.

Thus, Canada receives a score of +1.

'Analyst: Giorgi Kaikatsishvili

France: +1

France has fully complied with its commitment to enhance efforts to develop the rule-based, transparent global market and supply chains for low carbon and renewable hydrogen based on reliable international standards and certification schemes adhering to environmental and social standards.

On 25 May 2023, Minister for the Ecological Transition and Territorial Cohesion Christophe Bechu and Minister for Energy Transition Clément Beaune called proposals for decarbonization roadmap proposals in the development, building and transportation sectors.[1345] The ministers emphasized that electrification will not be sufficient to facilitate a clean energy transition in the transportation industry, indicating a potential role for hydrogen energy, especially in heavy duty vehicles where electrification is challenging. Overall, the shift in roadmap toward decarbonization can pave the way for enhanced hydrogen production and use.

On 20 June 2023, the Transport Innovation Agency organized a seminar featuring innovative companies such as EnHyWhere, which develops hydrogen refueling stations.[1346]

[1344] Déclaration conjointe du premier ministre Trudeau et du premier ministre Attal, Primier ministre du Canada (Ottawa) 11 April 2024. Translation Provided by Google Translate. Access Date: 28 April 2024. https://www.pm.gc.ca/fr/nouvelles/declarations/2024/04/11/declaration-conjointe-du-premier-ministre-trudeau-et-du-premier-ministre-attal

[1345] Remise des propositions de feuilles de route de décarbonation de l'aménagement, du bâtiment et du transport aux pouvoirs publics, Ministère de la Transition écologique et de la Cohésion des territoires & Ministère de la Transition énergétique (Paris) 25 May 2023. Translation Provided by Google Translate. Access Date: 13 December 2023. https://www.ecologie.gouv.fr/remise-des-propositions-feuilles-route-decarbonation-lamenagement-du-batiment-et-du-transport-aux

[1346] Séminaire de l'Agence de l'Innovation pour les Transports (AIT) au Salon international de l'aéronautique et de l'espace de Paris-Le Bourget - mercredi 21 juin, Ministère de la Transition écologique et de la Cohésion des territoires Ministère de la Transition énergétique (Paris) 20 june 2023. Access Date: 6 December 2023. https://www.ecologie.gouv.fr/seminaire-lagence-linnovation-transports-ait-au-salon-international-laeronautique-et-lespace-paris-0

On 22 June 2023, the Senate passed the Green Industry Act.[1347] The Act aims to make France a leader in green industry and green technologies by creating and accelerating green industries and decarbonizing existing industries.[1348] The Act lists green hydrogen as an example of a major decarbonization technology to be accelerated.

On 6 July 2023, the Ministry of Ecological Transition and Territorial Cohesion and the Ministry of Energy Transition announced a revision to the multiannual energy programme for Corsica to set objectives for renewable energy and hydrogen development in Corsican territory.[1349]

On 8 July 2023, the National Assembly committed the military to analyze its needs for hydrogen and biofuels.[1350]

On 8 July 2023, Minister for Energy Transition Agnès Pannier-Runacher announced a joint statement between France and Saudi Arabia indicating low carbon hydrogen's importance in decarbonizing energy.[1351] France and Saudi Arabia agreed on a roadmap for cooperation in hydrogen with three main pillars: technological development, commercial cooperation and policies and regulations.

On 21 July 2023, the National Assembly passed amendments to the Green Industry Act.[1352] The Act aims to make France a leader in green industry and green technologies by creating and accelerating green industries and decarbonizing existing industries.[1353] The Act lists green hydrogen as an example of a major decarbonization technology earmarked for acceleration.

On 22 July 2023, Minister Pannier-Runacher and the G20 Energy Ministers committed to "support acceleration of production, utilization, as well as development of transparent and resilient global markets for hydrogen produced from zero and low emission technologies and its derivatives such as ammonia by developing voluntary and mutually agreed harmonizing standards as well as mutually recognized, and interoperable certification schemes."[1354] The Ministers also agreed to high level steps needed to achieve their commitment including collaboration on national standards development for low carbon hydrogen and movement towards global harmonization, free trade advancement, research and development cooperation for technological innovation, finance activation to support the entire supply chain, as well as voluntary information exchanges.

[1347] Industrie Verte, Sénat (Paris) 23 October 2023. Access Date: 8 December 2023. https://www.senat.fr/dossier-legislatif/pjl22-607.html

[1348] Que contient la loi industrie verte?, Ministère de l'Économie Des Finances et de la Souveraineté Industrielle et Numérique (Paris) 25 October 2023. Translation provided by Google Translate. Access Date: 1 November 2023. https://www.economie.gouv.fr/que-contient-la-loi-industrie-verte

[1349] Publication de la révision simplifiée de la programmation pluriannuelle de l'énergie pour la Corse, Ministère de la Transition écologique et de la Cohésion des territoires Ministère de la Transition énergétique (Paris) 6 July 2023. Access Date: 6 December 2023. https://www.ecologie.gouv.fr/publication-revision-simplifiee-programmation-pluriannuelle-lenergie-corse

[1350] PROJET DE LOI MODIFIÉ PAR LE SÉNAT, relatif à la programmation militaire pour les années 2024 à 2030 et portant diverses dispositions intéressant la défense, Assemblée Nationale (Paris) 8 July 2023. Access Date: 6 December 2023. https://www.assemblee-nationale.fr/dyn/16/textes/l16b1516_projet-loi#

[1351] Communiqué conjoint entre la France et l'Arabie saoudite, à l'occasion du déplacement d'Agnès Pannier-Runacher en Arabie saoudite le 8 juillet 2023, Ministère de la Transition écologique et de la Cohésion des territoires Ministère de la Transition énergétique (Paris) 13 July 2023. Translation provided by Google Translate. Access Date: 1 November 2023. https://www.ecologie.gouv.fr/communique-conjoint-entre-france-et-larabie-saoudite-loccasion-du-deplacement-dagnes-pannier

[1352] Industrie Verte, Sénat (Paris) 23 October 2023. Access Date: 8 December 2023. https://www.senat.fr/dossier-legislatif/pjl22-607.html

[1353] Que contient la loi industrie verte?, Ministère de l'Économie des Finances et de la Souveraineté Industrielle et Numérique (Paris) 25 October 2023. Translation provided by Google Translate. Access Date: 1 November 2023. https://www.economie.gouv.fr/que-contient-la-loi-industrie-verte

[1354] Outcome Document and Chair's Summary, G20 Information Centre (Goa) 22 July 2023. Access Date: 10 November 2023. http://www.g20.utoronto.ca/2023/230722-energy.html#annex1

On 25 July 2023, President Emmanuel Macron and other members of the European Council approved the 'Fit for 55' legislative package, including the Alternative Fuel Infrastructure Regulation.[1355] The adopted legislation dictates required targets for hydrogen refuelling infrastructure.[1356]

On 28 July 2023, the Ministry for Energy transition released a report on strategies for supply chains highlighting the hydrogen's role in decarbonization.[1357]

On 28 August 2023, the Government of France announced EUR4 billion in subsidies to support the low-carbon hydrogen development.[1358] The funding aims to support annual production of 140,000 tons.

On 30 August 2023, Minister Pannier-Runacher visited a low-carbon hydrogen production site and the first European electrolyser Gigafactory on a trip to promote hydrogen.[1359]

On 19 September 2023, the Ministry of Ecological Transition and Territorial Cohesion and the Ministry of Energy Transition opened a consultation on the mechanisms to support decarbonized hydrogen production.[1360]

On 27 September 2023, Minister for Economy, Finance and Industrial and Digital Sovereignty Bruno Le Maire and Minister Delegate for Public Accounts Thomas Cazenave tabled the draft Finance Bill 2024 in the National Assembly.[1361] The draft bill allocates EUR700 million to support low-carbon hydrogen production in France in 2024.[1362]

On 28 September 2023, Minister Pannier-Runacher met with Japanese Minister of Economy, Trade, and Industry Yasutoshi Nishimura confirmed bilateral cooperation in fields including hydrogen and ammonia.[1363]

[1355] European Green Deal: Energy Efficiency Directive, FuelEU Maritime Regulation and Alternative Fuel Infrastructure Regulation adopted helping make the EU 'Fit for 55', European Commission Directorate-General for Mobillity and Transport (Brussels) 25 July 2023. Access Date: 8 December 2023. https://transport.ec.europa.eu/news-events/news/european-green-deal-energy-efficiency-directive-fueleu-maritime-regulation-and-alternative-fuel-2023-07-25_en

[1356] European Green Deal: ambitious new law agreed to deploy sufficient alternative fuels infrastructure, European Commission (Brussels) 28 March 2023. Access Date: 11 December 2023. https://ec.europa.eu/commission/presscorner/detail/en/IP_23_1867

[1357] PLAN DE PROGRAMMATION DES RESSOURCES MINÉRALES DE LA TRANSITION BAS-CARBONE, Ministère de la Transition énergétique (Paris) 28 July 2023. Access Date: 6 December 2023. https://www.ecologie.gouv.fr/sites/default/files/rapport_08_cgdd_ressources_minerales_critiques_energies_bas_carbone_juillet2023.pdf

[1358] French government earmarks €4 bln for low-carbon hydrogen, EURACTIV (Paris) 31 August 2023. Access Date: 1 November 2023. https://www.euractiv.com/section/energy-environment/news/french-government-earmarks-e4-bln-for-low-carbon-hydrogen/

[1359] Agnès Pannier-Runacher se rendra dans le Haut-Rhin (68) pour un déplacement consacré au développement de la production d'hydrogène en France - jeudi 31 août, Ministère de la Transition écologique et de la Cohésion des territoires Ministère de la Transition énergétique (Paris) 30 October 2023. Access Date: 6 December 2023. https://www.ecologie.gouv.fr/agnes-pannier-runacher-se-rendra-dans-haut-rhin-68-deplacement-consacre-au-developpement-production

[1360] Consultation sur le mécanisme de soutien à la production d'hydrogène décarboné, Ministère de la Transition écologique et de la Cohésion des territoires Ministère de la Transition énergétique (Paris) 19 September 2023. Access Date: 6 December 2023. https://www.ecologie.gouv.fr/consultation-sur-mecanisme-soutien-production-dhydrogene-decarbone

[1361] Projet de loi de finances 2024 : 10 milliards d'euros supplémentaires pour la planification écologique, Ministère de la Transition écologique et de la Cohésion des territoires Ministère de la Transition énergétique (Paris) 26 September 2023. Translation provided by Google Translate. Access date: 1 November 2023. https://www.ecologie.gouv.fr/projet-loi-finances-2024-10-milliards-deuros-supplementaires-planification-ecologique

[1362] DP - Présentation du projet de loi de finances 2024, Ministère de l'Économie des Finances et de la Soveraineté Industrielle et Numérique (Paris) 17 September 2023. Translation provided by Google Translate. Access Date: 1 November 2023. https://presse.economie.gouv.fr/27092023-dp-presentation-du-projet-de-loi-de-finances-2024/

[1363] METI Minister Nishimura Attends IEA Critical Minerals and Clean Energy Summit, Ministry for Economy, Trade and Industry (Paris) 29 September 2023. Access Date: 6 December 2023. https://www.meti.go.jp/english/press/2023/0929_004.html

On 2 October 2023, Minister Le Maire, and Minister Pannier-Raucher announced the implementation of the Carbon Border Adjustment Mechanism (CBAM).[1364] The CBAM aims to reduce carbon leakage, will enter a transitional phase that lasts until the end of 2025. During this phase, reporting will be required from six sectors including hydrogen.

On 9 October 2023, President Macron and other members of the European Council granted final approval of two pillars of the 'Fit for 55' legislative package the ReFuelEU Aviation Regulation, and the revised Renewable Energy Directive.[1365] The updated directives outline greenhouse gas emission reductions of 14.5 per cent in the transport sector. The regulation increases the quota for renewable fuels, including hydrogen. The approval ensures fair competition among European companies through the implementation of the CBAM.

On 23 October 2023, the joint commission of the National Assembly and Senate passed the Green Industry Act.[1366] The Act aims to make France a leader in green industry and green technologies by creating and accelerating green industries and decarbonizing existing industries.[1367] The Act lists green hydrogen as an example of a major decarbonization technology to be accelerated.

On 24 October 2023, Minister Pannier-Runacher, Minister Delegate for Industry Clément Beaune, and the Minister Delegate for Transport Roland Lescure announced three decrees to allow for further retrofitting deployment to transform thermal vehicles into electric vehicles with batteries, hydrogen, or plug-in hybrid solutions.[1368]

On 9 November 2023, the National Assembly passed the Finance Bill for 2024.[1369] The Bill replaces the previous age-based vehicle tax with a tax on emissions which provides a full tax exemption for hydrogen vehicles.[1370] The new vehicle tax increases hydrogen end-product affordability and encourages hydrogen vehicle uptake. The Bill creates a certification scheme for hydrogen origins as part of the Bill's new Valued Added Tax rules. The Budget tasks the Public Energy Service to develop a subsidy program for carbon-free hydrogen based on production cost differential to fossil-fuel-based hydrogen. The Bill allocates EUR700 million to support low carbon hydrogen production in France in 2024.[1371]

[1364] Mise en œuvre du Mécanisme d'ajustement carbone aux frontières (MACF) au 1er octobre 2023, Ministère de la Transition écologique et de la Cohésion des territoires Ministère de la Transition énergétique (Paris) 2 October 2023. Access Date: 6 December 2023. https://www.ecologie.gouv.fr/mise-en-oeuvre-du-mecanisme-dajustement-carbone-aux-frontieres-macf-au-1er-octobre-2023

[1365] Final adoption of ReFuelEU Aviation completes 'Fit for 55' legislation, putting EU on track to exceed 2030 targets, European Commission Directorate-General for Mobility and Transport (Brussels) 9 October 2023. Access Date: 8 December 2023. https://transport.ec.europa.eu/news-events/news/final-adoption-refueleu-aviation-completes-fit-55-legislation-putting-eu-track-exceed-2030-targets-2023-10-09_en

[1366] Que contient la loi industrie verte?, Ministère de L'Économie Des Finances Et de la Souveraineté Industrielle et Numérique (Paris) 25 October 2023. Translation provided by Google Translate. Access Date: 1 November 2023. https://www.economie.gouv.fr/que-contient-la-loi-industrie-verte

[1367] Que contient la loi industrie verte?, Ministère De L'Économie Des Finances Et De La Souveraineté Industrielle Et Numérique (Paris) 25 October 2023. Translation provided by Google Translate. Access Date: 1 November 2023. https://www.economie.gouv.fr/que-contient-la-loi-industrie-verte

[1368] Plan d'action national en faveur du rétrofit : Agnès Pannier-Runacher, Roland Lescure et Clément Beaune annoncent la publication de trois arrêtés afin de préciser et simplifier la réglementation, Ministère de la Transition écologique et de la Cohésion des territoires Ministère de la Transition énergétique (Paris) 24 October 2023. Access Date: 6 December 2023. https://www.ecologie.gouv.fr/plan-daction-national-en-faveur-du-retrofit-agnes-pannier-runacher-roland-lescure-et-clement-beaune

[1369] Budget 2024, Sénat (Paris) n.d. Access Date: 9 December 2023. https://www.senat.fr/dossier-legislatif/pjlf2024.html

[1370] Projet de loi de finances n°1680, Assemblée Nationale (Paris) 27 September 2023. Access Date: 8 December 2023. https://www.assemblee-nationale.fr/dyn/16/textes/l16b1680_projet-loi

[1371] DP - Présentation du projet de loi de finances 2024, Ministère De L'Économie Des Finances Et De La Souveraineté Industrielle Et Numérique (Paris) 17 September 2023. Translation provided by Google Translate. Access Date: 1 November 2023. https://presse.economie.gouv.fr/27092023-dp-presentation-du-projet-de-loi-de-finances-2024/

On 11 November 2023, Minister Le Maire presented a draft law laying down provisions for adaptation to European Union law, and specifically introduces a definition into French law for renewable and low-carbon hydrogen.[1372]

On 13 November 2023, France and Ireland signed a joint declaration of intent on energy transition cooperation, which included recognizing the role played by hydrogen production through electrolysis.[1373]

On 15 November 2023, the National Assembly passed the Public Finance Programming for the years 2023-2027 Act that allocates nearly EUR30 billion over 2024-2027 to commercialize small nuclear reactors, green hydrogen, and French industry decarbonization.[1374]

On 15 December 2023, the Ministry of Ecological Transition and Territorial Cohesion published new strategic guidelines for the development of carbon-free hydrogen.[1375] The Strategy is now open for consultation.

On 19 December 2023, Minister Pannier-Runacher, European Energy Commissioner Kadri Simson, Spanish Minister of Ecological Transition and the Demographic Challenge Teresa Rebera, and Deputy Representative of Portugal to the European Union Manuela Teixeira Pinto signed a Memorandum of Understanding (MoU) on cross-border energy interconnectedness in South-West Europe.[1376] The MoU commits signatories to explore renewable hydrogen potential in the Iberian Peninsula and low carbon hydrogen possibilities in France including for transport.

On 21 December 2023, Prime Minister Elisabeth Borne introduced legislation in the National Assembly relating to the European Union CBAM across six raw materials including hydrogen.[1377]

On 29 February 2024, Minister for Higher Education and Research Sylvie Retailleau and United Kingdom Secretary of State for Science, Innovation and Technology Michelle Donelan announced efforts to bring researchers together to work on shared opportunities in areas such as low carbon hydrogen.[1378]

[1372] Lettre de la DAJ – Un projet de loi portant diverses dispositions d'adaptation au droit de l'Union européenne déposé au Sénat, Ministère de l'économie des finances et de la souveraineté industrielle et numérique (Paris) 23 November 2023. Access Date: 6 December 2023. https://www.economie.gouv.fr/daj/lettre-de-la-daj-un-projet-de-loi-portant-diverses-dispositions-dadaptation-au-droit-de-lunion

[1373] L'Irlande et la France marquent le début des travaux de construction du "Celtic Interconnector" et signent une déclaration commune sur l'énergie, Ministère de la Transition écologique et de la Cohésion des territoires
Ministère de la Transition énergétique (Paris) 13 November 2023. Access Date: 6 December 2023. https://www.ecologie.gouv.fr/lirlande-et-france-marquent-debut-des-travaux-construction-du-celtic-interconnector-et-signent

[1374] PROJET DE LOI MODIFIÉ PAR LE SÉNAT EN NOUVELLE LECTURE de programmation des finances publiques pour les années 2023 à 2027, Assemblée Nationale (Paris) 17 October 2023. Access Date: 6 December 2023. https://www.assemblee-nationale.fr/dyn/16/textes/l16b1746_projet-loi#

[1375] Consultation sur la nouvelle stratégie française pour le déploiement de l'hydrogène décarboné, Ministère de la Transition écologique et de la Cohésion des territoires (Paris) 15 December 2023. Translation provided by Google Translate. Access Date: 2 March 2024. https://www.ecologie.gouv.fr/consultation-sur-nouvelle-strategie-francaise-deploiement-lhydrogene-decarbone

[1376] European Commission and Energy Ministers of France, Portugal and Spain strengthen cooperation on cross-border energy infrastructure in South-West Europe, European Commission (Brussels) 19 December 2023. Access Date: 3 March 2024. https://energy.ec.europa.eu/news/european-commission-and-energy-ministers-france-portugal-and-spain-strengthen-cooperation-cross-2023-12-19_en

[1377] Projet de loi n°2041, Assemblée Nationale (Paris) 21 December 2024. Translation provided by Google Translate. Access Date: 5 March 2026. https://www.assemblee-nationale.fr/dyn/16/textes/l16b2041_projet-loi

[1378] UK and France to deepen research and AI links following Horizon association, Department for Science, Innovation and Technology (London) 29 February 2024. Access Date: 2 March 2024. https://www.gov.uk/government/news/uk-and-france-to-deepen-research-and-ai-links-following-horizon-association

On 4 March 2024, Minister Le Maire and Italian Minister of the Environment and Energy Security Gilberto Pichetto discussed the importance of accelerating the use of hydrogen and nuclear energy to reach decarbonisation targets and strengthen energy security.[1379]

On 11 April 2024, Prime Minister Gabriel Attal and Canadian Prime Minister Justin Trudeau signed an agreement on hydrogen collaboration that includes the commitment to create a Franco-Canadian International Research Network on hydrogen.[1380]

On 22 April 2024, the National Assembly and Senate passed legislation to bring French law in line with European Union law.[1381] The provisions include free quotas for aviation fuel use that cover 70 per cent of the price difference between fossil fuels like kerrosene and renewable alternatives like low-carbon hydrogen.[1382] The bill also amends the Energy Code to reflect European standards for the ceritification of renewable and low carbon hydrogen.

France has fully complied with its commitment to enhance efforts to develop the rule-based, transparent global market and supply chains for low carbon and renewable hydrogen based on reliable international standards and certification schemes adhering to environmental and social standards. France advanced strong actions to develop the supply chain for low carbon and renewable hydrogen through legislation designed to increase hydrogen fuelling infrastructure, funding to support hydrogen production, tax exemptions for hydrogen powered vehicles, and subsidies for hydrogen use in the aviation industry. France supported the development of the rule-based global market for hydrogen, with strong actions, by enforcing hydrogen reporting requirements, implementing hydrogen origin certifications, and jointly establishing a hydrogen governance body to support market development.

Thus, France receives a score of +1.

Analyst: Sarah Wilczynski

Germany: +1

Germany has fully complied with its commitment to enhance efforts to develop the rule-based, transparent global market and supply chains for low carbon and renewable hydrogen based on reliable standards and certification schemes adhering to environmental and social standards.

On 26 May 2023, Germany's National Development Bank (KfW) announced its USD325 million contribution towards financing the world's largest green hydrogen project in Saudi Arabia.[1383] This investment aims to help

[1379] Energia: il Ministro Pichetto al Consiglio Ue, "passi avanti su biometano e gas rinnovabili", Ministero dell'Ambiente e della Sicurezza Energetica (Rome) 5 March 2024. Translation Provided by Google Translate. Access Date: 5 May 2024. https://www.mase.gov.it/comunicati/energia-il-ministro-pichetto-al-consiglio-ue-passi-avanti-su-biometano-e-gas-rinnovabili

[1380] Déclaration conjointe du premier ministre Trudeau et du premier ministre Attal, Primier ministre du Canada (Ottawa) 11 April 2024. Translation Provided by Google Translate. Access Date: 28 April 2024. https://www.pm.gc.ca/fr/nouvelles/declarations/2024/04/11/declaration-conjointe-du-premier-ministre-trudeau-et-du-premier-ministre-attal

[1381] Projet de loi portant diverses dispositions d'adaptation au droit de l'Union européenne en matière d'économie, de finances, de transition écologique, de droit pénal, de droit social et en matière agricole, Assemblée Nationale (Paris) 23 April 2024. Translation Provided by Google Translate. Access Date: 28 April 2024. https://www.assemblee-nationale.fr/dyn/16/dossiers/DLR5L16N48908

[1382] PROJET DE LOI portant diverses dispositions d'adaptation au droit de l'Union européenne en matière d'économie, de finances, de transition écologique, de droit pénal, de droit social et en matière agricole, Assemblée Nationale (Paris) 10 April 2024. Translation Provided by Google Translate. Access Date: 28 April 2024. https://www.assemblee-nationale.fr/dyn/16/textes/l16t0287_texte-adopte-seance.pdf

[1383] KfW IPEX-Bank: Financing for the world's largest green hydrogen project, KfW development Bank (Frankfurt) 26 May 2023. Access Date: 2 December 2023. https://www.kfw-ipex-bank.de/Presse/News/Pressemitteilungsdetails_764672-2.html

achieve global climate neutrality and successful energy transition through promoting reliable and large-scale green hydrogen production.

On 31 May 2023, Minister for Economic Affairs and Climate Action Robert Habeck and European Commissioner for Energy Kadri Simson released a joint statement detailing plans to link the European Hydrogen Bank with Germany's H2Global to enhance hydrogen standards and markets.[1384]

On 8 June 2023, Federal Chancellor Olaf Scholz and Italian Prime Minister Giorgia Meloni announced an agreement to build a new hydrogen pipeline between Italy and Germany.[1385] The pipeline will have the capacity to transport around four million tons of green hydrogen per year and aims to enhance German and European hydrogen infrastructure capacity.[1386]

On 13 June 2023, Parliamentary State Secretary at the Federal Ministry for Economic Affairs and Climate Action Franziska Brantner announced an agreement with the Government of Quebec to provide joint funding for innovation projects by startups, enterprises, and research societies in green hydrogen and energy transition technologies.[1387] The agreement aims to deepen Germany's partnership with Quebec on innovation and decarbonization.

On 14 June 2023, the KfW, the Head of Division for the Latin American and Caribbean Public Sector for the European Investment Bank (EIB) Kritstin Lang, Executive Vice-President José Miguel Benavente of the Product Development Corporation, and Chilean Minister of Finance Mario Marcell Cullell signed a statement of intent establishing the Team Europe Renewable Hydrogen Funding Platform for Chile.[1388] The agreement allows for up to EUR200 million in financing and a grant of EUR16.5 million from the EU Latin America and Caribbean Investment Facility and aims to support Chile's renewable hydrogen industry. The initiative advances Chile's goals of achieving 100 per cent clean energy by 2050, promoting economic decarbonization, creating green jobs, and fostering business opportunities for both Chilean and European companies.

On 20 June 2023, Chancellor Scholz signed the German-Chinese Memorandum of Understanding on electric and hydrogen mobility with the intention to continue information exchanges regarding safety, regulation, and standardization of its use.[1389]

On 26 June 2023, Minister Habeck and South Africa's Minister of Electricity Kgosientsho Ramokgopa signed a cooperation agreement to further expand partnership on green hydrogen and its production, processing, and

[1384] Joint statement by Commissioner Simson and German Minister Habeck on energy issues, European Commission (Brussels) 31 May 2023. Access Date: 5 November 2023. https://energy.ec.europa.eu/news/joint-statement-commissioner-simson-and-german-minister-habeck-energy-issues-2023-05-31_en

[1385] Federal Chancellor Olaf Scholz in Rome, The Federal Government of Germany (Berlin) 8 June 2023. Access Date: 26 October 2023. https://www.bundesregierung.de/breg-en/search/scholz-rome-meloni-2195154

[1386] Germany, Italy support new hydrogen-ready pipeline project, Reuters (Rome) 8 June 2023. Access Date: 26 October 2023. https://www.reuters.com/business/energy/germany-italy-support-new-hydrogen-ready-pipeline-project-2023-06-08/

[1387] Economic Affairs Ministry and Canadian province of Quebec agree on joint funding for R&D projects of SMEs, Federal Ministry of Economic Affairs and Climate Action of Germany (Berlin) 13 June 2023. Access Date: 2 December. https://www.bmwk.de/Redaktion/EN/Pressemitteilungen/2023/06/20230613-economic-affairs-ministry-and-canadian-province-of-quebec-agree-on-joint-funding-for-rd-projects-of-smes.html

[1388] Chile: EU, EIB and KfW to finance renewable hydrogen projects with up to €216.5 million, European Investment Bank (Santiago de Chile) 14 June 2023. Access Date: 7 December 2023. https://www.eib.org/en/press/all/2023-223-eu-eib-and-kfw-to-finance-renewable-hydrogen-projects-in-chile-with-up-to-eur216-5-million

[1389] 7th German-Chinese Intergovernmental Consultations, The Federal Government of Germany (Berlin) 20 June 2023. Access Date: 26 October 2023. https://www.bundesregierung.de/breg-en/search/german-chinese-intergovernmental-consultations-2197554

transport.[1390] The deal aims to increase the supply of low-carbon energy in South Africa through green hydrogen, while securing its reliable, diversified supply to Germany.

On 5 July 2023, the Federal Cabinet adopted the Act Adopting the Federal Budget for the 2024 Fiscal Year and Fiscal Plan to 2027.[1391] The budget supports additional measures for future technologies and climate action via the almost EUR250 billion Climate and Transformation Fund 2023-2027. Examples include financing for the hydrogen strategy, industrial decarbonization and initiatives under the Renewable Energy Sources Act.

On 7 July 2023, the Bundestag passed amendments to the Liquified Natural Gas Acceleration Act, stating that land-based Liquified Natural Gas terminals will need to be retrofitted to show a proof of green readiness, or the ability to operate on green hydrogen.[1392] The amendment promotes sustainable investments into new gas terminals allowing for greater hydrogen infrastructure.

On 19 July 2023, Minister Habeck emphasized the importance of Germany's closer cooperation with India on issues like green hydrogen, decarbonizing the economy, and mitigating the climate crisis.[1393]

On 20 July 2023, the representatives from the KfW discussed the importance of collaboration with other leading European development banks to jointly contribute to transforming the European Union's energy sector to a low-carbon model through green hydrogen initiatives.[1394]

On 21 July 2023, Minister Habeck and Japanese Minister of Economy, Trade and Industry Yasutoshi Nishimura discussed bilateral cooperation on hydrogen at the 14th Clean Energy Ministerial and 8th Mission Innovation Ministerial.[1395]

On 22 July 2023, Minister Habeck and the G20 Energy Ministers committed to "support acceleration of production, utilization, as well as development of transparent and resilient global markets for hydrogen produced from zero and low emission technologies and its derivatives such as ammonia by developing voluntary and mutually agreed harmonizing standards as well as mutually recognized, and interoperable certification schemes."[1396] The Ministers also agreed to high level steps needed to achieve their commitment including collaboration on national standards development for low carbon hydrogen and movement towards global harmonization, free trade advancement, research and development cooperation for technological innovation, finance activation to support the entire supply chain, as well as voluntary information exchanges.

[1390] Germany and South Africa sign cooperation agreement on green hydrogen, Federal Ministry of Economic Affairs and Climate Action of Germany (Berlin) 27 June 2023. Access Date: 2 December 2023. https://www.bmwk.de/Redaktion/EN/Pressemitteilungen/2023/06/20230627-germany-south-africa-cooperation-green-hydrogen.html

[1391] German Draft Budgetary Plan, Federal Ministry of Finance (Berlin) 13 October 2023. Access Date: 8 December 2023. https://economy-finance.ec.europa.eu/system/files/2023-10/2024_dbp_de_en.pdf

[1392] Bundesrat adopts draft legislation amending the LNG Acceleration Act, Federal Ministry of Economic Affairs and Climate Action of Germany (Berlin) 7 July 2023. Access Date: 2 December 2023. https://www.bmwk.de/Redaktion/EN/Pressemitteilungen/2023/07/20230707-bundesrat-adopts-draft-legislation-amend-ing-the-lng-acceleration-act.html

[1393] Minister Habeck travels to India: Important partner in the diversification of the German economy, Federal Ministry of Economic Affairs and Climate Action of Germany (Berlin) 19 July 2023. Access Date: 2 December 2023. https://www.bmwk.de/Redaktion/EN/Pressemitteilungen/2023/07/20230719-minister-habeck-travels-to-india.html

[1394] The Joint Initiative on Circular Economy (JICE) reaches €8.9 billion and continues its efforts, KfW Development Bank (Madrid) 20 July 2023. Access Date: 2 December 2023. https://www.kfw.de/About-KfW/Newsroom/Latest-News/Pressemitteilungen-Details_773952.html

[1395] METI Minister Nishimura Attends the 14th Clean Energy Ministerial (CEM14) and 8th Mission Innovation Ministerial (MI-8), and a G20 Energy Transitions Ministers' Meeting, Ministry of Economy, Trade and Industry (Goa) 23 July 2023. Access Date: 9 December 2023. https://www.meti.go.jp/english/press/2023/0723_001.html

[1396] Outcome Document and Chair' Summary, G20 Information Centre (Goa) 22 July 2023. Access Date: 10 November 2023. http://www.g20.utoronto.ca/2023/230722-energy.html#annex1

On 22 July 2023, Germany, along with Australia, Brazil, Canada, Chile, Japan, Saudi Arabia, Korea, the Netherlands, United Arab Emirates, the United Kingdom, the United States, Uruguay and the European Commission on behalf of the European Union jointly launched the International Hydrogen Trade Forum to advance the global hydrogen market.[1397] The Forum aims to connect importers and exporters and reduce barriers to trade and bolsters the global market for hydrogen.

On 25 July 2023, Chancellor Scholz and other members of the European Council approved the 'Fit for 55' legislative package, including the Alternative Fuel Infrastructure Regulation.[1398] The adopted legislation dictates required targets for hydrogen refuelling infrastructure.[1399]

On 26 July 2023, Minister Habeck presented the updated National Hydrogen Strategy which sets development plans for hydrogen infrastructure across Germany.[1400] Minister Habeck also underlined progress in funding distribution to create hydrogen-capable power plants in Germany's electricity sector. The presentation emphasized that, before green hydrogen becomes fully available, priority would be given to utilizing other low-carbon techniques below like blue and turquoise hydrogen with greenhouse gas (GHG) emissions below unabated fossil fuel use. According to the federal government's plans, Germany will have a capacity of at least ten gigawatts for domestic electrolysis by 2030 and a new hydrogen import strategy.

On 1 August 2023, Minister Habeck concluded discussions between Germany and the European Commission with the regards to the framework conditions for future hydrogen plants and converting existing plants towards hydrogen capability.[1401] The framework now moves to the consultation phase. The Minister outlined that Germany intends to tender hydrogen power plants with generating capacity up to 15 gigawatts of electricity by 2035 that are currently operating with natural gas.

On 9 August 2023, Chancellor Scholz announced that the federal government will invest in German mechanical engineering and heavy industry to promote the production of green steel using carbon-neutral or low-carbon hydrogen.[1402]

On 9 August 2023, the Federal Cabinet approved the draft for the Special Climate and Transformation Fund for 2024 to achieve Germany's goal of creating a climate-neutral economy and includes EUR3.7 billion for boosting the hydrogen economy.[1403]

[1397] LAUNCH OF THE INTERNATIONAL HYDROGEN TRADE FORUM TO ACCELERATE GLOBAL COLLABORATION, Clean Energy Ministerial (Goa) 22 July 2023. Access Date: 15 December 2023. https://www.cleanenergyministerial.org/launch-of-the-international-hydrogen-trade-forum-to-accelerate-global-collaboration/

[1398] European Green Deal: Energy Efficiency Directive, FuelEU Maritime Regulation and Alternative Fuel Infrastructure Regulation adopted helping make the EU 'Fit for 55', European Commission Directorate-General for Mobillity and Transport (Brussels) 25 July 2023. Access Date: 8 December 2023. https://transport.ec.europa.eu/news-events/news/european-green-deal-energy-efficiency-directive-fueleu-maritime-regulation-and-alternative-fuel-2023-07-25_en

[1399] European Green Deal: ambitious new law agreed to deploy sufficient alternative fuels infrastructure, European Commission (Brussels) 28 March 2023. Access Date: 11 December 2023. https://ec.europa.eu/commission/presscorner/detail/en/IP_23_1867

[1400] Energie aus klimafreundlichem Gas, The Federal Government of Germany (Berlin) 26 July 2023. Translation provided by Google Translate. Access Date: 3 November 2023. https://www.bundesregierung.de/breg-de/schwerpunkte/klimaschutz/wasserstoff-technologie-1732248

[1401] Rahmen für die Kraftwerksstrategie steht – wichtige Fortschritte in Gesprächen mit EU-Kommission zu Wasserstoffkraftwerken erzielt, Bundesministerium für Wirtschaft und Klimaschutz (Berlin) 1 August 2023. Translation provided by Google Translate. Access Date: 2 December. https://www.bmwk.de/Redaktion/DE/Pressemitteilungen/2023/08/20230801-rahmen-fuer-die-kraftwerksstrategie-steht.html

[1402] Realizing a Successful Transformation, The Federal Government of Germany (Berlin) 9 August 2023. Access Date: 3 November 2023. https://www.bundesregierung.de/breg-en/search/business-hub-germany-2209048

[1403] Federal Cabinet adopts business plan for the Climate and Transformation Fund (CTF), Federal Ministry of Economic Affairs and Climate Action of Germany (Berlin) 9 August 2023. Access Date: 2 December 2023. https://www.bmwk.de/Redaktion/EN/Pressemitteilungen/2023/08/20230809-federal-cabinet-adopts-business-plan-for-the-climate-and-transformation-fund-ctf.html

On 5 September 2023, Chancellor Scholz announced that a part of the EUR58 billion from the Climate and Transformation Fund would be used for ramping up hydrogen energy utilization and development.[1404]

On 15 September 2023, the Ministry of Finance submitted a payment application to the European Commission through the Recovery and Resilience Plan including for hydrogen projects, electromobility, digitalization, and public administration efficiency.[1405]

On 25 September 2023, Chancellor Scholz reiterated Germany's commitment to replace fossil fuels like coal, gas and oil with hydrogen and announced further developments of hydrogen-capable infrastructure in the country.[1406]

On 26 September 2023, State Secretary for Energy Phillip Nimmerman and United Kingdom Minister for Energy Efficiency and Green Finance John Callanan announced a new agreement between the UK and Germany to assist in accelerating international hydrogen industry development.[1407] Germany and the UK committed to assist in establishing regulations to aid hydrogen trade and include low-carbon hydrogen into their nations' energy mix and to work together to advance renewable hydrogen technologies through research and innovation.

On 27 September 2023, Chancellor Scholz emphasized the importance of developing a hydrogen-based economy at the annual reception of the German Society for International Collaboration.[1408]

On 4 October 2023, Minister Habeck announced the adoption of Germany's 2023 Climate Action Programme.[1409] The Minister cites that the further expansion of the hydrogen network as crucial for work towards climate neutrality.

On 9 October 2023, Chancellor Scholz and other members of the European Council granted final approval of two pillars of the 'Fit for 55' legislative package the ReFuelEU Aviation Regulation, and the revised Renewable Energy Directive.[1410] The updated directives outline GHG emission reductions of 14.5 per cent in the transport sector. The regulation increases the quota for renewable fuels, including hydrogen. The approval ensures fair competition among European companies through the implementation of the Carbon Border Adjustment Mechanism.

[1404] Federal Chancellor at the International Motor Show, The Federal Government of Germany (Berlin) 5 September 2023. Access Date: 3 November 2023. https://www.bundesregierung.de/breg-en/search/chancellor-iaa-2221436

[1405] Deutschland stellt ersten Zahlungsantrag im Rahmen der Aufbau- und Resilienzfazilität, Bundesministerium der Finanzen (Berlin), 18 September 2023. Translation Provided by Google Translate. Access Date: 13 December 2023. https://www.bundesfinanzministerium.de/Content/DE/Pressemitteilungen/Finanzpolitik/2023/09/2023-09-18-zahlungsantrag-aufbau-und-resilienzfazilitaet.html

[1406] Taking off into a new and better age, The Federal Chancellor (Hamburg) 25 September 2023. Access Date: 2 December 2023. https://www.bundeskanzler.de/bk-en/news/national-aviation-conference-2225882

[1407] UK and Germany partner to further advance hydrogen developments, Government of the United Kingdom (London) 26 September 2023. Access Date: 2 November 2023. https://www.gov.uk/government/news/uk-and-germany-partner-to-further-advance-hydrogen-developments

[1408] Federal Chancellor at the GIZ Annual Reception, The Federal Government of Germany (Berlin) 27 September 2023. Access Date: 3 November 2023. https://www.bundesregierung.de/breg-en/search/scholz-at-the-giz-annual-reception-2226648

[1409] Federal Cabinet adopts comprehensive 2023 Climate Action Programme, Federal Ministry of Economic Affairs and Climate Action of Germany (Berlin) 4 October 2023. Access Date: 2 December 2023. https://www.bmwk.de/Redaktion/EN/Pressemitteilungen/2023/10/20231004-federal-cabinet-adopts-comprehensive-2023-climate-action-programme.html

[1410] Final adoption of ReFuelEU Aviation completes 'Fit for 55' legislation, putting EU on track to exceed 2030 targets, European Commission Directorate-General for Mobility and Transport (Brussels) 9 October 2023. Access Date: 8 December 2023. https://transport.ec.europa.eu/news-events/news/final-adoption-refueleu-aviation-completes-fit-55-legislation-putting-eu-track-exceed-2030-targets-2023-10-09_en

On 11 October 2023, State Secretary Nimmermann delivered a speech at the sixth German-French Energy Forum, with a particular focus on hydrogen as a means to decarbonize the economy.[1411] Both sides acknowledged the importance of European hydrogen infrastructure and a common regulatory framework for hydrogen in areas like mobility, manufacturing, and electricity.

On 11 October 2023, Minister for Education and Research Bettina Stark-Watzinger and Italian Minister of University and Research Anna Maria Bernini hosted the Green Hydrogen Generation, Transport and Application: German-Italian Perspectives on the Energy Transition and Hydrogen Economy workshop.[1412] The event facilitated hydrogen discussions on national strategies, projects underway, plans for a hydrogen corridor and proposed solutions to market barriers.

On 23 October 2023, at the Fifth German-Algerian Energy Day, Parliamentary State Secretary of the German Federal Ministry for Economic Affairs and Climate Protection Stefan Wenzel held discussions with the Algerian Minister for Energy and Mining Mohamed Arkab over the conversion and expansion of gas pipelines between two countries to be hydrogen-capable, especially as Algeria increases green hydrogen production.[1413]

On 7 November 2023, the KfW announced an agreement with the Industrial Development Corporation, South Africa's state-owned promotional bank, pledging EUR23.1 million for a programme to promote sustainable economy development by financing projects for large scale green hydrogen production and use.[1414]

On 3 November 2023, Germany and the United Kingdom issued a joint declaration of cooperation on energy and climate change with hydrogen as a key area for cooperation.[1415]

On 3 November 2023, Minister Habeck met British Minister for Energy Security and Net Zero Claire Coutinho to discuss energy cooperation.[1416] In a joint agreement, both ministers reaffirmed their commitment to cooperation in hydrogen energy.

On 11 November 2023, the Bundestag passed a law to adapt energy regulations to comply with European Union law and otherwise amend energy regulations.[1417] The law further ensures the security and affordability of energy and the expansion of the hydrogen network.

[1411] 6. Deutsch-französisches Energieforum, Bundesministerium für Wirtschaft und Klimaschutz (Berlin) 11 October 2023. Translation provided by Google Translate. Access Date: 2 December 2023. https://www.bmwk.de/Redaktion/DE/Pressemitteilungen/2023/10/20231011-6-deutsch-franzoesisches-energieforum.html

[1412] Green Hydrogen Generation, Transport And Application: German-Italian Perspectives On The Energy Transition And Hydrogen Economy, Federal Ministry of Education and Research (Berlin) 11 October 2023. Access Date: 27 November 2023. https://live.invitario.com/data/uploads/files/21541/20230912_Workshopprogramm.pdf

[1413] New hydrogen pipeline and accelerated solar expansion deepen German-Algerian energy partnership, Federal Ministry of Economic Affairs and Climate Action of Germany (Algiers) 23 October 2023. Access Date: 2 December 2023. https://www.bmwk.de/Redaktion/DE/Pressemitteilungen/2023/10/20231023-neue-wasserstoffpipeline-und-beschleunigter-solarausbau-vertiefen-deutsch-algerische-energiepartnerschaft.html

[1414] Launch of green hydrogen in South Africa: harnessing the extraordinary potential of renewable sources of energy, KfW Development Bank (Frankfurt) 7 November 2023. Access Date: 2 December. https://www.kfw.de/About-KfW/Newsroom/Latest-News/Pressemitteilungen-Details_786048.html

[1415] Joint Declaration of cooperation on energy and climate, Government of the United Kingdom (London) 3 November 2023. Access Date: 6 December 2023. https://www.gov.uk/government/publications/cooperation-on-energy-and-climate-joint-declaration-between-united-kingdom-and-germany/joint-declaration-of-cooperation-on-energy-and-climate

[1416] Habeck reist nach London – Künstliche Intelligenz und Energiefragen stehen im Vordergrund, Bundesministerium für Wirtschaft und Klimaschutz (Berlin) 2 November 2023. Translation Provided by Google Translate. Access Date: 13 December 2023. https://www.bmwk.de/Redaktion/DE/Pressemitteilungen/2023/11/20231102-habeck-london-kuenstliche-intelligenz-und-energiefragen.html

[1417] Land unter Strom: Bundestag billigt Anpassung an EU-Recht und weitere Änderungen im bereich, Bundeszentrale für politische Bildung (Bonn) 11 November 2023. Translation Provided by Google Translate. Access Date: 13 December 2023. https://www.das-parlament.de/2023/46/wirtschaft_und_finanzen/977012-977012

On 13 November 2023, the KfW released its Climate Financing Roadmap.[1418] The roadmap outlines a framework for developing and producing clean energy solutions to combat climate change, including hydrogen energy, through investments and funding opportunities for developers. These investments will serve to catalyze hydrogen supply chains.

On 14 November 2023, representatives from the Federal Ministry for Economic Affairs and Climate Protection and the Dutch Ministry of Economic Affairs and Climate Policy signed two joint declarations of intent on cooperation in the field of hydrogen between Germany and Netherlands.[1419] Countries pledged to cooperate on accelerating the expansion of hydrogen infrastructure and joint green hydrogen imports under the newly established H2Global instrument.

On 15 November 2023, the German Federal Cabinet passed an amendment to the Energy Industry Act to create a comprehensive network of hydrogen-capable infrastructure across the country.[1420] The plan sets off a process to rapidly develop the hydrogen infrastructure and connect central hydrogen locations, central to reaching large hydrogen consumption and production capabilities.

On 20 November 2023, Chancellor Scholz attended the Compact with Africa Conference. Chancellor Scholz called for greater business cooperation with Africa, including more private investment in the field of hydrogen energy.[1421] He highlighted the competitive conditions in Africa for hydrogen production and encouraged it as a potential pathway to a climate-friendly energy supply chain based on green energy.

On 21 November 2023, the Bundestag released a Small Inquiry on Franco-German energy and hydrogen cooperation for Europe.[1422] The Inquiry emphasized the use of clean, low-emission hydrogen as key to achieving both climate goals and geopolitical independence in the European energy sphere in context of global threats.

On 22 November 2023, Chancellor Scholz emphasized, via video at the G20, the importance of developing a southern corridor for hydrogen to increase energy supply security for Italy and Germany across the Alps in the context of the conflicts in Ukraine and the Middle East.[1423]

[1418] The Climate Financing Roadmap How Development Finance Institutions Can Build Bridges to Unlock Private Capital, Boston Consulting Group & KfW Development Bank (Frankfurt) November 2023. Access Date: 13 December 2023. https://www.kfw.de/PDF/Download-Center/Konzernthemen/Research/PDF-Dokumente-Studien-und-Materialien/PDF-Dateien-Paper-and-Proceedings-(EN)/The-Climate-Financing-Roadmap.pdf

[1419] Deutschland und Niederlande arbeiten noch enger im Bereich Wasserstoff zusammen – zwei gemeinsame Absichtserklärungen unterzeichnet, Bundesministerium für Wirtschaft und Klimaschutz (Berlin) 14 November 2023. Translation provided by Google Translate. Access Date: 2 December 2023. https://bmwk.de/Redaktion/DE/Pressemitteilungen/2023/11/20231114-deutschland-und-niederlande-arbeiten-noch-enger-im-bereich-wasserstoff-zusammen.html

[1420] Gesetz zur Wasserstoff-Netzplanung und Kernnetz-Finanzierung beschlossen, Federal Ministry of Economic Affairs and Climate Action of Germany (Berlin) 15 November 2023. Translation provided by Google Translate. Access Date: 2 December 2023. https://www.bmwk.de/Redaktion/DE/Pressemitteilungen/2023/11/20231115-gesetz-zur-wasserstoff-netzplanung-und-kernnetz-finanzierung-beschlossen.html

[1421] Promoting Africa as a sustainable business partner, The Federal Chancellor (Berlin) 20 November 2023. Access Date: 13 December 2023. https://www.bundeskanzler.de/bk-en/news/compact-with-africa-conference-2245262

[1422] Deutsch-französische Energie- und Wasserstoffzusammenarbeit für Europa, Deutscher Bundestag (Berlin) 21 November 2023. Translation Provided by Google Translate. Access Date: 13 December 2023. https://dserver.bundestag.de/btd/20/094/2009439.pdf

[1423] A pipeline for greater energy security, The Federal Chancellor (Berlin) 22 November 2023. Access Date: 13 December 2023. https://www.bundeskanzler.de/bk-en/news/intergovernmental-consultations-germany-italy-2245266

On 29 November 2023, Minister Habeck reaffirmed the importance of building up green hydrogen production at the 28th Conference of the Parties to the United Nations Climate Change Conference in Dubai.[1424]

On 30 November 2023, the German International Climate Initiative (IKI) released The Strategy of the International Climate Initiative up to 2030.[1425] The strategy outlines the IKI's intention to mobilize EUR1.5 billion in private investment towards targets including energy efficiency improvements using green hydrogen as a means of energy storage.[1426]

On 12 December 2023, Minister for Economic Cooperation and Development Svenja Schulze delivered a speech to the Bundestag regarding her ministry's publication of the German Development Policy with Asia: Innovative – Social – Feminist.[1427] Schulze emphasized the increasing importance of cooperation with many Asian nations on issues of green hydrogen and sustainability.

On 13 December 2023, Federal Minister for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection Steffi Lemke announced the adoption of uniform requirements for the production of green hydrogen, with an amendment that explicitly defines the correct condition for hydrogen to be certified as green.[1428] According to the legislation, hydrogen is considered green if the electricity used in its production comes from one hundred per cent renewable sources, and all carbon emission related to its production, transportation, and storage are reduced by at least seventy per cent.

On 19 December 2023, the EIB and Germany collaborated to expand the Green Hydrogen Fund to accelerate the development of large-scale hydrogen projects to aid the green energy transition.[1429]

On 20 December 2023, Minister Habeck announced EUR350 million for funding electrolyser projects in Germany to attract additional renewable and green hydrogen projects, under the "Actions-as-a-Service" scheme by the European Hydrogen Bank.[1430]

[1424] Mehr Tempo, Solidarität, globale Partnerschaft: Deutschland auf der Weltklimakonferenz in Dubai, des Auswärtigen Amts, des Bundesministeriums für Wirtschaft und Klimaschutz, des Bundesministeriums für wirtschaftliche Zusammenarbeit und Entwicklung und des Bundesministeriums für Umwelt, Naturschutz, nukleare Sicherheit und Verbraucherschutz (Berlin) 29 November 2023. Translation Provided by Google Translate. Access Date: 13 December 2023. https://www.bmuv.de/pressemitteilung/mehr-tempo-solidaritaet-globale-partnerschaft-deutschland-auf-der-weltklimakonferenz-in-dubai-1

[1425] Internationale Klimaschutzinitiative (IKI): Bundesregierung legt Strategie bis 2030 vor, dem Bundesministerium für Wirtschaft und Klimaschutz und dem Auswärtigen Amt (Berlin) 30 November 2023. Translation Provided by Google Translate. Access Date: 13 December 2023. https://www.bmuv.de/pressemitteilung/internationale-klimaschutzinitiative-iki-bundesregierung-legt-strategie-bis-2030-vor

[1426] The Strategy of the International Climate Initiative up to 2030, International Climate Initiative (Berlin) 30 November 2023. Access Date: 13 December 2023. https://www.international-climate-initiative.com/en/iki-media/publication/the-strategy-of-the-international-climate-initiative-up-to-2030-1812/

[1427] Fueling the powerhouse through cooperation, Federal Ministry for Economic Cooperation and Development (Berlin) 12 December 2023. Access Date: 2 February 2024. https://www.bmz.de/en/news/speeches-and-contributions/minister-svenja-schulze/231212-speech-asia-strategy-195706

[1428] Klare Regeln für Unternehmen beschleunigen den Markthochlauf von grünem Wasserstoff, Bundesministerium für Umwelt, Naturschutz, nukleare Sicherheit und Verbraucherschutz (Berlin) 13 December 2023. Translation provided by Google Translate. Access Date: 2 February 2024. https://www.bmuv.de/pressemitteilung/klare-regeln-fuer-unternehmen-beschleunigen-den-markthochlauf-von-gruenem-wasserstoff

[1429] Replenishment of Green Hydrogen Fund: EIB and Germany accelerate global ramp-up of clean hydrogen, European Investment Bank (Luxembourg City) 19 December 2023. Access Date: 3 March 2024. https://www.eib.org/en/press/news/replenishment-of-green-hydrogen-fund-eib-and-germany-accelerate-global-ramp-up-of-clean-hydrogen

[1430] Today, the European Commission and the Federal Ministry for Economic Affairs and Climate Action are announcing a new milestone in boosting sustainable and clean energy funding for the hydrogen ramp-up across Europe, Federal Ministry for Economic Affairs and Climate Action (Berlin) 20 December 2023. Access Date: 27 February 2024. https://www.bmwk.de/Redaktion/EN/Pressemitteilungen/2023/12/20231220-boosting-sustainable-and-clean-energy-across-europe.html

On 9 January 2024, Minister Habeck visited the Middle East to hold multilateral talks on further cooperation in the fields of renewable energy and international hydrogen production.[1431]

On 5 February 2024, Federal Cabinet announced an agreement on core parts of the Power Station Strategy, which aims to decarbonize the German energy sector and secure the electricity supply through expanding renewable energy production and investing in building hydrogen-capable power stations, as well as converting existing gas-fired plants to be hydrogen capable by 2040 at latest.[1432] The Federal Cabinet also announced an agreement to fully remove existing barriers to establishing and operating electrolysers. The agreement plans to remove double-charging of levies on energy used for storage in order to further incentivize hydrogen production.

On 7 February 2024, Minister Habeck visited Algeria on a business delegation to strengthen German-Algerian cooperation on expanding renewable energy and establishing a green hydrogen industry in the country.[1433] The talks also included a roundtable on the H2 Corridor Project of the German-Algerian Energy Partnership initiative, which aims to facilitate hydrogen imports through pipelines in the Mediterranean to Germany, Italy, and Austria.

On 14 February 2024, Parliamentary State Secretary for Economic Affairs and Climate Action Stefan Wenzel attended the 2024 International Energy Agency Ministerial Meeting and held bilateral talks on hydrogen with Japanese State Minister for Economy, Trade and Industry Kazuchika Iwata.[1434]

On 20 February 2024, Minister Habeck met with Danish Minister for Industry, Business, and Financial Affairs Morten Bødskov to discuss their countries' shared commitment to climate-friendly energy transformation.[1435] A roundtable of business representatives from both countries shared views on creating appropriate policy grounds for expanding the hydrogen industry and the electrolysers.

On 20 February 2024, the Federal Ministry for Economic Affairs and Climate Action committed EUR3.53 billion from the Climate Transformation Plan for future green hydrogen imports between 2027 and 2036.[1436] Minister Habeck announced German cooperation with Netherlands and the European Hydrogen Bank to accelerate Germany's hydrogen supply. Germany aims to develop the market for hydrogen through auction systems and price-differential matching between international and domestic prices to encourage supply and demand.

On 22 February 2024, State Secretary for Economic Cooperation and Development Jochen Flasbarth met with Indian partners to discuss mobilizing private capital towards India's green transformation through renewable

[1431] Habeck visits Middle East for talks, Federal Ministry for Economic Affairs and Climate Action (Berlin) 9 January 2024. Access Date: 27 February 2024. https://www.bmwk.de/Redaktion/EN/Pressemitteilungen/2024/01/20240109-habeck-visits-middle-east-for-talks.html

[1432] Agreement on Power Station Strategy, Federal Ministry for Economic Affairs and Climate Action (Berlin) 5 February 2024. Access Date: 27 February 2024. https://www.bmwk.de/Redaktion/EN/Pressemitteilungen/2024/02/20240205-agreement-on-power-station-strategy.html

[1433] Federal Minister Habeck visits Algeria - focus on hydrogen and renewable energy, Federal Ministry for Economic Affairs and Climate Action (Berlin) 7 February 2024. Access Date: 27 February 2024. https://www.bmwk.de/Redaktion/EN/Pressemitteilungen/2024/02/20240207-federal-minister-habeck-visits-algeria.html

[1434] METI State Minister Iwata Attends 2024 IEA Ministerial Meeting, Ministry of Economy, Trade and Industry (Tokyo) 15 February 2024. Access Date: 6 March 2024. https://www.meti.go.jp/english/press/2024/0215_001.html

[1435] German-Danish cooperation on European industrial policy, Federal Ministry for Economic Affairs and Climate Action (Berlin) 20 February. Access Date: 28 April 2024. https://www.bmwk.de/Redaktion/EN/Pressemitteilungen/2024/02/20240220-german-danish-cooperation-on-european-industrial-policy.html

[1436] Global hydrogen ramp-up, Federal Ministry for Economic Affairs and Climate Action (Berlin) 20 February 2024. Access Date: 28 April 2024. https://www.bmwk.de/Redaktion/EN/Pressemitteilungen/2024/02/20240220-global-hydrogen-ramp-up.html

energy.[1437] State Secretary Flasbarth also acknowledged India's growing role in the world economy and its high stake in fulfilling global climate change mitigation goals, with emphasis on using German hydrogen technologies.

On 26 February 2024, Minister Habeck announced the Carbon Management Strategy, which will launch offshore carbon capture and storage operations within Germany.[1438] The strategy outlines that power-generating facilities using gaseous fuels like hydrogen will have access to carbon capture technologies to further reduce their carbon content. Minister Habeck also introduced the Carbon Storage Act, aiming to provide clear regulations and guidelines regarding carbon capture, and permitting offshore carbon capture and storage.

On 19 March 2024, Minister of Foreign Affairs Annalena Baerbock and Minister Habeck opened the 2024 Berlin Energy Transition Dialogue conference and brought delegations from more than 75 countries to discuss accelerating the global energy transition and present concrete strategies and solutions.[1439] This year's summit focused on delivering on the 28th Conference of Parties to the United Nation's goal of tripling the capacity of global renewable energy installations through increased cooperation on multiple renewable energy sources, including hydrogen.

On 19 March 2024, Minister Habeck and Canadian Minister of Energy and Natural Resources Jonathan Wilkinson signed a Memorandum of Understanding to strengthen partnership in developing a transatlantic hydrogen corridor.[1440] The deal is projected to accelerate bilateral, commercial-scale hydrogen trade between Germany and Canada through Germany's H2Global Foundation, which will conduct price matching between a higher supply price and lower demand price for hydrogen, in addition to coordinating supply and demand side auctions, connecting Canadian hydrogen to potential buyers in Germany.

On 20 March 2024, Minister Habeck and Namibian Energy Minister Tom Alweendo signed an agreement for the Green Hydrogen Namibia Programme to support the country in building local green hydrogen supply chains and developing a green hydrogen-based industry.[1441] Germany pledged to support Namibia in defining standards for green hydrogen production and transportation and promote the creation of international legal requirements on the safe use of green hydrogen.

On 9 April 2024, the Ministry of Economic Affairs and Climate Protection launched a new application phase for the Renewable Energy Solutions program, which allows small and medium-sized enterprises to apply for marketing funding to advance and promote German climate-friendly technologies in foreign markets.[1442]

[1437] Deutschland und Indien wollen Privatkapital mobilisieren, Bundesministerium für wirtschaftliche Yusammenarbeit und Entwicklung (Berlin) 22 February 2024. Translation provided by Google Translate. Access Date: 27 February 2024. https://www.bmz.de/de/aktuelles/aktuelle-meldungen/deutschland-und-indien-wollen-privatkapital-mobilisieren-200670

[1438] Minister Habeck intends to make it possible to use CCS: "Without CCS, there is no way we can reach our climate targets," Federal Ministry for Economic Affairs and Climate Action (Berlin) 26 February 2024. Access Date: 28 April 2024. https://www.bmwk.de/Redaktion/EN/Pressemitteilungen/2024/02/20240226-minister-habeck-intends-to-make-it-possible-to-use-ccs.html

[1439] 10 years Berlin energy transition conference Berlin Energy Transition Dialogue" (BETD), Federal Ministry for Economic Affairs and Climate Action (Berlin) 19 March 2024. Access Date: 28 April 2024. https://www.bmwk.de/Redaktion/EN/Pressemitteilungen/2024/03/20240319-10-years-berlin-energy-transition-conference.html

[1440] Government of Canada and Germany Land Arrangement Securing Early Market Access for Clean Canadian Hydrogen, Natural Resources Canada (Ottawa) 18 March 2024. Access Date: 28 April 2024. https://www.canada.ca/en/natural-resources-canada/news/2024/03/government-of-canada-and-germany-land-agreement-securing-early-market-access-for-clean-canadian-hydrogen.html

[1441] Pioneering collaboration on hydrogen and PtX, Federal Ministry for Economic Affairs and Climate Action (Berlin) 20 March 2024. Access Date: 28 April 2024. https://www.bmwk.de/Redaktion/EN/Pressemitteilungen/2024/03/20240320-pioneering-collaboration-on-hydrogen-and-ptx.html

[1442] Exportförderung für klimafreundliche Energietechnologie, Bundesministerium für Wirtschaft und Klimaschutz (Berlin) 9 April 2024. Translation provided by Google Translate. Access Date: 28 April 2024. https://www.bmwk.de/Redaktion/DE/Pressemitteilungen/2024/04/20240409-exportfoerderung-fuer-klimafreundliche-energietechnologie.html

According to the Ministry, companies can receive up to EUR100,000 in funding for training, information exchange and public relations work to demonstrate the performance of their climate-friendly technologies abroad. The Renewable Energy Solutions program is part of Germany's Energy Export, which aims to support companies in various fields, including green hydrogen, expanding the global hydrogen market.

On 12 April 2024, the Bundestag passed an amendment to the Energy Industry Act that created legal guidelines for the enhancement of Germany's Hydrogen Core Network and provides clear regulations for the private sector to finance projects.[1443] The Federal Ministry of Economic Affairs and Climate Action outlines two phases in the "ramp-up of the core network." Initially, construction will focus on connecting key hydrogen supply and demand sites. After, the hydrogen core network can be transformed into an ongoing integrated network development plan for gas and hydrogen with the overarching aim of connecting Germany's large hydrogen consumption and production regions. The core network will begin successive operations in 2025.

On 23 April 2024, Minister Habeck and Norwegian Minister of Energy Terje Aasland presented the German-Norwegian Hydrogen Task Force's progress report at the Hannover Messe exhibition's North Sea Energy Hub conference.[1444] Minister Habeck also announced plans to expand Germany's hydrogen imports from Norway. To this end, their presentation also examined the potential of German demand for Norwegian hydrogen and possibilities of incentivizing this demand through relevant financial tools.

On 24 April 2024, Chancellor Scholz and British Prime Minister Rishi Sunak announced a joint feasibility study by the United Kingdom and Germany on the potential of a hydrogen trade agreement between the two countries.[1445]

Germany has fully complied with its commitment to enhance efforts to develop the rule-based, transparent global market and supply chains for low carbon and renewable hydrogen based on reliable international standards and certification schemes adhering to environmental and social standards. Germany advanced strong actions to develop the supply chain for low carbon and renewable hydrogen through funding for domestic and international hydrogen production projects, pipeline development and retrofitting, research, development and scaleup investments, legislation designed to increase hydrogen fuelling infrastructure, updates to the hydrogen strategy, and funding for hydrogen solutions to industry abatement. Germany supported the development of the rule-based global market for hydrogen, with strong actions, by enforcing hydrogen reporting requirements and jointly establishing a hydrogen governance body to support market development.

Thus, Germany receives a score of +1.

Analyst: Giorgi Kaikatsishvili

Italy: +1

Italy has fully complied with its commitment to enhance the global market and supply chains for low carbon and renewable hydrogen.

[1443] Gesetz zur Wasserstoff-Netzentwicklungsplanung und zur Kernnetz-Finanzierung im Deutschen Bundestag beschlossen, Bundesministerium für Wirtschaft und Klimaschutz (Berlin) 12 April 2024. Translation provided by Google Translate. Access Date: 28 April 2024. https://www.bmwk.de/Redaktion/DE/Pressemitteilungen/2024/04/20240412-gesetz-zur-wasserstoff-netzentwicklungsplanung.html

[1444] Minister Habeck stellt auf Hannover Messe Fortschrittsbericht der Deutsch-Norwegischen Wasserstoff-Task-Force vor, Bundesministerium für Wirtschaft und Klimaschutz (Berlin) 23 April 2024. Translation provided by Google Translate. Access Date: 28 April 2024. https://www.bmwk.de/Redaktion/DE/Pressemitteilungen/2024/04/20240423-habeck-fortschritt-deutsch-norwegische-wasserstoff-task-force.html

[1445] Close friendship, close collaboration, Federal Ministry for Economic Affairs and Climate Action (Berlin) 24 April 2024. Access Date: 28 April 2024. https://www.bundeskanzler.de/bk-en/news/federal-chancellor-prime-minister-sunak-2274452

On 8 June 2023, Prime Minister Giorgia Meloni and German Chancellor Olaf Scholz announced an agreement to build a new hydrogen pipeline between Italy and Germany.[1446] The pipeline will have the capacity to transport around four million tons of green hydrogen per year and is designed to enhance Italian and European hydrogen infrastructure capacity.[1447]

On 26 June 2023, Deputy Minister of Environment and Safety Vannia Gava unveiled, Rome's first hydrogen refuelling station and lauded Q8 and NextChem.[1448] Gava's attendance demonstrates the government's support for hydrogen.

On 22 July 2023, Minister of the Environment and Energy Security Gilberto Pichetto and the G20 Energy Ministers committed to "support acceleration of production, utilization, as well as development of transparent and resilient global markets for hydrogen produced from zero and low emission technologies and its derivatives such as ammonia by developing voluntary and mutually agreed harmonizing standards as well as mutually recognized, and interoperable certification schemes."[1449] The Ministers also agreed to high level steps needed to achieve their commitment including collaboration on national standards development for low carbon hydrogen and movement towards global harmonization, free trade advancement, research and development cooperation for technological innovation, finance activation to support the entire supply chain, as well as voluntary information exchanges.

On 25 July 2023, Prime Minister Meloni and other members of the European Council approved the 'Fit for 55' legislative package, including the Alternative Fuel Infrastructure Regulation.[1450] The adopted legislation dictates required targets for hydrogen refuelling infrastructure.[1451]

On 7 August 2023, Italy informed the European Commission about a EUR100 million project under the Temporary Crisis and Transition Framework to produce electrolysers to accelerate and promote hydrogen production.[1452]

[1446] Federal Chancellor Olaf Scholz in Rome, The Federal Government of Germany (Berlin) 8 June 2023. Access Date: 26 October 2023. https://www.bundesregierung.de/breg-en/search/scholz-rome-meloni-2195154
[1447] Germany, Italy support new hydrogen-ready pipeline project, Reuters (Rome) 8 June 2023. Access Date: 26 October 2023. https://www.reuters.com/business/energy/germany-italy-support-new-hydrogen-ready-pipeline-project-2023-06-08/
[1448] Stazione ad idrogeno Roma, Gava: "Sinergia che risponde a sfida transizione energetica," Ministero dell'Ambiente e della Sicurezza Energetica (Rome) 26 June 2023.Translation provided by Google Translate. Access Date: 8 December 2023. https://www.mase.gov.it/notizie/stazione-ad-idrogeno-roma-gava-sinergia-che-risponde-sfida-transizione-energetica
[1449] Outcome Document and Chair' Summary, G20 Information Centre (Goa) 22 July 2023. Access Date: 10 November 2023. http://www.g20.utoronto.ca/2023/230722-energy.html#annex1
[1450] European Green Deal: Energy Efficiency Directive, FuelEU Maritime Regulation and Alternative Fuel Infrastructure Regulation adopted helping make the EU 'Fit for 55', European Commission Directorate-General for Mobillity and Transport (Brussels) 25 July 2023. Access Date: 8 December 2023. https://transport.ec.europa.eu/news-events/news/european-green-deal-energy-efficiency-directive-fueleu-maritime-regulation-and-alternative-fuel-2023-07-25_en
[1451] European Green Deal: ambitious new law agreed to deploy sufficient alternative fuels infrastructure, European Commission (Brussels) 28 March 2023. Access Date: 11 December 2023. https://ec.europa.eu/commission/presscorner/detail/en/IP_23_1867
[1452] State aid: Commission approves €100 million Italian scheme to support the production of electrolysers to foster the transition to a net-zero economy', European Commission (Brussels) 9 October 2023. Access Date: 10 November 2023 https://ec.europa.eu/commission/presscorner/detail/en/ip_23_4730

On 28 August 2023, Minister of Business and Made in Italy Adolfo Urso approved an innovation agreement including EUR2.8 million in government funding to construct two pilot plants for fuel cells and flow batteries.[1453] Fuel cells form a part of the hydrogen supply chain, especially for electricity production.[1454]

On 5 September 2023, the Ministry of Business and Made in Italy allocated EUR300 million from the 'Fund to support industrial transition' to assist companies in their environmental protection investment programs.[1455] Qualifying projects include hydrogen production. The government plans to cover expenses ranging between EUR3 million to EUR20 million for eligible programs.

On 3 October 2023, Ferrovie Nord Milano (FNM) and Alstom jointly unveiled the Coradia Stream, a EUR160 million hydrogen-powered train.[1456] Ferrovie Dello Stato, the Italian state-owned rail company owns 14.74 per cent of FNM.[1457] FNM plans for the Coradia to begin operating commercially in Valcamonica between late 2024 and early 2025.[1458] This initiative forms part of the H2iseO project, which aims to establish Italy's first Hydrogen Valley in the Brescia region. The Coradia Stream aligns with European environmental objectives and entails renewable hydrogen because it produces zero direct carbon emissions using hydrogen fuel cells.

On 4 October 2023, the Ministry of the Environment and Energy security announced the implementation of the Carbon Border Adjustment Mechanism (CBAM).[1459] The CBAM, meant to reduce carbon leakage, enters a transitional phase to the end of 2025, requiring reporting from six sectors, including hydrogen.

On 9 October 2023, Prime Minister Meloni and other members of the European Council granted final approval of two pillars of the 'Fit for 55' legislative package the ReFuelEU Aviation Regulation, and the revised Renewable Energy Directive.[1460] The updated directives outline GHG emission reductions of 14.5 per cent in the transport sector. The regulation increases the quota for renewable fuels, including hydrogen. The approval ensures fair competition among European companies through the implementation of the CBAM.

On 11 October 2023, Minister of University and Research Anna Maria Bernini and German Minister for Education and Research Bettina Stark-Watzinger hosted the Green Hydrogen Generation, Transport and

[1453] Energia green, Urso autorizza accordo per l'innovazione per lo sviluppo di materiale per celle a combustibile e batterie a flusso, Ministero delle Imprese e del Made in Italy (Rome) 28 August 2023. Translation provided by Google Translate. Access Date: 8 December 2023 https://www.mimit.gov.it/it/notizie-stampa/energia-green-urso-autorizza-accordo-per-linnovazione-per-lo-sviluppo-di-materiale-per-celle-a-combustibile-e-batterie-a-flusso

[1454] Water Electrolyzers and Fuel Cells Supply Chain Deep Dive Assessment, Department of Energy Office of Energy Efficiency and Renewable Energy (Washington D.C.) n.d. Access Date: 16 December 2023. https://www.energy.gov/eere/fuelcells/water-electrolyzers-and-fuel-cells-supply-chain-deep-dive-assessment

[1455] Transizione green, stanziati 300 milioni per i programmi di investimento delle imprese, Ministero delle Imprese e del Made in Italy (Rome) 5 September 2023. Translation provided by Google Translate. Access Date: 8 December 2023 https://www.mimit.gov.it/it/notizie-stampa/transizione-green-stanziati-300-milioni-per-i-programmi-di-investimento-delle-imprese

[1456] FNM and Alstom present Italy's first hydrogen-powered train, Alstom (Paris) 3 October 2023. Access Date: 10 November 2023. https://www.alstom.com/press-releases-news/2023/10/fnm-and-alstom-present-italys-first-hydrogen-powered-train

[1457] La holding FNM è una società per azioni quotata in Borsa, Ferrovie Nord Milano (Milan) 19 July 2022. Translation provided by Google Translate. Access Date: 13 November 2023. https://web.archive.org/web/20220719212151/https://www.fnmgroup.it/it/il-gruppo-fnm-in-borsa

[1458] FNM and Alstom present Italy's first hydrogen-powered train, Alstom (Paris) 3 October 2023. Access Date: 13 November 2023. https://www.alstom.com/press-releases-news/2023/10/fnm-and-alstom-present-italys-first-hydrogen-powered-train

[1459] Parte il meccanismo di adeguamento del carbonio alle frontiere (CBAM), avviata prima fase transitoria, Ministero dell'Ambiente e della Sicurezza Energetica (Rome) 4 October 2023. Access Date: 16 December 2023. https://www.mase.gov.it/notizie/parte-il-meccanismo-di-adeguamento-del-carbonio-alle-frontiere-cbam-avviata-prima-fase

[1460] Final adoption of ReFuelEU Aviation completes 'Fit for 55' legislation, putting EU on track to exceed 2030 targets, European Commission Directorate-General for Mobility and Transport (Brussels) 9 October 2023. Access Date: 8 December 2023. https://transport.ec.europa.eu/news-events/news/final-adoption-refueleu-aviation-completes-fit-55-legislation-putting-eu-track-exceed-2030-targets-2023-10-09_en

Application: German-Italian Perspectives on the Energy Transition and Hydrogen Economy workshop.[1461] The event facilitated hydrogen discussions on national strategies, projects underway, plans for a hydrogen corridor and proposed solutions to market barriers.

On 16 October 2023, Minister of Economy and Finance Giancarlo Giorgetti, tabled the 2024 Draft Budget Plan with the Cabinet; its main measures comprise growing the national economy with a focus on the green energy transition including hydrogen, while maintaining sound public finances.[1462] The REPowerEU chapter for Italy represented in the budget plan consists of EUR2.76 billion for investments in energy networks, the green transition & energy efficiency, and green energy supply chains. Measures to support the green transition and energy efficiency include tax credits, non-repayable contributions, subsidized loans, and instruments like development contracts. Types of projects favoured comprise renewable energy production, self-production facilities, hydrogen production especially in disused areas, and R&D related to hydrogen. Energy supply chain development focuses on strategic, sustainable and circular, safe supplies of critical materials, parts, and technologies.

On 18 October 2023, Minister Urso and President of the National Association for the Automotive Industry Roberto Vavassori, signed a Memorandum of Understanding, outlining keys to address Italy's ecological transition within the automotive supply chain by 2030.[1463] The Memorandum supports market policy adoption to encourage hydrogen utilization.

On 31 October 2023, the Council of Ministers published the Decree No. 145 and introduced Senate Act No. 926, the Budget Law 2024, approved in Cabinet on 18 October 2023.[1464] The 2024 Budget recognizes the main upcoming European deadlines (Milestones and Targets) for the Ministry of Environment and Energy Security (MASE).[1465] MASE will follow up on the timetable of reforms, including awarding and starting projects related to production and consumption of green hydrogen together with the completion of the related regulatory framework. The budget strategy differentiates energy sources and favors the development of renewables, biofuels, biomethane and hydrogen as part of Component 2 Implementation (M2C2) through specific incentive policies. The budget also focuses on sustainable mobility as a key contributor to the "Fit for 55" targets through various technologies driven by research and development (R&D) and market arrangements; these include electric transport, with widespread charging stations, biofuels, and hydrogen. To contribute to various energy objectives, including implementation of M2C2, the budget plan provides for a tax credit up to 80 per cent of costs incurred until 31 December 2024 for system investments powered by renewable sources with power exceeding 20 kW. The overall spending envelope for the tax credit allocates EUR20 million for 2024 and EUR50 million for 2025. In total, for all national investments within the scope of the Recovery and Resilience Plan's implementation, including hydrogen, the Budget Plan authorizes EUR200 million euros for 2024, 2025 and 2026 as well as for financing specific experimental projects connected to the progressive increase in zero-emission mobility through the replacement or conversion of diesel-powered trains with electrically powered, as well as hybrid or hydrogen-powered trains. The Estimates of the Minister of Infrastructure and Transport section creates a fund with an initial allocation of EUR50 million for each of 2024 to 2026, for the purchase of railway rolling stock hydrogen. An amount up to EUR10 million per year can be allocated to the financing of

[1461] Green Hydrogen Generation, Transport And Application: German-Italian Perspectives On The Energy Transition And Hydrogen Economy, Federal Ministry of Education and Research (Berlin) 11 October 2023. Access Date: 27 November 2023. https://live.invitario.com/data/uploads/files/21541/20230912_Workshopprogramm.pdf

[1462] 2024 Draft Budget Plan Italy, Minister of Economy and Finance (Rome) 16 October 2023. Access Date: 13 December 2023. https://economy-finance.ec.europa.eu/system/files/2023-11/2024_dbp_it_en.pdf

[1463] MIMIT e ANFIA siglano accordo strategico per la transizione del settore automotive, Ministero delle Imprese e del Made in Italy (Rome) 18 October 2023. Translation provided by Google Translate. Access Date: 8 December 2023 https://www.mimit.gov.it/it/notizie-stampa/mimit-e-anfia-siglano-accordo-strategico-per-la-transizione-del-settore-automotive

[1464] Atto Senato n.926, Senato Della Repubblica (Rome) n.d. Translation provided by Google Translate. Access Date: 13 December 2023. https://www.senato.it/leg/19/BGT/Schede/Ddliter/aula/57654_aula.htm

[1465] Bilancio di previsione dello Stato per l'anno finanziario 2024 e bilancio pluriennale per il triennio 2024-2026, Senato Della Repubblica (Rome) 6 December 2023. Access Date: 6 December 2023. https://www.senato.it/leg/19/BGT/Schede/FascicoloSchedeDDL/ebook/57654.pdf

experimental projects linked to the use of hydrogen in rail transport. The Budget Plan establishes a second fund called the "Mediterranean Project" for a range of projects to develop Italy's economy from the sea, such as R&D for electric and hydrogen powered boats. The plan authorizes EUR100 million from 2024.

On 13 November 2023, Minister Pichetto opened a call for electrolyser proposals with EUR100 million in funding available.[1466] The funding aims to achieve one gigawatt in annual electrolyser production by 2026 to fill part of the supply chain for in demand renewable hydrogen.

On 14 November 2023, Minister Pichetto addressed the Merita Foundation on hydrogen.[1467] He reiterated Italy's commitment to hydrogen as a decarbonization solution especially for difficult to abate sectors. Pichetto also signaled Italy's intention to use existing and in-development pipelines for hydrogen transportation in Europe and with North African countries.

On 17 November 2023, Minister Pichetto announced EUR118 million for hydrogen R&D to support cost reductions and uptake.[1468]

On 20 November 2023, Minister Pichetto delivered a speech to the Proxigas assembly where he declared hydrogen "a path of the future" for Italy.[1469] His remarks show investors across gas supply chains Italy's commitment to market certainty and support for hydrogen.

On 26 November 2023, Minister Urso and Qatari Minister of Trade and Industry Mohammed Al Thani discussed commercial cooperation including for renewable and low carbon hydrogen.[1470] Minister Urso presented hydrogen trade opportunities centered around the Port of Trieste.

On 27 November 2023, Minister Urso and Saudi President of the Royal Commission for Jubail and Yanbou Khalid al Saalem discussed investment implementation for green technology and hydrogen.[1471]

On 29 November 2023, Invitalia operationalized renewable hydrogen incentives on benhalf of the Ministry of Enviornment and Energy Security.[1472] The program includes up to EUR100 million in grants for hydrogen and electrolyser production.

[1466] Idrogeno green: da MASE 100 milioni per nuovi investimenti in elettrolizzatori. Proposte dal prossimo 11 dicembre fino al 26 gennaio 2024., Ministero dell'Ambiente e della Sicurezza Energetica (Rome) 13 November 2023. Translation provided by Google Translate. Access Date: 16 December 2023. https://www.mase.gov.it/comunicati/idrogeno-green-da-mase-100-milioni-nuovi-investimenti-elettrolizzatori-proposte-dal

[1467] Idrogeno: Pichetto, Italia può essere centrale nella produzione e ponte per il Nordafrica, Ministero dell'Ambiente e della Sicurezza Energetica (Rome) 14 November 2023. Translation provided by Google Translate. Access Date: 16 December 2023. https://www.mase.gov.it/comunicati/idrogeno-pichetto-italia-puo-essere-centrale-nella-produzione-e-ponte-il-nordafrica

[1468] Energia : da MASE 502 milioni di euro per accelerare la transizione energetica, Ministero dell'Ambiente e della Sicurezza Energetica (Rome) 17 November 2023. Translation provided by Google Translate. Access Date: 16 December 2023. https://www.mase.gov.it/comunicati/energia-da-mase-502-milioni-di-euro-accelerare-la-transizione-energetica

[1469] Gas: Pichetto, c'è nuova centralità italiana, puntare su diversificazione e nuovi rigassificatori, Ministero dell'Ambiente e della Sicurezza Energetica (Rome) 20 November 2023. Translation provided by Google Translate. Access Date: 16 December 2023. https://www.mase.gov.it/comunicati/gas-pichetto-ce-nuova-centralita-italiana-puntare-su-diversificazione-e-nuovi

[1470] Qatar: Urso incontra Mohammed Al Thani, Ministero delle Imprese e del Made in Italy (Doha) 26 November 2023. Translation provided by Google Translate. Access Date: 16 December 2023. https://www.mimit.gov.it/it/notizie-stampa/qatar-urso-incontra-mohammed-al-thani

[1471] Urso in Missione in Arabia Saudita, Ministero delle Imprese e del Made in Italy (Riyadh) 27 November 2023. Translation provided by Google Translate. Access Date: 16 December 2023. https://www.mimit.gov.it/it/notizie-stampa/arabia-saudita-incontro-urso-al-saalem-partnership-nel-settore-minerario

[1472] PNRR: idrogeno rinnovabile; al via la piattaforma per incentivi su filiera componenti, Ministero dell'Ambiente e delle Sicurezza Energetica (Rome) 29 November 2023. Translation Provided by Google Translate. Access Date: 28 April 2024. https://www.mase.gov.it/notizie/pnrr-idrogeno-rinnovabile-al-la-piattaforma-incentivi-su-filiera-componenti

On 11 December 2023, Minister Urso issued a ministerial decree to authorize Italy's participation in several Important Projects of Common European Interest including the "Hydrogen One" and "Hydrogen Two" programs.[1473]

On 4 March 2024, Minister Pichetto and French Minister for Economy, Finance and Industrial and Digital Sovereignty Bruno Le Maire discussed the importance of of accelerating the use of hydrogen and nuclear energy to reach decarbonisation targets and strengthen energy security.[1474] Minister Pichetto emphasized Italy's role in connecting African and European energy supply chains.

On 18 April 2024, Minister Pichetto announced that the Ministry of Environment and Energy Security will allocate EUR150 million to fund the production of hydrogen in abandoned industrial areas as part of the Hydrogen Valley program.[1475] Minister Pichetto stated that this funding is an important step for Italy to compete and play a leading role in the international market.

On 30 April 2024, Minister Urso announced the implementation of the "Mini Development Contracts" under the DL Cohesion Framework.[1476] The contracts, funded in total by EUR300 million, aim to support small, medium and large enterprises in developing the necessary technology to support the energy transition, including green technologies such as hydrogen.

On 10 May 2024, the Ministry of Business and Made in Italy announced EUR1.5 billion to support companies and research organisations in their implementation of EU common interest projects.[1477] Of this, over EUR455.7 million will fund "Hydrogen One" projects and over EUR149.2 million will be allocated for "Hydrogen Two" programs.

Italy has fully complied with its commitment to enhance efforts to develop the rule-based, transparent global market and supply chains for low carbon and renewable hydrogen based on reliable international standards and certification schemes adhering to environmental and social standards. Italy advanced strong actions to develop the supply chain for low carbon and renewable hydrogen through funding and tax credits for hydrogen production projects, research and development investments, hydrogen powered rail infrastructure, pipeline development agreements, legislation designed to increase hydrogen fuelling infrastructure, supply-chain supportive funding for fuel cell technologies and electrolysers. Italy supported the development of the rule-based global market for hydrogen, with strong actions, by enforcing hydrogen reporting requirements and jointly establishing a hydrogen governance body to support market development.

Thus, Italy receives a score of +1.

Analyst: Minahil Syed

[1473] Decreto ministeriale 11 dicembre 2023 – Fondo a sostegno dei progretti IPCEI, Ministero delle Imprese e del Made in Italy (Rome) 11 December 2023. Translation Provided by Google Translate. Access Date: 5 May 2024. https://www.mimit.gov.it/it/normativa/decreti-ministeriali/decreto-ministeriale-11-dicembre-2023-fondo-a-sostegno-dei-progetti-ipcei

[1474] Energia: il Ministro Pichetto al Consiglio Ue, "passi avanti su biometano e gas rinnovabili", Ministero dell'Ambiente e della Sicurezza Energetica (Rome) 5 March 2024. Translation Provided by Google Translate. Access Date: 5 May 2024. https://www.mase.gov.it/comunicati/energia-il-ministro-pichetto-al-consiglio-ue-passi-avanti-su-biometano-e-gas-rinnovabili

[1475] Hydrogen Valleys: il MASE finanzia nuovi progetti per la produzione di idrogeno in aree industriali dismesse, Ministero dell'Ambiente e della Sicurezza Energetica (Rome) 18 April 2024. Translation Provided by Google Translate. Access Date: 5 May 2024. https://www.mase.gov.it/comunicati/hydrogen-valleys-il-mase-finanzia-nuovi-progetti-la-produzione-di-idrogeno-aree

[1476] DL Coesione, MIMIT: 300 millioni per 'Mini contratti di sviluppo', Ministero delle Imprese e del Made in Italy (Rome) 30 April 2024. Access Date: 15 May 2024. https://www.mimit.gov.it/it/notizie-stampa/dl-coesione-mimit-300-milioni-per-mini-contratti-di-sviluppo-per-sostenere-investimenti-in-innovazione-da-5-a-20-milioni

[1477] IPCEI, il MIMIT dispone l'integrazione di 1 miliardo e 500 millioni, Ministero delle Imprese e del Made in Italy (Rome) 10 May 2024. Access Date: 15 May 2024. https://www.mimit.gov.it/it/notizie-stampa/ipcei-il-mimit-dispone-lintegrazione-di-1-miliardo-e-500-milioni

Japan: +1

Japan has fully complied with its commitment to enhance efforts to develop the rule-based, transparent global market and supply chains for low carbon and renewable hydrogen based on reliable standards and certification schemes adhering to environmental and social standards.

On 25 May 2023, the Ministry of the Environment announced the successful applicants from its City-to-City Collaboration Program that advances global decarbonization, and approved five projects that advance hydrogen.[1478,1479]

On 25 May 2023, Deputy Commissioner for International Policy on Carbon Neutrality Ryo Minami and Korean Director General for Energy Policy Wonju Lee attended the 2nd Japan-Korea Energy Cooperation Dialogue.[1480] At the forum, both country representatives introduced clean energy policies for their respective countries and discussed future collaboration on hydrogen policy.

On 28 May 2023, Minister of Economy, Trade and Industry Yasutoshi Nishimura and participants at the Indo-Pacific Economic Framework Ministerial Meeting voted in favor of hydrogen cooperation led by Japan and Singapore.[1481]

On 30 May 2023, State Minister of Economy, Trade and Industry Fusae Ota and David Eby, Premier of British Columbia in Canada, discussed cooperation.[1482] This discussion emphasised strengthening energy security and achieving carbon neutrality through diverse technologies and energy sources, including renewable energy, energy conservation, hydrogen, and carbon capture, use and storage (CCUS).

On 6 June 2023, the Agency for Natural Resources and Energy released its updated Overview of Basic Hydrogen Strategy.[1483] The updated strategy indicates a Japanese policy to provide immediate funding for up to JPY20 trillion in support of green hydrogen transformation and decarbonization. Japan aims to increase consumption of hydrogen from anticipated 3 million tons per year by 2030, to about 20 million tons per year by 2050. The main aims of the initiative include increasing hydrogen competitiveness, increasing production capacities, and increasing Japanese hydrogen's international presence. The updated strategy also includes measures to build a safety regulation system which covers the entire Japanese hydrogen supply chain to promote safe use of hydrogen.

On 12 June 2023, Minister Nishimura and United Arab Emirates (UAE) Minister of Foreign Affairs Abdullah bin Zayed Al Nahyan announced their commitment to strengthening cooperation and economic ties between Japan and the UAE, particularly in the hydrogen industry.[1484]

[1478] MOE Japan selects 21 projects for the City-to-City Collaboration Program to support the decarbonization efforts by overseas subnational governments, Ministry of the Environment Government of Japan (Tokyo) 25 May 2023. Access Date: 5 December 2023. https://www.env.go.jp/en/press/press_01487.html

[1479] 令和5年度脱炭素社会実現のための都市間連携事業委託業務 採択事業一覧, 環境省 (Tokyo) 25 May 2023. Access Date: 9 December 2023. https://www.env.go.jp/content/000135129.pdf

[1480] The 2nd Japan-Korea Energy Cooperation Dialogue Held, Ministry of Economy, Trade and Industry (Busan) 25 May 2023. Access Date: 5 December 2023. https://www.meti.go.jp/english/press/2023/0525_002.html

[1481] METI Minister Nishimura Visits Detroit, the United States, Ministry of Economy, Trade and Industry (Detroit) 28 May 2023. Access Date: 5 December 2023. https://www.meti.go.jp/english/press/2023/0528_001.html

[1482] METI and the Government of British Columbia, Canada Confirmed Cooperation in the Fields of Energy and R&D, Ministry of Economy, Trade and Industry (Tokyo) 30 May 2023. Access Date: 5 December 2023. https://www.meti.go.jp/english/press/2023/0530_001.html

[1483] Overview of Basic Hydrogen Strategy, Agency for Natural Resources and Energy (Tokyo) 6 June 2023. Access Date: 13 December 2023. https://www.meti.go.jp/shingikai/enecho/shoene_shinene/suiso_seisaku/pdf/20230606_4.pdf

[1484] Minister Nishimura Holds Meeting with Minister of Foreign Affairs of the United Arab Emirates (UAE) Abu Dallah, Ministry of Economy, Trade and Industry (Tokyo) 12 June 2023. Access Date: 5 December 2023. https://www.meti.go.jp/english/press/2023/0612_002.html

On 26 June 2023, Deputy Commissioner Minami and Deputy Commissioner for International Affairs Izuru Kobayashi participated in the first Asia Zero Emission Community (AZEC) Senior Officials Meeting in Jakarta.[1485] AZEC participants agreed to create action plans addressing hydrogen, CCUS standards, and Japan's Joint Credit Mechanism (JCM) for carbon emissions.

On 28 June 2023, Parliamentary Vice-Minister of the Environment Isato Kunisada and Mongolian Vice-Minister of Environment and Tourism Ganbaatar Myagmarjav conducted the 15th Japan-Mongolia Environmental Policy Dialogue in Mongolia.[1486] The two countries agreed to continue cooperation and introduce advanced decarbonizing technologies, including green hydrogen.

On 30 June 2023, the Ministry of Economy, Trade and Industry (METI) launched a safety portal website for the Hydrogen Safety Strategy.[1487] The portal aims to facilitate safe hydrogen utilization across the supply chain and contribute to the development of a hydrogen society.

On 6 July 2023, Ambassador of Japan Hideki Goda and Kyrgyz Deputy Minister of Natural Resources Ecology and Technical Supervision Azamat Temirkulov signed a Memorandum of Cooperation to establish the JCM between Japan and the Kyrgyz Republic.[1488] Japan's JCM system creates incentives for uptake of decarbonization technologies including hydrogen.[1489]

On 10 July 2023, Parliamentary Vice-Minister of Economy, Trade and Industry Ryuji Satomi and Chilean Minister of Energy Diego Gonzalo Pardow, discussed sharing expertise and fostering cooperation between the countries' hydrogen industries.[1490]

On 12 July 2023, Vice-Minister Satomi and Colombian Vice-Minister of Trade, Industry, and Tourism Luis Filipe Quintero discussed the Japanese interest in Colombian hydrogen development.[1491]

On 16 July 2023, Prime Minister Fumio Kishida and Crown Prince Mohammed bin Salman agreed to deepen cooperation in clean energy, including hydrogen and critical minerals.[1492] The meeting emphasized support for the green transformation, industrial diversification, and human development.

On 21 July 2023, Minister Nishimura separately discussed bilateral cooperation on hydrogen with Indian Minister of Power and New and Renewable Energy Raj Khumar Singh, United States Secretary of Energy Jennifer Granholm, German Minister of Economic Affairs and Climate Action Robert Habeck, European Union Energy Commissioner Kadri Simson, Singapore Minister for Manpower and Second Minister for Trade and Industry Tan See Leng, Oman Minister of Energy and Minerals Salim bin Nasser bin Said al Aufi, Denmark Minister for Development Cooperation and Global Climate Policy Dan Jørgensen, and South African Minister

[1485] The First Asia Zero Emission Community Senior Officials Meeting (AZEC SOM) Held (Jakarta), Ministry of Economy, Trade, and Industry (Tokyo) 26 June 2023. Access Date: 5 December 2023. https://www.meti.go.jp/english/press/2023/0626_001.html
[1486] Results of the 15th Japan-Mongolia Environmental Policy Dialogue, Ministry of the Environment Government of Japan (Ulaanbaatar) 7 July 2023. Access Date: 5 December 2023. https://www.env.go.jp/en/press/press_01647.html
[1487] Hydrogen Safety Portal Website Launched, Ministry of Economy, Trade, and Industry (Tokyo) 30 June 2023. Access Date: 5 December 2023. https://www.meti.go.jp/english/press/2023/0630_002.html
[1488] Japan and Kyrgyz Republic Sign a Memorandum of Cooperation Establishing a Joint Crediting Mechanism (JCM), Ministry of Economy, Trade, and Industry (Tokyo) 6 July 2023. Access Date: 5 December 2023.
https://www.meti.go.jp/english/press/2023/0706_001.html
[1489] Joint Crediting Mechanism (JCM), Ministry of Foreign Affaris of Japan (Tokyo) 10 July 2023. Access Date: 9 December 2023.
https://www.mofa.go.jp/ic/ch/page1we_000105.html
[1490] METI Parliamentary Vice-Minister Satomi Visits South America (Chile, Colombia and Brazil), Ministry of Economy, Trade, and Industry (Tokyo) 20 July 2023. Access Date: 5 December 2023. https://www.meti.go.jp/english/press/2023/0720_001.html
[1491] METI Parliamentary Vice-Minister Satomi Visits South America (Chile, Colombia and Brazil), Ministry of Economy, Trade, and Industry (Tokyo) 20 July 2023. Access Date: 5 December 2023. https://www.meti.go.jp/english/press/2023/0720_001.html
[1492] Press Conference by Prime Minister Kishida on the Japan-Saudi Arabia Summit Meeting and Other Matters, Prime Minister's Office of Japan (Tokyo) 16 July 2023. Access Date: 5 December 2023.
https://japan.kantei.go.jp/101_kishida/statement/202307/16kaiken2.html

of Mineral Resources and Energy Samson Gwede Mantashi at the 14th Clean Energy Ministerial and 8th Mission Innovation Ministerial.[1493]

On 22 July 2023, Minister Nishimura and the G20 Energy Ministers committed to "support acceleration of production, utilization, as well as development of transparent and resilient global markets for hydrogen produced from zero and low emission technologies and its derivatives such as ammonia by developing voluntary and mutually agreed harmonizing standards as well as mutually recognized, and interoperable certification schemes."[1494] The Ministers also agreed to high level steps needed to achieve their commitment including collaboration on national standards development for low carbon hydrogen and movement towards global harmonization, free trade advancement, research and development cooperation for technological innovation, finance activation to support the entire supply chain, as well as voluntary information exchanges.

On 22 July 2023, Japan, along with Australia, Brazil, Canada, Chile, Germany, Saudi Arabia, Korea, the Netherlands, the United Arab Emirates, the United Kingdom, the United States, Uruguay and the European Commission on behalf of the European Union, jointly launched the International Hydrogen Trade Forum to advance the global hydrogen market.[1495] The Forum aims to connect importers and exporters and reduce barriers to trade and bolsters the global market for hydrogen.

On 24 July 2023, Prime Minister Kishida and President of the United Arab Emirates Mohamed bin Zayed Al Nahyan signed a joint declaration of interest on establishing the Energy Security and Industry Accelerator.[1496] The Accelerator aims to advance industries like hydrogen.

On 26 July 2023, Minister Nishimura and Australian Minister for Climate Change and Energy Efficiency Chris Bowen discussed shared concerns related to decarbonization, energy security, and economic growth.[1497] Japan and Australia have collaborated closely in the fields of hydrogen and fuel ammonia. Future energy cooperation plans were discussed, aligning with the Asia Zero Emissions Community concept.

On 8 August 2023, Minister Nishimura and Namibian Minister of Mines and Energy Thomas Kavaningilamo discussed strengthening cooperation between Japan and Namibia in the fields of hydrogen, ammonia, mining and trade and investment.[1498]

[1493] METI Minister Nishimura Attends the 14th Clean Energy Ministerial (CEM14) and 8th Mission Innovation Ministerial (MI-8), and a G20 Energy Transitions Ministers' Meeting, Ministry of Economy, Trade and Industry (Goa) 23 July 2023. Access Date: 9 December 2023. https://www.meti.go.jp/english/press/2023/0723_001.html

[1494] Outcome Document and Chair' Summary, G20 Information Centre (Goa) 22 July 2023. Access Date: 10 November 2023. http://www.g20.utoronto.ca/2023/230722-energy.html#annex1

[1495] LAUNCH OF THE INTERNATIONAL HYDROGEN TRADE FORUM TO ACCELERATE GLOBAL COLLABORATION, Clean Energy Ministerial (Goa) 22 July 2023. Access Date: 15 December 2023. https://www.cleanenergyministerial.org/launch-of-the-international-hydrogen-trade-forum-to-accelerate-global-collaboration/

[1496] Japan – UAE Innovation Partnership Released, Ministry of Economy, Trade and Industry (Tokyo) 24 July 2023. Access date: 5 December 2023. https://www.meti.go.jp/english/press/2023/0724_001.html

[1497] Minister Nishimura Holds Meeting with Mr. Chris Bowen, Minister for Climate Change and Energy of Australia, Ministry of Economy, Trade and Industry (Tokyo) 26 July 2023. Access Date: 5 December 2023. https://www.meti.go.jp/english/press/2023/0726_003.html

[1498] METI Minister Nishimura Visits the Republic of Namibia and Signs a Joint Statement on Cooperation in the Mining Sector with H.E. Mr. Thomas Kavaningilamo Alweendo, Minister of Mines and Energy, and a Joint Statement on Cooperation in Improving Investment Environment and Economic Relationship with H.E. Ms. Lucia Iipumbu, Minister of Industrialization and Trade, Ministry of Economy, Trade and Industry (Tokyo) 8 August 2023. Access Date: 5 December 2023. https://www.meti.go.jp/english/press/2023/0808_002.html

On 16 August 2023, State Minister Ota and New Zealand Minister of Natural Resources and Energy Megan Wood discussed bilateral hydrogen cooperation at the Asia-Pacific Economic Cooperation Energy Ministerial.[1499]

On 31 August 2023, METI, in coordination with the U.S. Department of Energy, National Energy Technology Laboratory (NETL), and the New Energy and Industrial Technology Development Organization (NEDO) hosted the US-Japan CCUS/Carbon Recycling Working Group.[1500] Participants in the working group agreed on the need to expand collaboration projects and deploy technologies in various regions, including the Asia-Pacific. Notably, the importance of ongoing collaboration between NETL'S National Carbon Capture Center (NCCC) and NEDO's R&D and Demonstration base for Carbon Recycling at Osaki-Kamijima was emphasized. CCUS represents a crucial element in the low carbon hydrogen supply chain.[1501]

On 31 August 2023, METI hosted the Indo-Pacific Economic Framework Japan week.[1502] The four-day program focused in on the clean economy and covered topics such as hydrogen and ammonia, which accelerating negotiations and promoting cooperation.

On 6 September 2023, Minister Nishimura and UK Secretary of State for Business and Trade Kemi Badenoch held the first Japan-UK Strategic Economic Policy and Trade Dialogue in London.[1503] The Ministers committed to cooperation in the deployment of clean energy technologies including Hydrogen and Carbon Capture, Utilisation and Storage technology.

On 9 September 2023, Prime Minister Kishida conducted a meeting with Australian Prime Minister Anthony Albanese at the G20 Summit.[1504] The leaders specifically, they agreed to collaborate on decarbonization in Asia through the AZEC initiative. They also emphasized cooperation in the hydrogen and ammonia sectors.

On 12 September 2023, State Minister of Economy, Trade and Industry Shinichi Nakatani and a delegation of the hydrogen taskforce of the Movement of Enterprises of France (MEDEF) led by Frederic Sanchez discussed economic relations between Japan and France with a particular focus on cooperation in the field of hydrogen.[1505] State Minister Nakatani and the MEDEF delegation explored potential support measures to enhance collaboration between the industrial communities of both countries.

On 25 September 2023, the METI and the New Energy and Industrial Technology Development Agency jointly hosted the Sixth Hydrogen Energy Ministerial meeting.[1506] The meeting discussed a global hydrogen demand target, industry and job creation, setting carbon intensity based international standards and certifications, and advancing fiscal supports for emerging economies.

[1499] METI State Minister Ota Attends APEC (Asia-Pacific Economic Cooperation) Energy Ministerial Meeting, Ministry of Economy, Trade and Industry (Seattle) 17 August 2023. Access Date: 15 December 2023. https://www.meti.go.jp/english/press/2023/0817_001.html

[1500] The U.S.-Japan CCUS/Carbon Recycling Working Group Held), Ministry of Economy, Trade and Industry (Pittsburgh) 5 September 2023. Access Date: 5 December 2023. https://www.meti.go.jp/english/press/2023/0905_002.html

[1501] Identifying the differences in between Green, Low Carbon, and Renewable Hydrogen, United Nations Environment Program (Copenhagen) 27 April 2023. Access Date: 28 September 2023. https://c2e2.unepccc.org/wp-content

[1502] METI held the IPEF Japan Week, Ministry of Economy, Trade and Industry (Tokyo) 31 August 2023. Access Date: 5 December 2023. https://www.meti.go.jp/english/press/2023/0831_003.html

[1503] Joint Statement of the Japan-UK Strategic Economic Policy and Trade Dialogue, Government of the United Kingdom (London) 6 September 2023. Access Date: 2 November 2023. https://www.gov.uk/government/news/joint-statement-of-the-japan-uk-strategic-economic-policy-and-trade-dialogue

[1504] Japan-Australia Leaders' meeting (Summary), Prime Minister's Office of Japan (New Delhi) 9 September 2023. Access Date: 5 December 2023. https://japan.kantei.go.jp/101_kishida/diplomatic/202309/09australia.html

[1505] State Minister Nakatani Receives Courtesy Call from the Hydrogen Taskforce of Mouvement des Entreprises de France (MEDEF), Ministry of Economy, Trade and Industry (Tokyo) 13 September 2023. Access Date: 5 December 2023. https://www.meti.go.jp/english/press/2023/0913_002.html

[1506] Sixth Hydrogen Energy Ministerial Meeting Held, Ministry of Economy, Trade and Industry (Tokyo) 25 September 2023. Access Date: 3 November 2023. https://www.meti.go.jp/english/press/2023/0925_002.html

On 27 September 2023, the METI signed a memorandum of cooperation to advance CCUS projects with the Japan Organization for Metals and Energy Strategy and the Malaysian national oil company, Petronas.[1507] The collaborative venture envisions transporting carbon from Japanese industries to Malaysia for storage and abating emissions from blue and grey hydrogen as highlighted in Japan's hydrogen strategy.[1508]

On 27 September 2023, the METI and the New Energy and Industrial Technology Development Organization jointly held the Fifth International Conference on Carbon Recycling.[1509] This conference released a summary statement that emphasized the pivotal role of carbon-recycled fuels in achieving carbon neutrality including as a part of the hydrogen supply-chain. The conference called for the establishment of a system to measure and evaluate the environmental value of carbon recycling, fostering a global market for such products.

On 28 September 2023, Minister Nishismura discussed hydrogen promotion with counterparts at the International Energy Agency summit. During the summit, he exchanged views with Polish Minister of Climate and Environment Anna Moskwa, Korean Minister of Trade, Industry and Energy, Kyu Bang Moon and French Minister for Energy Transition, Agnes Pannier-Runacher.[1510] The meetings discussed fostering greater cooperation among companies to realize the widespread use of hydrogen and fortifying bilateral cooperation in various energy sectors, encompassing ammonia, hydrogen, and offshore wind power generation.

On 6 October 2023, State Minister of Economy, Trade, and Industry Kazuchika Iwata attended the opening ceremony for the Abu Dhabi International Petroleum Exhibition and Conference.[1511] Japan's delegation showcased decarbonization technologies including hydrogen production, transportation, and utilization. Minister Iwata reiterated Japan's commitment to continued cooperation with the United Arab Emirates in hydrogen and other clean energy deployment and production.

On 16 October 2023, Parliamentary Vice-Minister Yoshida and Basque President Iñrgo Urkullu emphasized the need for further hydrogen collaboration during the Business Leaders' Summit in Spain.[1512]

On 17 October 2023, Director-General for Energy and Environmental Policy for the METI Kihara Shinichi, Deputy Director General and Deputy Assistant Minister to the Ministry of Foreign Affairs Taketani Atsushi and Assistant Secretary for Energy Resources for the US Department of State Geoffrey Pyatt issued a joint statement emphasizing their collective commitment to advancing efforts in clean energy, technologies and mineral resource supply chains.[1513] The statement included a shared commitment to collaborate on regulations and standards for hydrogen including carbon-content measurement.[1514]

[1507] METI, JOGMEC and PETRONAS Have Concluded MoC on Cross-Border Transportation of CO2 for CCS Businesses (Tokyo) 6 October 2023. Access Date: 5 December 2023. https://www.meti.go.jp/english/press/2023/1006_002.html
[1508] Overview of Basic Hydorgen Strategy, Agency for Natural Resources and Energy (Tokyo) 6 June 2023. Acess Date: 10 December 2023. https://www.meti.go.jp/shingikai/enecho/shoene_shinene/suiso_seisaku/pdf/20230606_4.pdf
[1509] The Fifth International Conference on Carbon Recycling Summary Document, Carbon Management Division Agency for Natural Resources and Energy (Hiroshima) 28 September 2023. Access Date: 5 December 2023. https://www.meti.go.jp/english/press/2023/pdf/0928_002a.pdf
[1510] METI Minister Nishimura Attends IEA Critical Minerals and Clean Energy Summit, Ministry of Economy, Trade and Industry (Paris) 29 September 2023. Access Date: 5 December 2023. https://www.meti.go.jp/english/press/2023/0929_004.html
[1511] METI State Minister Iwata Visits the United Arab Emirates (UAE), Ministry of Economy, Trade and Industry (Tokyo) 6 October 2023. Access Date: 3 November 2023. https://www.meti.go.jp/english/press/2023/1006_005.html
[1512] Parliamentary Vice-Minister Yoshida Delivers Guest Speech at a Business Leaders' Summit Hosted by the Basque Government of the Kingdom of Spain, Ministry of Economy, Industry and Trade (Tokyo) 17 October 2023. Access Date: 5 December 2023. https://www.meti.go.jp/english/press/2023/1017_001.html
[1513] Second Annual Japan-U.S. Energy Security Dialogue Held, Ministry of Economy, Trade and Industry (Palo Alto) 30 October 2023. Access Date: 10 December 2023. https://www.meti.go.jp/english/press/2023/1030_004.html
[1514] Joint Statement on the Second Annual Japan-U.S. Energy Security Dialogue, Ministry of Economy, Trade and Industry (Palo Alto) 30 October 2023. Access Date: 10 December 2023. https://www.meti.go.jp/press/2023/10/20231030004/20231030004-2.pdf

On 17 October 2023, Parliamentary Vice-Minister of METI Taku Ishii and Deputy Minister of Industry and Trade of the Czech Republic held a meeting that solidified their commitment to strengthen bilateral ties in the energy sector.[1515] The meeting discussed the ongoing cooperating in the field of nuclear power and hydrogen. Additionally, the meeting discussed Japan's plans regarding the discharge of treated water into the sea.

On 24 October 2023, Minister Nishimura and Danish Minister of Climate Energy and Utilities Lars Aagaard signed a memorandum on cooperation on hydrogen and its derivatives.[1516] The memorandum details personnel exchanges, technology and cost reduction collaboration, alignment of regulations and international market development among other areas of cooperation.

On 30 October 2023, Ambassador of Japan to the Republic of Kazakhstan, Jun Yamada and Minister of Ecology and Natural of the Republic of Kazakhstan Yerlan Nyssanbayev signed a Memorandum of Cooperation to establish Kazakhstan as a party to Japan's JCM.[1517] Japan's JCM system creates incentives for uptake of decarbonization technologies, including hydrogen.[1518]

On 31 October 2023, Japan and Sri Lanka adopted rules and guidelines for promoting decarbonization technologies including hydrogen at the first Joint Crediting Mechanism meeting in Sri Lanka.[1519]

On 14 November 2023, Minister for Foreign Affairs Yoko Kamikawa met with United States Secretary of State Antony Blinken and Secretary of Commerce Gina Raimondo in San Francisco for the second ministerial meeting of the Japan-US Economic Policy Consultative Committee.[1520] Both countries reaffirmed their commitment to strengthen supply chains for clean hydrogen production by investing in research and development.

On 14 November 2023, Minister Kamikawa, Minister Nishimiura and the other ministers participating in the Asia-Pacific Economic Cooperation (APEC) forum released a statement that included the goal to identify best practices and frameworks for producing hydrogen from zero to low emissions technologies in the APEC region.[1521]

On 14 November 2023, Parliamentary Vice-Minister of Economy, Trade and Industry Nobuhiro Yoshida spoke with Governor of the State of Hawaii, Josh Green on continuing cooperation in clean energy fields, including hydrogen.[1522]

[1515] Parliamentary Vice-Minister Ishii Holds Meeting with Mr. Petr Třešňák, Deputy Minister of Industry and Trade of the Czech Republic (Tokyo) 18 October 2023. Access Date: 5 December 2023. https://www.meti.go.jp/english/press/2023/1018_001.html
[1516] MEMORANDUM OF COOPERATION ON HYDROGEN, AMMONIA AND DERIVATIVES BETWEEN THE MINISTRY OF ECONOMY, TRADE AND INDUSTRY OF JAPAN AND THE MINISTRY OF CLIMATE, ENERGY AND UTILITIES OF THE KINGDOM OF DENMARK, Ministry of Economy, Trade and Industry (Tokyo) 24 October 2023. Access Date: 5 December 2023. https://www.meti.go.jp/press/2023/10/20231024001/20231024001-1.pdf
[1517] Japan and Kazakhstan Sign a Memorandum of Cooperation Establishing a Joint Crediting Mechanism (JCM), Ministry of Economy, Trade and Industry (Tokyo) 30 October 2023. Access Date: 5 December 2023. https://www.meti.go.jp/english/press/2023/1030_003.html
[1518] Joint Crediting Mechanism (JCM), Ministry of Foreign Affairs of Japan (Tokyo) 10 July 2023. Access Date: 9 December 2023. https://www.mofa.go.jp/ic/ch/page1we_000105.html
[1519] Result of First Joint Committee of the Joint Crediting Mechanism (JCM) between Japan and Sri Lanka, Ministry of the Environment Government of Japan (Colombo) 31 October 2023. Access Date: 5 December 2023. https://www.env.go.jp/en/press/press_02057.html
[1520] Joint Statement of the Japan-U.S. Economic Policy Consultative Committee, Ministry of Economy, Trade and Industry (Tokyo) 14 November 2023. Access Date: 13 November 2023. https://www.meti.go.jp/press/2023/11/20231116006/20231116006-1.pdf
[1521] 2023 APEC Ministerial Meeting, Asia-Pacific Economic Cooperation (San-Francisco) 17 November 2023. Access Date: 13 December 2023. https://www.meti.go.jp/press/2023/11/20231116004/20231116004-a-eng.pdf
[1522] Parliamentary Vice-Minister Yoshida Receives a Courtesy Call from Mr. Josh Green, Governor of the State of Hawaii, Ministry of Economy, Trade and Industry (Tokyo) 15 November 2023. Access Date: 13 December 2023. https://www.meti.go.jp/english/press/2023/1115_001.html

On 16 November 2023, Parliamentary Vice-Minister of Economy, Trade, and Industry Ishii Taku spoke with German Minister for Tourism, Agriculture, and Forestry Sven Schulze on future economic cooperation, specifically in the field of hydrogen.[1523]

On 1 December 2023, Minister Nishimura met with European Commissioner for Energy Kadri Simson to welcome the progress of the Japan-EU Green Alliance and to discuss energy cooperation including on hydrogen.[1524]

On 22 December 2023, the Government of Japan published the Sector-specific Investment Strategies which focused on prioritising hydrogen and its derivates in the green transformation process.[1525]

On 29 January 2024, Minister of Economy, Trade and Industry Ken Saito met Australian Minister for Resources and for Northern Australia Madeleine King to discuss collaborative efforts between Japan and Australia in the realms of resources and energy.[1526] They discussed further cooperation on decarbonization and innovation processes, including on hydrogen to achieve decarbonisation in Asia.

On 13 February 2024, the Japanese government approved the "Bill on the Promotion of the Supply and Utilization of Low-Carbon Hydrogen, etc. for a smooth Transition to a Decarbonized Growth Economic Structure."[1527] The government will formulate a basic certification system for low-carbon hydrogen technologies, and support businesses that have received plan certification. The government will also create a permit system for carbon dioxide storage projects. The bill will allow Japan to better mobilize private capital from investors for low-carbon hydrogen and carbon dioxide storage projects.

On 14 February 2024, Minister Iwata attended the 2024 International Energy Agency Ministerial Meeting and held bilateral talks on hydrogen with Parliamentary State Secretary for Economic Affairs and Climate Action Stefan Wenzel, Korean Vice Minister for Energy Industry Namho Choe, and Polish Secreatry of State for Climate Policy Krzystof Bolesta.[1528]

On 16 February 2024, Director-General of Energy Conservation and Renewable Energy Hiroo Inoue and Korean Director-General of Hydrogen Economy Policy Bureau Chan Ki Park held discussed collaboration on low carbon and renewable hydrogen and its derivatives. Additionally, they proposed the establishment of a 'Japan-Korea Hydrogen and its Derivatives Cooperation Dialogue' framework.[1529]

On 19 February 2024, Minister of the Environment Shintaro Ito and Ukrainian Minister of Environmental Protection and Natural Resources Ruslan Strilets signed a Memorandum of Cooperation, formalizing Ukraine's

[1523] Parliamentary Vice-Minister Ishii Receives a Courtesy Call from Mr. Sven Schulze, Minister for Economic Affairs, Tourism, Agriculture and Forestry of the Federal State of Saxony-Anhalt, Germany, Ministry of Economy, Trade and Industry (Tokyo) 16 November 2023. Access Date: 13 December 2023. https://www.meti.go.jp/english/press/2023/1116_001.html

[1524] Minister Nishimura Holds Meeting with Ms. Kadri Simson, European Commissioner for Energy, Ministry of Economy, Trade and Industry (Tokyo) 1 December 2023. Access Date: 13 December 2023. https://www.meti.go.jp/english/press/2023/1201_002.html

[1525] "Sector-specific Investment Strategies" Compiled as Effort for Specifying Investment Promotion Measured for the Realization of GX, Ministry of Economy, Trade and Industry (Tokyo) 22 December 2023. Access Date: 2 March 2024. https://www.meti.go.jp/english/press/2023/1222_002.html

[1526] METI Minister Saito Holds Meeting with Ms. Madeleine King, Australia's Minister for Resources and Minister for Northern Australia, Ministry of Economy, Trade and Industry (Tokyo) 29 January 2024. Access Date: 2 March 2024. https://www.meti.go.jp/english/press/2024/0129_001.html

[1527]「脱炭素成長型経済構造への円滑な移行のための低炭素水素等の供給及び利用の促進に関する法律案」及び「二酸化炭素の貯留事業に関する法律案」が閣議決定されました, Ministry of Economy, Trade and Industry (Tokyo) 13 February 2024. Translation provided by Google Translate. Access Date: 24 April 2024. https://www.meti.go.jp/press/2023/02/20240213002/20240213002.html

[1528] METI State Minister Iwata Attends 2024 IEA Ministerial Meeting, Ministry of Economy, Trade and Industry (Tokyo) 15 February 2024. Access Date: 6 March 2024. https://www.meti.go.jp/english/press/2024/0215_001.html

[1529] Japan-Korea Director-General Meeting Held in the Field of Hydrogen and Derivatives, Including Ammonia (Tokyo) 16 February 2024. Access Date: 2 March 2024. https://www.meti.go.jp/english/press/2024/0216_001.html

participation in Japan's Joint Crediting Mechanism (JCM).[1530] The JCM aimed to enhance cooperation between Japan and Ukraine in the fields of environment and energy and prevent carbon leakage and incentivize alternative fuels including hydrogen.

On 5 March 2024, Minister of Economy, Trade and Industry Ken Saito met with the President and CEO of Petroliam Nasional Berhad (PETRONAS) Malaysia to discuss future cooperation between Japan and PETRONAS Malaysia, with a particular focus on decarbonization efforts in Asia.[1531] The two comfirmed plans to promote specific cooperation under the Asia Zero Emission Community. The discussion also highlighted areas of collaboration, including hydrogen and carbon capture and storage.

On 6 March 2024, State Minister Iwata met with Oman Minister of Commerce, Industry and Investment Promotion Qais bin Mohammed al Yousef.[1532] The meeting discussed the manufacture of hydrogen and ammonia. Oman and Japan signed a joint statement to strengthen their bilateral economic relationship. In addition, Japan and Oman emphasized the importance of advancing projects on hydrogen.

On 12 March 2024, State Minister Iwata held a meeting the President of the Regional Council of Auvergne-Rhone-Alpes Laurent Wauquiez to discuss partnerships and investment, including on hydrogen.[1533]

On 10 April 2024, Minister of Economy, Trade and Industry Ken Saito held a policy dialogue and released a joint statement with United States Senior Advisor for International Climate Policy John Podesta.[1534] The statement highlighted the collaboration between Japan and the Unites States on combining the efforts of the U.S. Inflation Reduction Act and Japan's Green Transformation Promotion Strategy. The dialogue discussed the development and deployment of zero- and low-emission technologies, including hydrogen and electrolyzers.

On 22 April 2024, Minister Saito met with South Korean Minister of Trade, Industry and Energy Ahn Dukgeun.[1535] The meeting reiterated Japan and the Republic of Korea's commitment to cooperating in clean energy development and recognised the importance of clean hydrogen and its derivatives in achieving climate targets.

On 3 May 2024, Prime Minister Kishida met with Brazilian President Luiz Inácio Lula da Silva to discuss strengthening the Strategic and Global Partnership between Japan and Brazil.[1536] The meeting reiterated the mutual interest in continuing collaboration in clean energy, particularly in increasing investment and development in low-emission hydrogen and its derivatives, such as ammonia and e-fuels, to reduce emissions, generate gobs and promote a sustainable economy.

[1530] Japan and Ukraine Sign a Memorandum of Cooperation Establishing a Joint Crediting Mechanism (JCM), Ministry of Economy, Trade and Industry (Tokyo) 19 February 2024. Access Date: 2 March 2024. https://www.meti.go.jp/english/press/2024/0219_002.html

[1531] Minister Saito Holds Meeting with H.E. Tengku Muhammad Taufik, President and Group CEO of Petroliam Nasional Berhad (PETRONAS), Malaysia, Ministry of Economy, Trade and Industry (Tokyo) 5 March 2024. Access Date: 21 April 2024. https://www.meti.go.jp/english/press/2024/0305_001.html

[1532] METI State Minister Iwata Visits the Sultanate of Oman and the United Arab Emirates, Ministry of Economy, Trade and Industry (Tokyo) 8 March 2024. Access Date: 21 April 2024. https://www.meti.go.jp/english/press/2024/0308_001.html

[1533] State Minister Iwata Holds Meeting with Mr.Laurent Wauquiez, President of Regional Council of Auvergne-Rhone-Alpes, Ministry of Economy, Trade and Industry (Tokyo) 12 March 2024. Access Date: 21 April 2024. https://www.meti.go.jp/english/press/2024/0312_004.html

[1534] Minister Saito Holds a Policy Dialogue with Senior Advisor to the U.S. President Podesta, Ministry of Economy, Trade and Industry (Tokyo) 11 April 2024. Access Date: 21 April 2024. https://www.meti.go.jp/english/press/2024/0411_002.html

[1535] Minister Saito Holds Meeting with H.E. Mr. Ahn Dukgeun, Minister for Trade, Ministry of Trade, Industry and Energy, ROK, Ministry of Economy, Trade and Industry (Tokyo) 22 April 2024. Access Date: 15 May 2024. https://www.meti.go.jp/english/press/2024/0422_001.html

[1536] Joint Statement on Further Strengtheing the Brazil-Japan Strategic and Global Partnership, Prime Minister's Office of Japan (Brasília) 3 May 2024. Access Date: 15 May 2024. https://japan.kantei.go.jp/content/000147987.pdf

Japan has fully complied with its commitment to enhance efforts to develop the rule-based, transparent global market and supply chains for low carbon and renewable hydrogen based on reliable international standards and certification schemes adhering to environmental and social standards. Japan advanced strong actions to develop the supply chain for low carbon and renewable hydrogen through funding for hydrogen projects, updates to the hydrogen strategy, and specific hydrogen legislation. Japan supported the development of the rule-based global market for hydrogen, with strong actions, by jointly establishing an organization dedicated to facilitating hydrogen trade.

Thus, Japan receives a score of +1.

Analyst: Ritika Roy Chowdhury

United Kingdom: +1

The United Kingdom has fully complied with its commitment to enhance efforts to develop the rule-based, transparent global market and supply chains for low carbon and renewable hydrogen based on reliable standards and certification schemes adhering to environmental and social standards.

On 31 May 2023, the Competition and Markets Authority (CMA) released advice for shoppers on green home heating, highlighting the potential for greenwashing of marketing boilers as hydrogen-ready given the non-availability currently of hydrogen fuel for home heating.[1537] The CMA endorsed quality assurance schemes that will help develop a rule-based transparent market for heating fuels including hydrogen.

On 7 June 2023, Secretary of State for Energy Security and Net-Zero Grant Shapps and Saudi Minister of Commerce Majid Al Qassabi released a joint statement, as co-chairs, on behalf of the United Kingdom and Kingdom of Saudi Arabia Strategic Partnership Council: Economic and Social Pillar.[1538] The co-chairs agreed to strengthen collaboration in several areas including sharing and development of best practices on new technologies such as hydrogen, carbon capture and decarbonization and expanding commercial partnerships in clean energy.

On 9 June 2023, Minister for Investment Dominic Johnson announced government backing for the Northern Ireland-based bus manufacturer Wrightbus with GBP50 million in financing.[1539] This funding by the UK Export Finance will support Wrightbus in delivering hydrogen powered buses to new markets.

On 13 June 2023, the Prime Minister's Trade Envoy Richard Faulkner and Taiwan's Representative to the UK Kelly Hsieh opened the 5th UK-Taiwan Energy Dialogue in London.[1540] The Dialogue concentrated on challenges and opportunities on greening the economy, energy security and included discussions and sessions about low carbon hydrogen.

[1537] Advice for shoppers after report highlights difficulties buying 'green' home heating, Government of the United Kingdom (London) 31 May 2023. Access date: 6 December 2023. https://www.gov.uk/government/news/advice-for-shoppers-after-report-highlights-difficulties-buying-green-home-heating

[1538] United Kingdom and Kingdom of Saudi Arabia Strategic Partnership Council: Economic and Social pillar joint statement, Government of the United Kingdom (London) 7 June 2023. Access Date: 2 November 2023. https://www.gov.uk/government/publications/united-kingdom-and-kingdom-of-saudi-arabia-strategic-partnership-council-economic-and-social-pillar-joint-statement/united-kingdom-and-kingdom-of-saudi-arabia-strategic-partnership-council-economic-and-social-pillar-joint-statement-7-june-2023

[1539] Wrightbus secures £50 million UKEF financing to turbocharge green exports, Government of the United Kingdom (London) 9 June 2023. Access Date: 2 November 2023. https://www.gov.uk/government/news/wrightbus-secures-50-million-ukef-financing-to-turbocharge-green-exports

[1540] 5th UK-Taiwan Energy Dialogue, Government of the United Kingdom (London) 18 July 2023. Access Date: 2 November 2023. https://www.gov.uk/government/news/5th-uk-taiwan-energy-dialogue

On 28 June 2023, Minister for Energy Security and Net Zero Graham Stuart announced GBP82.9 million in government funding for businesses in the United Kingdom to reduce carbon emissions and switch to cleaner energy alternatives such as hydrogen.[1541]

On 3 July 2023, the UK Emissions Trading Scheme Authority announced tighter caps on industrial, power, and aviation emissions beginning in 2024.[1542] The emissions cap scheme induces fuel-switching creating incentives for hydrogen adoption.

On 5 July 2023, the Department for Energy Security and Net Zero released a report on the future of hydrogen in industry.[1543] The report featured seven industrial sites to understand the switch from natural gas to 100 per cent hydrogen for heat on these sites. The report aims to discover the impacts, costs, feasibility, and safety of switching from natural gas to hydrogen for heating and to share the findings with other industrial sites and industry considering hydrogen as an option to decrease carbon emissions.

On 17 July 2023, the Department of Science, Innovation, and Technology sponsored the release of a report by the Regulatory Horizons Council, an independent expert committee, regarding the regulation of hydrogen fuel in maritime vessels.[1544] In their report, the Regulatory Horizons Council made recommendations on how the United Kingdom can support the transition to net-zero by changing the regulatory system to promote the use of hydrogen fuel in the domestic maritime sector.

On 22 July 2023, Secretary Shapps and the G20 Energy Ministers committed to "support acceleration of production, utilization, as well as development of transparent and resilient global markets for hydrogen produced from zero and low emission technologies and its derivatives such as ammonia by developing voluntary and mutually agreed harmonizing standards as well as mutually recognized, and interoperable certification schemes."[1545] The Ministers also agreed to high level steps needed to achieve their commitment including collaboration on national standards development for low carbon hydrogen and movement towards global harmonization, free trade advancement, research and development cooperation for technological innovation, finance activation to support the entire supply chain, as well as voluntary information exchanges.

On 22 July 2023, the United Kingdom, along with Australia, Brazil, Canada, Chile, Germany, Japan, Saudi Arabia, Korea, the Netherlands, the United Arab Emirates, the United States, Uruguay and the European Commission on behalf of the European Union, jointly launched the International Hydrogen Trade Forum to advance the global hydrogen market.[1546] The Forum aims to connect importers and exporters and reduce barriers to trade and bolsters the global market for hydrogen.

[1541] £80 million boost to help UK businesses tackle carbon emissions, Government of the United Kingdom (London) 28 June 2023. Access Date: 2 November 2023. https://www.gov.uk/government/news/80-million-boost-to-help-uk-businesses-tackle-carbon-emissions

[1542] Tighter limit on industrial, power and aviation emissions, as the UK leads the way to net zero, Government of the United Kingdom (London) 3 July 2023. Access Date: 6 December 2023. https://www.gov.uk/government/news/tighter-limit-on-industrial-power-and-aviation-emissions-as-uk-leads-the-way-to-net-zero

[1543] Future of hydrogen in industry: initial industrial site surveys, Government of the United Kingdom (London) 5 July 2023. Access Date: 2 November 2023. https://www.gov.uk/government/publications/future-of-hydrogen-in-industry-initial-industrial-site-surveys

[1544] Regulatory Horizons Council: the regulation of hydrogen fuel propulsion in maritime vessels, Government of the United Kingdom (London) 17 July 2023. Access Date: 2 November 2023. https://www.gov.uk/government/publications/regulatory-horizons-council-the-regulation-of-hydrogen-fuel-propulsion-in-maritime-vessels

[1545] Outcome Document and Chair' Summary, G20 Information Centre (Goa) 22 July 2023. Access Date: 10 November 2023. http://www.g20.utoronto.ca/2023/230722-energy.html#annex1

[1546] LAUNCH OF THE INTERNATIONAL HYDROGEN TRADE FORUM TO ACCELERATE GLOBAL COLLABORATION, Clean Energy Ministerial (Goa) 22 July 2023. Access Date: 15 December 2023. https://www.cleanenergyministerial.org/launch-of-the-international-hydrogen-trade-forum-to-accelerate-global-collaboration/

On 2 August 2023, the Department for Energy Security and Net Zero updated the UK Hydrogen strategy with a summary of recent hydrogen policy development and schemes.[1547]

On 2 August 2023, Transport Secretary Mark Harper announced GBP8 million for hydrogen transport for airport vehicles and supermarket delivery trucks.[1548] The funding aims to support construction of four new hydrogen refuelling stations and allocates GBP300,000 to Tees Valley area colleges to upskill the local workforce needed to support hydrogen supply-chains.

On 2 August 2023, Secretary Shapps met with corporate energy firms who highlighted the importance of hydrogen during the Department for Energy Security and Net Zero's Energy Week.[1549]

On 21 August 2023, the Ministry of Defence and Strategic Command announced the launch of the first of three hydrogen-fuelled charging facilities to power front-line command electric fleet vehicles.[1550]

On 24 August 2023, the UK Government commenced its first Clean Energy Trade Mission to Australia with hydrogen company Hydrasun.[1551]

On 4 September 2023, Chancellor of the Exchequer Jeremy Hunt, Minister for Industry and Economic Security Nusrat Ghani, and Decarbonisation and Technology Minister Jesse Norman announced over GBP50 million to cutting edge manufacturing projects for products such as hydrogen fueled farm tractors, and hydrogen fuel-cell coaches.[1552]

On 6 September 2023, Secretary of State for Business and Trade Kemi Badenoch and Japanese Minister of Economy, Trade and Industry Yasutoshi Nishimura held the first Japan-UK Strategic Economic Policy and Trade Dialogue in London.[1553] The Ministers committed to discussions and to cooperation when deploying clean energy technologies including Hydrogen and carbon capture, use and storage (CCUS).

On 6 September 2023, the Department for Energy Security and Net Zero published summary of responses and government response to the Offshore Hydrogen regulation Consultation.[1554]

[1547] UK Hydrogen Strategy, Government of the United Kingdom (London) 2 August 2023. Access Date: 2 November 2023. https://www.gov.uk/government/publications/uk-hydrogen-strategy#full-publication-update-history

[1548] North East to benefit from new funding for hydrogen transport, Government of the United Kingdom (London) 2 August 2023. Access Date: 6 December 2023. https://www.gov.uk/government/news/north-east-to-benefit-from-new-funding-for-hydrogen-transport

[1549] Industry and government agree to seize the "immense opportunities ahead" as Britain builds a world-leading energy sector, Government of the United Kingdom (London) 2 August 2023. Access Date: 6 December 2023. https://www.gov.uk/government/news/industry-and-government-agree-to-seize-the-immense-opportunities-ahead-as-britain-builds-a-world-leading-energy-sector

[1550] Supporting the transition to electric vehicles, Government of the United Kingdom (London) 21 August 2023. Access Date: 6 December 2023. https://www.gov.uk/government/news/supporting-the-transition-to-electric-vehicles

[1551] UK companies explore clean energy opportunities in Australia, Government of the United Kingdom (London) 24 August 2023. Access Date: 6 December 2023. https://www.gov.uk/government/news/uk-companies-explore-clean-energy-opportunities-in-australia

[1552] Over £50 million awarded to cutting edge manufacturing projects, Government of the United Kingdom (London) 4 September 2023. Access Date: 6 December 2023. https://www.gov.uk/government/news/over-50-million-awarded-to-cutting-edge-manufacturing-projects

[1553] Joint Statement of the Japan-UK Strategic Economic Policy and Trade Dialogue, Government of the United Kingdom (London) 6 September 2023. Access Date: 2 November 2023. https://www.gov.uk/government/news/joint-statement-of-the-japan-uk-strategic-economic-policy-and-trade-dialogue

[1554] Proposals for offshore hydrogen regulation, Government of the United Kingdom (London) 6 September 2023. Access Date: 2 November 2023. https://www.gov.uk/government/consultations/proposals-for-offshore-hydrogen-regulation#full-publication-update-history

On 13 September 2023, Minister for Energy Consumers and Affordability Amanda Solloway announced GBP45.7M in funding for new government-backed projects to reduce carbon emissions.[1555] The Red Diesel Replacement Competition awarded over GBP6 million for Catagen's green hydrogen industrial vehicle initiative. The Industrial Hydrogen Accelerator Competition awarded over GBP6 million to the Bay Hydrogen Hub and over GBP900,000 to the Hydrogen for the decarbonization of Sheffield Steel project.

On 15 September 2023, Minister for Energy Efficiency and Green Finance John Callanan launched a consultation pursuing a process for blending increased amounts of hydrogen in the UK gas network.[1556]

On 21 September 2023, Minister Stuart announced GBP160 million in funding at the UN Climate Ambitions Summit in New York to help developing countries accelerate the use and development of green technologies and reduce their emissions.[1557] The funding will help energy-intensive industries cut their emissions by utilizing clean technologies such as hydrogen-based fuels for steel production.

On 22 September 2023, Trade Envoy Faulkner attended the 19th UK-Taiwan Renewable Energy Conference to discuss goals of reaching net-zero targets by 2050 and opportunities for collaboration on renewable energy development.[1558] Taiwan's Chief Secretary of Ministry of Economic Affairs Yu-Ling Chen and Trade Envoy Faulkner discussed the importance of the UK and Taiwan developing renewable energy such as hydrogen and CCUS.

On 26 September 2023, Minister Callanan and German State Secretary for Energy Phillip Nimmerman announced a new agreement between the United Kingdom and Germany to assist in accelerating international hydrogen industry development.[1559] The United Kingdom and Germany committed to assist in establishing regulations to aid hydrogen trade and include low-carbon hydrogen into their nations' energy mix and to work together to advance renewable hydrogen technologies through research and innovation.

On 9 October 2023, Minister of State for International Trade Nigel Huddleston met with Colombian Minister of Trade, Industry and Tourism Germán Umaña to discuss UK-Colombia trade.[1560] The ministers discussed renewable energy and agreed to co-ordinate strategies for the development of hydrogen regulations in Colombia to assist in developing the renewable energy market.

On 9 October 2023, Minister for Industry and Economic Security Nusrat Ghani announced GBP42.5 million in government funding for 20 net-zero technology projects including hydrogen-powered offroad vehicles.[1561]

[1555] £45.7 million for businesses to cut emissions and boost home-grown energy, Government of the United Kingdom (London) 13 September 2023. Access Date: 6 December 2023. https://www.gov.uk/government/news/457-million-for-businesses-to-cut-emissions-and-boost-home-grown-energy

[1556] Industry to have their say on increasing role of hydrogen in energy system, Government of the United Kingdom (London) 15 September 2023. Access Date: 6 December 2023. https://www.gov.uk/government/news/industry-to-have-their-say-on-increasing-role-of-hydrogen-in-energy-system

[1557] UK government support for developing countries to tackle climate change, Government of the United Kingdom (London) 21 September 2023. Access Date: 2 November 2023. https://www.gov.uk/government/news/uk-government-support-for-developing-countries-to-tackle-climate-change

[1558] UK-Taiwan Renewable Energy Conference highlights collaboration, Government of the United Kingdom (London) 22 September 2023. Access Date: 2 November 2023. https://www.gov.uk/government/news/uk-taiwan-renewable-energy-conference-highlights-collaboration

[1559] UK and Germany partner to further advance hydrogen developments, Government of the United Kingdom (London) 26 September 2023. Access Date: 2 November 2023. https://www.gov.uk/government/news/uk-and-germany-partner-to-further-advance-hydrogen-developments

[1560] Joint Statement on the third Edition of the UK Colombia Trade Dialogue: October 2023, Government of the United Kingdom (London) 17 October 2023. Access Date: 2 November 2023. https://www.gov.uk/government/news/joint-statement-on-the-third-edition-of-the-uk-colombia-trade-dialogue-october-2023

[1561] £89 million of funding to develop cutting edge new electric vehicle technology, Government of the United Kingdom (London) 9 October 2023. Access Date: 6 December 2023. https://www.gov.uk/government/news/89-million-of-funding-to-develop-cutting-edge-new-electric-vehicle-technology

On 13 October 2023, Minister Nigel Huddleston and Peruvian Minister of Foreign Trade and Tourism Juan Carlos Mathews Salazar released a joint statement on the importance of continuing partnership to reduce emissions and address climate change.[1562] Minister Huddleston stated the UK will support Peru in their energy transition, including in the green hydrogen sector.

On 19 October 2023, Parliamentary Undersecretary of State for Roads and Local Transport Richard Holden announced GBP200 million in funding to rollout up to 370 zero emission trucks, 57 refueling and electric charging stations, and other critical infrastructure.[1563] The freight decarbonization investments include projects like Protium's Hydrogen Aggregated Logistics.

On 23 October 2023, Minister of State at the Department for Science, Innovation, and Technology George Freeman announced GBP75 million in funding for eight innovation launchpads across the country.[1564] The Net-Zero Launchpad located at Tees Valley focuses on hydrogen production, CCUS, and offshore wind.

On 24 October 2023, Consul General for the United Kingdom in Houston Richard Hyde and Oklahoma Secretary of Energy and the Environment Ken McQueen jointly chaired the first working group meeting after the signing of the Memorandum of Understanding on trade in April 2023.[1565] The working group discussed opportunities for knowledge exchange specifically on carbon sequestration and hydrogen fuel innovation.

On 25 October 2023, the UK and Oklahoma held their inaugural working group meeting where they highlighted opportunities for further work and knowledge exchange on several areas including hydrogen fuel innovation.[1566]

On 26 October 2023, the Government of the United Kingdom passed the Energy Act 2023. The Energy Act 2023 overhauls the energy system to support the delivery of net-zero commitments and ensure energy security.[1567] The Act provides wide support for technologies such as carbon capture and storage and hydrogen while establishing a new independent body, the Future System Operator, to help ensure policy goals are met while maintaining customer affordability.

On 27 October 2023, the Department for Business, Energy & Industrial Strategy and Department for Energy Security and Net Zero responded to the consultation of the UK Low Carbon Hydrogen Certification Scheme and revised its impact assessment.[1568]

[1562] UK-Peru Trade Dialogue: Building For The Future, Government of the United Kingdom (London) 13 October 2023. Access Date: 2 November 2023. https://www.gov.uk/government/news/uk-perutrade-dialogue-building-for-the-future

[1563] Government invests £200 million to drive innovation and get more zero emission trucks on our roads, Government of the United Kingdom (London) 19 October 2023. Access Date: 6 December 2023. https://www.gov.uk/government/news/government-invests-200-million-to-drive-innovation-and-get-more-zero-emission-trucks-on-our-roads

[1564] Expert regional innovation hubs given £75 million boost to local research, businesses and economics across UK, Government of the United Kingdom (London) 23 October 2023. Access Date: 6 December 2023. https://www.gov.uk/government/news/expert-regional-innovation-hubs-given-75-million-boost-to-local-research-businesses-and-economies-across-uk

[1565] UK and Oklahoma hold inaugural Working Group meeting, Government of the United Kingdom (London) 25 October 2023. Access Date: 2 November 2023. https://www.gov.uk/government/news/uk-and-oklahoma-hold-inaugural-working-group-meeting

[1566] UK and Oklahoma hold inaugural Working group meeting, Government of the United Kingdom (London) 25 October 2023. Access Date: 6 December 2023. https://www.gov.uk/government/news/uk-and-oklahoma-hold-inaugural-working-group-meeting

[1567] New laws passed to bolster energy security and deliver net zero, Government of the United Kingdom (London) 26 October 2023. Access Date: 2 November 2023 https://www.gov.uk/government/news/new-laws-passed-to-bolster-energy-security-and-deliver-net-zero

[1568] UK Low Carbon Hydrogen Certification Scheme, Government of the United Kingdom (London) 27 October 2023. Access Date: 2 November 2023. https://www.gov.uk/government/consultations/uk-low-carbon-hydrogen-certification-scheme#full-publication-update-history

On 30 October 2023, the Department for Energy Security and Net Zero published a report on Hydrogen production and industrial carbon capture business models containing the outcome and government response to the public consultation on revenue support regulations for hydrogen.[1569] Based on consultation responses, the report recommends that compliance with the UK Low Carbon Hydrogen Standard determine eligibility for public funding.[1570]

On 3 November 2023, the UK and Germany issued a joint declaration of cooperation on energy and climate change with hydrogen as a key area for cooperation.[1571]

On 6 November 2023, Parliamentary Undersecretary of State in the Wales Office James Davies visited a research vessel being retrofitted with a hydrogen propulsion system and funded by the government.[1572] He reiterated the UK's commitment to decarbonizing the marine industry including through hydrogen fuel.

On 15 November 2023, the Subsidy Advice Unit of the Competition and Markets Authority published a report providing advice to the Department for Energy Security and Net Zero concerning the proposed net-zero hydrogen subsidy scheme.[1573]

On 16 November 2023, the Minister of State for the Middle East and North Africa Tariq Ahmad and Algerian Minister of Foreign Affairs and National Community Abroad held the second session of the UK-Algeria Strategic Dialogue and launched the joint higher education committee to strengthen collaboration in fields including green hydrogen.[1574]

On 16 November 2023, the Department for Transport announced the launch of the Transport Decarbonisation Demonstrators programme.[1575] The program aims to encourage business to help develop transport schemes that cut long-term emissions. UK business will be eligible to apply for up to GBP500,000 in grants for successful schemes. Hydrogen focused schemes meet eligibility requirements and won funding in previous rounds.[1576]

[1569] Proposals for hydrogen production and industrial carbon capture regulations, Government of the United Kingdom (London) 30 October 2023. Access Date: 6 December 2023. https://www.gov.uk/government/consultations/proposals-for-hydrogen-production-and-industrial-carbon-capture-regulations

[1570] Hydrogen production and industrial carbon capture business models, Government of the United Kingdom (London) 30 October 2023. Access date: 8 December 2023. https://www.gov.uk/government/consultations/proposals-for-hydrogen-production-and-industrial-carbon-capture-regulations#full-publication-update-history

[1571] Joint Declaration of cooperation on energy and climate, Government of the United Kingdom (London) 3 November 2023. Access Date: 6 December 2023. https://www.gov.uk/government/publications/cooperation-on-energy-and-climate-joint-declaration-between-united-kingdom-and-germany/joint-declaration-of-cooperation-on-energy-and-climate

[1572] Minister Davies visits Bangor University research ship as it undergoes green retrofit, Government of the United Kingdom (London) 6 November 2023. Access Date: 6 December 2023. https://www.gov.uk/government/news/minister-davies-visits-bangor-university-research-ship-as-it-undergoes-green-retrofit

[1573] Referral of Net Zero Hydrogen Fund scheme by the Department for Energy Security and Net Zero, Government of the United Kingdom (London) 15 November 2023. Access Date: 6 November 2023. https://www.gov.uk/cma-cases/referral-of-net-zero-hydrogen-fund-scheme-by-the-department-for-energy-security-and-net-zero

[1574] Algeria-UK Strategic Dialogue November 2023: joint statement, Government of the United Kingdom (London) 16 November 2023. Access Date: 6 December 2023. https://www.gov.uk/government/news/algeria-uk-strategic-dialogue-november-2023-joint-statement

[1575] New £2 million competition launched to help decarbonise local transport, Government of the United Kingdom (London) 16 November 2023. Access Date: 13 December 2023. https://www.gov.uk/government/news/new-2-million-competition-launched-to-help-decarbonise-local-transport

[1576] Transport Research Innovation Grant (TRIG): funding winners, Publishing Service for the Government of the United Kingdom (London) n.d. Access Date: 16 December 2023.
https://assets.publishing.service.gov.uk/media/647dc477103ca60013039919/trig-funding-winners.csv

On 17 November 2023, Secretary Harper announced six winning projects awarded a total of over GBP27 million to convert carbon dioxide and green hydrogen into aviation fuel.[1577]

On 20 November 2023, Secretary of State for Foreign, Commonwealth, and Development Affairs David Cameron and Austrian Minister for European and International Affairs Alexander Schallenberg released a joint vision statement with Austria to deepen cooperation in areas including the hydrogen economy and hydrogen research.[1578]

On 21 November 2023, Secretary of State for Energy Security and Net Zero Claire Coutinho and Korean Minister for Trade, Industry, and Energy Kyu Bang Moon signed a new UK and Republic of Korea clean energy partnership to accelerate net-zero transition including exploring opportunities for hydrogen collaboration.[1579]

On 22 November 2023, the Chancellor of the Exchequer, Jeremy Hunt, delivered the Autumn 2023 Economic Statement and outlined financial vehicles and investments to develop supply chains and leverage global market potential for hydrogen and CCUS, and other clean technology sectors.[1580] First, the Statement makes full write-off of expenses for qualifying plant and machinery investments in the year of investment permanent to encourage investment. Second, new solar and offshore wind projects decided upon after the Statement's date will be exempted from the Electricity Generator Levy to bring on renewable supply to fuel hydrogen and other projects as well as to service the power grid. The government intends to introduce legislation to provide the Crown Estate with borrowing and wider investment capacity to unlock 20-30 GW of new seabed rights by 2030. The Crown Estate will consider enhancements to floating wind projects in the Celtic Sea in the order of 12GW by 2030. Measures will also be taken to reduce barriers to investment such as quicker connections to the power grid within six months and reforms to the planning process including updates to the National Networks and National Energy Policy Statements. In addition, the government will extend the critical national priority designation to nationally significant low carbon energy projects. Further, the 2023 Statement sets out the revised parameters for the next auction round of Carbon Contracts for Difference to increase the maximum price allowed to de-risk and encourage investment in hydrogen and other alternatives. Finally, Chancellor Hunt announced a GBP960 million Green Industries Growth Accelerator to support manufacturing investments in the green energy sectors where the UK has leading opportunities such as hydrogen and CCUS, nuclear, offshore wind, and electricity networks. The extension of the regional investment zone program from five to ten years further supports hydrogen project decisions as does the creation of the new East Midlands Investment Zone with its focus on green industries. This decision doubles the size of the funding envelope and tax relief available to GBP160 million and partners these funds with a new five-year GBP150 million Investment Opportunity Fund.

[1577] Advanced Fuels Fund Competition Winners, Government of the United Kingdom (London) 17 November 2023. Access Date: 8 December 2023. https://www.gov.uk/government/publications/advanced-fuels-fund-competition-winners/advanced-fuels-fund-aff-competition-winners

[1578] Joint vision statement on bilateral cooperation between Austria and the UK, Government of the United Kingdom (London) 20 November 2023. Access Date: 8 December 2023. https://www.gov.uk/government/publications/uk-austria-bilateral-cooperation-joint-vision-statement/joint-vision-statement-on-bilateral-cooperation-between-austria-and-the-uk

[1579] New UK and Republic of Korea clean energy partnership to accelerate net zero transition, Government of the United Kingdom (London) 21 November 2023. Access Date: 6 December 2023. https://www.gov.uk/government/news/new-uk-and-republic-of-korea-clean-energy-partnership-to-accelerate-net-zero-transition

[1580] Minister of the Exchequer Delivers Autumn 2023 Economic Statement, Her Majesty's Treasury (London) 22 November 2023. Access Date: 11 December 2023.
https://assets.publishing.service.gov.uk/media/6568909c5936bb00133167cc/E02982473_Autumn_Statement_Nov_23_Accessible_Final.pdf

On 23 November 2023, Secretary Clare Coutinho announced a GBP960 million government investment to the Green Industries Growth Accelerator, which includes hydrogen development.[1581]

On 27 November 2023, Secretary of State for Science, Innovation and Technology Michelle Donelan announced regulatory framework reforms for emerging technologies including hydrogen-based aviation fuel.[1582]

On 28 November 2023, the British high Commission Singapore announced that it was seeking pilot project proposals under the UK-Singapore Green Economy Framework including hydrogen technology and green transport.[1583]

On 3 December 2023, Secretary Coutinho and Brazilian Minister of Mines and Energy Alexandre Silveira announced the Brazil-UK Hydrogen Hub to facilitate knowledge sharing, bilateral, and international cooperation. The Hub aims to develop the Hydrogen market in Brazil and increase competitiveness of low carbon hydrogen as an energy source.[1584]

On 12 December 2023, Parliamentary Under Secretary of State for Exports Malcolm Offord visited Chile on a trade mission discussing opportunities for collaboration on hydrogen.[1585]

On 14 December 2023, the Secretary Coutinho announced government support for eleven new hydrogen projects that will develop over the next three years.[1586]

On 18 December 2023, Chancellor Hunt announced a new Carbon Border Adjustment Mechanism including on hydrogen.[1587] The mechanism incentivizes hydrogen exporting countries to meet UK standards on low-carbon hydrogen production.

On 17 January 2024, the Minister Callanan and Parliamentary Under Secretary of State for Technology and Decarbonization Anthony Browne announced new GBP7 million government funding for green hydrogen fueling stations.[1588]

[1581] Huge boost for UK green industries with £960 million government investment and major reform of power network, Government of the United Kingdom (London) 23 November 2023. Access Date: 13 December 2023. https://www.gov.uk/government/news/huge-boost-for-uk-green-industries-with-960-million-government-investment-and-major-reform-of-power-network

[1582] Tech Secretary trips back red tape to unleash innovation in clean aviation, drones and autonomous marine tech, Government of the United Kingdom (London) 27 November 2023. Access Date: 6 December 2023. https://www.gov.uk/government/news/tech-secretary-strips-back-red-tape-to-unleash-innovation-in-clean-aviation-drones-and-autonomous-marine-tech

[1583] Calls for bids 2023-24: UK-Singapore Green Economy Framework Regional Fund, Government of the United Kingdom (London) 28 November 2023. Access Date: 6 December 2023. https://www.gov.uk/government/news/call-for-bids-2023-24-uk-singapore-green-economy-framework-regional-fund

[1584] Joint statement of intent between Brazil and the United Kingdom to co-chair a Brazil-UK Hydrogen Hub, Government of the United Kingdom (London) 4 December 2023. Access Date: 9 December 2023. https://www.gov.uk/government/publications/hydrogen-hub-brazil-uk-joint-statement-of-intent/joint-statement-of-intent-between-brazil-and-the-united-kingdom-to-co-chair-a-brazil-uk-hydrogen-hub

[1585] Minister fuels energy exports in trade mission to Chile, UK Department for Business and Trade (London) 12 December 2023. Access Date: 2 March 2024. https://www.gov.uk/government/news/minister-fuels-energy-exports-in-trade-mission-to-chile

[1586] Major boost for hydrogen as UK unlocks new investment and jobs, Department for Energy Security and Net Zero (London) 14 December 2023. Access Date: 2 March 2024. https://www.gov.uk/government/news/major-boost-for-hydrogen-as-uk-unlocks-new-investment-and-jobs

[1587] New UK levy to level carbon pricing, His Majesty's Treasury (London) 18 December 2023. Access Date: 2 March 2024. https://www.gov.uk/government/news/new-uk-levy-to-level-carbon-pricing

[1588] New government funding to boost jobs and hydrogen transport in the North East, Department for Transport and the Department for Energy Security and Net Zero (London) 17 January 2024. Access Date: 2 March 2024. https://www.gov.uk/government/news/new-government-funding-to-boost-jobs-and-hydrogen-transport-in-the-north-east

On 22 January 2024, the Minister Callanan announced GBP190 million in funding to be made available to industry to help them transition to net zero such as employing the use of hydrogen.[1589]

On 26 January 2024, Parliamentary Under Secretary of State for Maritime Transport Byron Davies announced GBP33 million for 33 projects across the UK to develop clean maritime technologies such as hydrogen fuel.[1590]

On 31 January 2024, the Foreign, Commonwealth and Development Office issued a joint statement at the end of the UK-Ghana Business Council meeting in which they discussed financing in support of a hydrogen economy.[1591]

On 27 February 2024, Secretary Coutinho and Minister Callanan announced GBP21 million in investments for seven projects to produce low carbon hydrogen fuel.[1592]

On 29 February 2024, Secretary Donelan and French Minister for Higher Education and Research Sylvie Retailleau announced efforts including GBP800,000 to bring researchers together to work on shared opportunities in areas such as low carbon hydrogen.[1593]

On 3 March 2024, Secretary Donelan announced a GBP360 million boost in funding for manufacturing and R&D with some being allocated to hydrogen.[1594]

On 4 March 2024, UK Export Finance helped a renewable energy developer secure a GBP19 million finance package to develop solar power, battery storage, and green hydrogen projects abroad.[1595] The financing helps develop the supply chain for hydrogen.

On 12 March 2024, Secretary of State Coutinho announced a new strategy for gas power, which mandates that new gas plants must be be made hydrogen capable.[1596]

On 13 March 2024, Secretary of State Badenoch and Texas Governor Greg Abott signed a trade pact which targets sectors including hydrogen.[1597] Cooperation would advance the UK's goal to create 12,000 jobs and invest GBP11 billion by 2030 in the hydrogen sector.

[1589] More support for industry to cut emissions and energy bills, Department for Energy Security and Net Zero (London) 22 January 2024. Access Date: 2 March 2024. https://www.gov.uk/government/news/more-support-for-industry-to-cut-emissions-and-energy-bills

[1590] £33 million boost to turn green ports and ships into a reality, Department for Transport (London) 26 January 2024. Access Date: 2 March 2024. https://www.gov.uk/government/news/33-million-boost-to-turn-green-ports-and-ships-into-a-reality

[1591] Joint Communique issued at the end of the UK-Ghana Business Council meeting, Foreign, Commonwealth & Development Office (Accra) 31 January 2024. Access Date: 2 March 2024. https://www.gov.uk/government/news/joint-communique-issued-at-the-end-of-the-uk-ghana-business-council-meeting

[1592] Boost for UK hydrogen as government backs world-leading industry, Department for Energy Security and Net Zero (London) 27 February 2024. Access Date: 2 March 2024. https://www.gov.uk/government/news/boost-for-uk-hydrogen-as-government-backs-world-leading-industry

[1593] UK and France to deepen research and AI links following Horizon association, Department for Science, Innovation and Technology (London) 29 February 2024. Access Date: 2 March 2024. https://www.gov.uk/government/news/uk-and-france-to-deepen-research-and-ai-links-following-horizon-association

[1594] £360 million to boost British manufacturing and R&D, HM Treasury and the Department for Science, Innovation and Technology (London) 3 March 2024. Access Date: 4 March 2024. https://www.gov.uk/government/news/360-million-to-boost-british-manufacturing-and-rd

[1595] Supported by a government scheme for UK exporters, a renewable energy developer from Romsey has secured a new Santander guarantee to help it deliver new overseas projects, UK Export Finance (London) 4 March 2024. Access Date: 20 April 2024. https://www.gov.uk/government/news/hampshire-renewable-energy-developer-secures-19-million-bank-guarantee-facility-required-to-fuel-exports

[1596] Energy Secretary takes action to reinforce UK energy supply, Government of the United Kingdom (London) 12 March 2024. Access Date: 20 April 2024. https://www.gov.uk/government/news/energy-secretary-takes-action-to-reinforce-uk-energy-supply

[1597] UK signs trade pact with second biggest US state – Texas (London) 13 March 2024. Access Date: 20 April 2024. https://www.gov.uk/government/news/uk-signs-trade-pact-with-second-biggest-us-state-texas

On 20 March 2024, Secretary of State Coutinho approved the Hynet Carbon Dioxide Pipeline development.[1598] The pipeline will transport carbon produced and captured by hydrogen producing facilities, ensuring that hydrogen meets low-carbon standards.

On 21 March 2024, Under Secretary of State Browne announced GBP1.8 million in funding for the future transport fund, which includes a hydrogen refueling system for aircraft.[1599]

On 26 March 2024, Consul General at the British Consulate in Chicago Alan Gogbashian and Indiana Secretary of Commerce David Rosenberg chaired a working group meeting that included discussions on hydrogen.[1600] The UK and Indiana aim to coordinate activities between their respective hydrogen hubs.

On 27 March 2024, the Department for Business and Trade launched the hydrogen propulsion manufacturing taskforce.[1601] The taskforce aims to identify investment and hydrogen technology development opportunities.

On 27 March 2024, Under Secretary of State Browne announced that hydrogen-powered tractors, diggers, and forklifts would be allowed on roads.[1602] The regulation change ensures an expanded supply chain to end-users for hydrogen.

On 28 March 2024, the Environment Agency issued new guidance on the production of hydrogen from water using electrolysis.[1603] The guidance includes techniques on emission and impact reduction in hydrogen production and use.

On 17 April 2024, the Under Secretary of State Browne announced a GBP1.3 million competition to transform the transport sector.[1604] The funding will support a variety of projects, including those advancing hydrogen development.

On 24 April 2024, British Prime Minister Rishi Sunak and German Chancellor Olaf Scholz announced a joint feasibility study by the United Kingdom and Germany into a potential hydrogen trade agreement between the two countries.[1605]

On 25 April 2024, the Department of Transport published the Sustainable Aviation Fuel mandate, which commits to decarbonising air travel by pledging to generate 10 per cent of all jet fuel through sustainable sources

[1598] The Hynet carbon Dioxide Pipeline application has today been granted development consent by the Secretary of State for Energy Security and Net Zero, Government of the United Kingdom (London) 20 March 2024. Access Date: 20 April 2024. https://www.gov.uk/government/news/hynet-carbon-dioxide-pipeline-development-consent-decision-announced

[1599] Self-driving delivery boats to benefit from £1.8 million future transport fund, Government of the United Kingdom (London) 21 March 2024. Access Date: 20 April 2024. https://www.gov.uk/government/news/self-driving-delivery-boats-to-benefit-from-18-million-future-transport-fund

[1600] UK and the State of Indiana hold Second Working Group meeting, Government of the United Kingdom (London) 26 March 2024. Access Date: 20 April 2024. https://www.gov.uk/government/news/uk-and-the-state-of-indiana-hold-second-working-group-meeting

[1601] Government holds first meeting of the Hydrogen Propulsion Manufacturing Taskforce, Government of the United Kingdom (London) 27 March 2024. Access Date: 20 April 2024. https://www.gov.uk/government/news/government-holds-first-meeting-of-the-hydrogen-propulsion-manufacturing-taskforce

[1602] Farming and construction vehicles set for hydrogen-powered revolution, Government of the United Kindom (London) 27 March 2024. Access Date: 20 April 2024. https://www.gov.uk/government/news/farming-and-construction-vehicles-set-for-hydrogen-powered-revolution

[1603] Environment Agency publishes guidance on production of green hydrogen, Government of the United Kingdom (London) 28 March 2024. Access Date: 20 April 2024. https://www.gov.uk/government/news/environment-agency-publishes-guidance-on-production-of-green-hydrogen

[1604] £1.3 million to back cutting-edge transport projects, Government of the United Kingdom (London) 17 April 2024. Access Date: 20 April 2024. https://www.gov.uk/government/news/13-million-to-back-cutting-edge-transport-projects

[1605] Close friendship, close collaboration, Federal Ministry for Economic Affairs and Climate Action (Berlin) 24 April 2024. Access Date: 28 April 2024. https://www.bundeskanzler.de/bk-en/news/federal-chancellor-prime-minister-sunak-2274452

by 2030.[1606] The mandate will result in a reduction of 2.7 metric tons of carbon dioxide equivalent in 2030. Furthermore, the mandate includes incentives to supply sustainable aviation fuel, including hydrogen which must adhere to strict sustainability criteria.[1607]

The United Kingdom has fully complied with its commitment to enhance efforts to develop the rule-based, transparent global market and supply chains for low carbon and renewable hydrogen based on reliable international standards and certification schemes adhering to environmental and social standards. The United Kingdom advanced strong actions to develop the supply chain for low carbon and renewable hydrogen through funding hydrogen powered transit, heavy transport, aviation and refuelling infrastructure, regulatory incentives for fuel-switching and de-risking hydrogen investments, legislated priority designations, innovation investments, and funding for hydrogen solutions to industry abatement. The United Kingdom supported the development of the rule-based global market for hydrogen, with strong actions, by advancing low carbon hydrogen standards and jointly establishing an organization dedicated to facilitating hydrogen trade.

Thus, the United Kingdom receives a score of +1.

Analyst: Sarah Wilczynski

United States: +1

The United States has fully complied with its commitment to enhance efforts to develop the rule-based, transparent global market and supply chains for low carbon and renewable hydrogen based on reliable standards and certification schemes adhering to environmental and social standards.

On 22 May 2023, the Department of Energy (DOE) announced a USD42 million project to invest in 22 projects to advance technologies for the production, storage, and deployment of clean hydrogen.[1608] The projects aspire to develop solar fuel technologies, higher-density and lower-pressure hydrogen storage methods, cost-effective hydrogen fuel cells, and improved emissions detection and monitoring. The DOE has also allocated USD17.8 million to establish a North American University Research consortium, led by Stanford University, focusing on grid resilience and decarbonization programs. The consortium will help states, tribes, and regions in developing data, modelling tools, a workforce, and methods to achieve the aforementioned goals.

On 23 May 2023, the Environmental Protection Agency (EPA) proposed five actions under section 111 of the Clean Air Act to address greenhouse gas (GHG) emissions from fossil fuel-fired electric generating units.[1609] This includes performance standards for hydrogen co-firing and emissions.

On 24 May 2023, the DOE launched the Clean Fuel and Products Shot – its seventh DOE Energy Earthshot initiative.[1610] The program aims to decarbonize transportation and heavy industry with targets to achieve at least

[1606] Aviation fuel plan, Government of UK (London) 25 April 2024. Access Date: 1 May 2024. https://www.gov.uk/government/speeches/aviation-fuel-plan

[1607] Pathway to net zero aviation: developing the UK sustainable aviation fuel mandate, Government of the United Kingdom (London) 25 April 2024. Access Date: 15 May 2024. https://www.gov.uk/government/consultations/pathway-to-net-zero-aviation-developing-the-uk-sustainable-aviation-fuel-mandate

[1608] DOE Announces Nearly $60 Million to Advance Clean Hydrogen Technologies and Improve the Electric Power Grid, Department of Energy (Washington D.C.) 22 May 2023. Access Date: 8 December 2023. https://www.energy.gov/articles/doe-announces-nearly-60-million-advance-clean-hydrogen-technologies-and-improve-electric

[1609] New Source Performance Standards for Greenhouse Gas Emissions From New, Modified, and Reconstructed Fossil Fuel-Fired Electric Generating Units; Emission Guidelines for Greenhouse Gas Emissions From Existing Fossil Fuel-Fired Electric Generating Units; and Repeal of the Affordable Clean Energy Rule, Environmental Protection Agency (Washington D.C.) 23 May 2023. Access Date: 8 December 2023. https://www.federalregister.gov/documents/2023/05/23/2023-10141/new-source-performance-standards-for-greenhouse-gas-emissions-from-new-modified-and-reconstructed

[1610] DOE Launches New Energy Earthshot to Decarbonize Transportation and Industrial Sectors, Department of Energy (Washington D.C.) 24 May 2023. Access Date: 8 December 2023. https://www.energy.gov/articles/doe-launches-new-energy-earthshot-decarbonize-transportation-and-industrial-sectors

an 85 per cent GHG emission reductions by 2035. The initiative plans to leverage clean hydrogen as part of carbon efficient conversions to advance decarbonization in hard to abate sectors.[1611]

On 31 May 2023, the Internal Revenue Service released supplementary eligibility for the Qualifying Advanced Energy Project tax credit program.[1612] The new guidelines list hydrogen fuel cells and hydrogen storage technologies as eligible for the tax credit. The requirements stipulate that the hydrogen must be derived from renewables.

On 5 June 2023, the DOE unveiled the National Clean Hydrogen Strategy and Roadmap. The framework outlines how clean hydrogen can help the country achieve its decarbonization goals across sectors.[1613] The framework provides insights into the current state of hydrogen production, transportation, storage, and utilization, and outlines a plan to enhance clean hydrogen production and use by 2030, 2040, and 2050. The roadmap aims to facilitate a 50 to 52 per cent reduction in GHG emissions from 2005 levels by 2030, achieve 100 per cent carbon pollution-free electricity by 2035, and reach net-zero GHG emissions by 2050.

On 8 June 2023, Under Secretary of Commerce for International Trade Marisa Ligo and Singapore Permanent Secretary of the Ministry of Trade and Industry Gabriel Lim agreed to cooperate to further Singapore's National Hydrogen Strategy.[1614]

On 5 July 2023, the DOE released a Notice of Intent and Request for Information to invest upwards to USD1 billion in an initiative to support the Regional Clean Hydrogen Hubs (H2Hubs).[1615] The funding originates from broader energy sections of the Infrastructure Investments and Jobs Act but now specifically allocates investments to advance renewable hydrogen. The funding aims to establish a national clean hydrogen network to reduce emissions from energy-intensive sectors. The plan aspires to address market uncertainties and help producers and end users have the support necessary to unlock private investment and realize the potential of clean hydrogen. The mechanism outlined within the Notice of Assessment aims to connect H2Hubs with prospective purchasers.

On 10 July 2023, the DOE announced USD72 million research and development (R&D) grants to support small businesses. The selected projects include EvolOH which develops technology to reduce the water purity needed to produce hydrogen through electrolysis, thereby reducing costs in the supply chain.[1616]

[1611] Clean Fuels & Products Shot™: Alternative Sources for Carbon-based Products, Department of Energy Office of Energy Efficiency and Renewable Energy (Washington D.C.) n.d. Access Date: 15 December 2023. https://www.energy.gov/eere/clean-fuels-products-shottm-alternative-sources-carbon-based-products

[1612] Additional Guidance for the Qualifying Advanced Energy Project Credit Allocation Program under Section 48C(e), Department of Energy (Washington D.C.) 31 May 2023.) Access Date: 8 December 2023. https://www.irs.gov/pub/irs-drop/n-23-44.pdf

[1613] U.S National Clean Hydrogen Strategy and Roadmap US Department of Agriculture (Washington D.C.) 5 June 2022. Access Date: 9 November 2023. https://www.hydrogen.energy.gov/docs/hydrogenprogramlibraries/pdfs/us-national-clean-hydrogen-strategy-roadmap.pdf

[1614] Joint Statement: The U.S. Department of Commerce and Singapore Ministry of Trade and Industry Meet for the Second U.S.-Singapore Partnership for Growth and Innovation Annual Dialogue, U.S. Department of Commerce International Trade Administration (Singapore) 8 June 2023. Access Date: 15 December 2023. https://www.commerce.gov/news/press-releases/2023/06/joint-statement-us-department-commerce-and-singapore-ministry-trade-and

[1615] Biden-Harris Administration to Jumpstart Clean Hydrogen Economy with New Initiative to Provide Market Certainty And Unlock Private Investment, Department of Energy (Washington D.C.) 5 July 2023. Access Date: 8 December 2023. https://www.energy.gov/articles/biden-harris-administration-jumpstart-clean-hydrogen-economy-new-initiative-provide-market

[1616] DOE Announces $72 Million For Small Business Research and Development Grants, Department of Energy (Washington D.C.) 10 July 2023. Access Date: 8 December 2023. https://www.energy.gov/articles/doe-announces-72-million-small-business-research-and-development-grants

On 18 July 2023, Secretary of Energy Jennifer M. Granholm and Indian Minister of Petroleum and Natural Gas Hardeep Singh Guri resolved to deepen collaboration in hydrogen deployment and scaling at the third ministerial meeting of the U.S.-India Strategic Clean Partnership.[1617]

On 21 July 2023, Secretary Granholm and Brazilian Minister of Mines and Energy, Alexandre Silveira, announced their joint commitment for clean hydrogen cooperation through the Clean Energy Industry Dialogue.[1618]

On 21 July 2023, Secretary Granholm and Japanese Minister for Economy, Trade and Industry Yasutoshi Nishimura discussed bilateral cooperation on hydrogen at the at the 14th Clean Energy Ministerial and 8th Mission Innovation Ministerial.[1619]

On 22 July 2023, Secretary Granholm and the G20 Energy Ministers committed to "support acceleration of production, utilization, as well as development of transparent and resilient global markets for hydrogen produced from zero and low emission technologies and its derivatives such as ammonia by developing voluntary and mutually agreed harmonizing standards as well as mutually recognized, and interoperable certification schemes."[1620] The Ministers also agreed to high level steps needed to achieve their commitment including collaboration on national standards development for low carbon hydrogen and movement towards global harmonization, free trade advancement, in R&D cooperation for technological innovation, finance activation to support the entire supply chain, as well as voluntary information exchanges.

On 22 July 2023, the United States, along with Australia, Brazil, Canada, Chile, Germany, Japan, Saudi Arabia, Korea, the Netherlands, the United Arab Emirates, the United Kingdom, Uruguay and the European Commission on behalf of the European Union, jointly launched the International Hydrogen Trade Forum to advance the global hydrogen market.[1621] The Forum aims to connect importers and exporters and reduce barriers to trade and bolsters the global market for hydrogen.

On 17 August 2023, the DOE awarded USD34 million to 19 projects that increase clean hydrogen availability and affordability for industrial and transport decarbonization.[1622] The selected projects are centred on cost and energy reduction in clean hydrogen production, the use of abated biomass and other waste, and the transportation and storage of hydrogen.

On 18 August 2023, DOE Hydrogen and Fuel Cell Technologies Office Director Sunita Satyapal announced the creation of the Hydrogen Interagency Task Force during a stakeholder webinar concerning the National Clean Hydrogen Strategy and Roadmap.[1623] The Hydrogen Interagency Task Force comprises various

[1617] U.S. and India Advance Partnership on Clean Energy, Department of Energy (New Delhi) 18 July 2023. Access Date: 15 December 2023. https://www.energy.gov/articles/us-and-india-advance-partnership-clean-energy

[1618] United States and Brazil Strengthen Bilateral Clean Energy Cooperation with a Renewed Commitment to Mobilize Private Sector and Community Engagement, Department of Energy (Washington D.C.) 21 July 2023. Access Date: 8 December 2023. https://www.energy.gov/articles/united-states-and-brazil-strengthen-bilateral-clean-energy-cooperation-renewed-commitment

[1619] METI Minister Nishimura Attends the 14th Clean Energy Ministerial (CEM14) and 8th Mission Innovation Ministerial (MI-8), and a G20 Energy Transitions Ministers' Meeting, Ministry of Economy, Trade and Industry (Goa) 23 July 2023. Access Date: 9 December 2023. https://www.meti.go.jp/english/press/2023/0723_001.html

[1620] Outcome Document and Chair' Summary, G20 Information Centre (Goa) 22 July 2023. Access Date: 10 November 2023. http://www.g20.utoronto.ca/2023/230722-energy.html#annex1

[1621] LAUNCH OF THE INTERNATIONAL HYDROGEN TRADE FORUM TO ACCELERATE GLOBAL COLLABORATION, Clean Energy Ministerial (Goa) 22 July 2023. Access Date: 15 December 2023. https://www.cleanenergyministerial.org/launch-of-the-international-hydrogen-trade-forum-to-accelerate-global-collaboration/

[1622] DOE Awards $34 Million to Advance Clean Hydrogen, Department of Energy (Washington D.C.) 17 August 2023. Access Date: 8 December 2023. https://www.energy.gov/articles/doe-awards-34-million-advance-clean-hydrogen

[1623] Hydrogen Stakeholder Webinar: National Clean Hydrogen Strategy and Roadmap and Interagency Coordination, US Department of Energy (Washington D.C.) 18 August 2023. Access Date: 13 November 2023. https://www.hydrogen.energy.gov/docs/hydrogenprogramlibraries/pdfs/webinar-national-hydrogen-strategy-interagency-collaboration.pdf

government agencies working in tandem to support the National Clean Hydrogen Strategy. The task force's principal goal comprises fostering the development of a sustainable market for clean hydrogen, creating viable jobs, and promoting domestic supply chains.

On 25 August 2023, the DOE awarded USD126 million in R&D grants to small businesses including for hydrogen and fuel cell technology.[1624]

On 31 August 2023, the DOE in coordination with the Japanese Ministry of Economy, Trade and Industry, National Energy Technology Laboratory (NETL), and the New Energy and Industrial Technology Development Organization (NEDO) hosted the US-Japan CCUS/Carbon Recycling Working Group.[1625] Participants in the working group agreed on the need to expand collaboration projects and deploy technologies in various regions, including the Asia-Pacific. Notably, the importance of ongoing collaboration between NETL'S National Carbon Capture Center (NCCC) and NEDO's R&D and Demonstration base for Carbon Recycling at Osaki-Kamijima was emphasized. Carbon capture, use and storage (CCUS) represents a crucial element in the low carbon hydrogen supply chain.[1626]

On 20 September 2023, the DOE announced USD47.7 million in funding for 16 research, development, and demonstration projects to foster clean hydrogen technologies.[1627] The projects aspire to lower technology costs, enhance hydrogen infrastructure, and improve fuel cell performance. The selected projects will focus on numerous aspects of the clean hydrogen supply chain, including hydrogen delivery, storage technologies, and durable fuel cells. The investment advances the DOE's goal to reduce the cost of clean hydrogen to USD1 dollar per kilogram within 10 years.

On 29 September 2023, the DOE allocated USD264 million towards 29 projects aimed at developing solutions for clean energy technologies.[1628] Among selected projects are The Lawrence Berkeley National Laboratory and Princeton Plasma Physics Laboratory, which focus on advancing clean hydrogen production through electrolysis and research into achieving net-negative carbon emissions and creating innovative methods for hydrogen production respectively.

On 13 October 2023, the Biden-Harris administration announced a USD7 billion investment to create seven Regional Clean Hydrogen Hubs.[1629] The hubs aim to accelerate large-scale use of low-cost clean hydrogen. Funding for this initiative comes from the Bipartisan Infrastructure Law and the Department of Energy's Office of Clean Energy Demonstrations will be responsible for its management. The Hub strategy seeks to create a network of hydrogen producers, users, and infrastructure, to produce three million metric tons of hydrogen annually.

[1624] DOE Announces $126 Million for Small Businesses to Pursue Clean Energy Research and Development, Department of Energy (Washington D.C.) 25 August 2023. Access Date: 8 December 2023. https://www.energy.gov/articles/doe-announces-126-million-small-businesses-pursue-clean-energy-research-and-development

[1625] The U.S.-Japan CCUS/Carbon Recycling Working Group Held), Ministry of Economy, Trade and Industry (Pittsburgh) 5 September 2023. Access Date: 5 December 2023. https://www.meti.go.jp/english/press/2023/0905_002.html

[1626] Identifying the differences in between Green, Low Carbon, and Renewable Hydrogen, United Nations Environment Program (Copenhagen) 27 April 2023. Access Date:28 September 2023. https://c2e2.unepccc.org/wp-content

[1627] DOE Announces Nearly $48 Million To Advance Clean Hydrogen Technologies, Department of Energy (Washington D.C.) 20 September 2023. Access Date: 8 December 2023. https://www.energy.gov/articles/doe-announces-nearly-48-million-advance-clean-hydrogen-technologies

[1628] DOE Announces $264 Million for Basic Research in Support of Energy Earthshots™, Department of Energy (Washington D.C.) 29 September 2023. Access Date: 8 December 2023. https://www.energy.gov/articles/doe-announces-264-million-basic-research-support-energy-earthshotstm

[1629] Biden-Harris Administration Announces $7 Billion for America's First Clean Hydrogen Hubs, Driving Clean Manufacturing and Delivering New Economic Opportunities Nationwide" Hydrogen and Fuel Cell Technologies Office (Washington D.C.) 13 October 2023. Access Date: 10 November 2023. https://www.energy.gov/eere/fuelcells/articles/biden-harris-administration-announces-7-billion-americas-first-clean

On 17 October 2023, Assistant Secretary for Energy Resources for the Department of State Geoffrey Pyatt, Director-General for Energy and Environmental Policy for the Japanese Ministry of Economy, Trade and Industry Kihara Shinichi, and Deputy Director General and Deputy Assistant Minister to the Japanese Ministry of Foreign Affairs Taketani Atsushi issued a joint statement emphasizing their collective commitment to advancing efforts in clean energy, technologies and mineral resource supply chains.[1630] The statement included a shared commitment to collaborate on regulations and standards for hydrogen including carbon-content measurement.[1631]

On 14 November 2023, Secretary of State Antony Blinken and Secretary of Commerce Gina Raimondo met with Japanese Minister for Foreign Affairs Yoko Kamikawa in San Francisco for the second ministerial meeting of the Japan-US Economic Policy Consultative Committee.[1632] Both countries reaffirmed their commitment to strengthen supply chains for clean hydrogen production by investing in research and development.

On 14 November 2023, Secretary Blinken and Deputy Trade Representative Katherine Tai and the other ministers participating in the Asia-Pacific Economic Cooperation (APEC) forum released a statement that included the goal to identify best practices and frameworks for producing hydrogen from zero to low emissions technologies in the APEC region.[1633]

On 26 December 2023, the Internal Revenue Service proposed rules to facilitate tax credit access for energy companies producing low-carbon hydrogen.[1634] Known as the 45-volt clean energy hydrogen production tax credit, the initiative encourages the use of renewable and low-emission electricity in hydrogen production, offering credits ranging from USD0.6 to USD3 per kilogram of hydrogen. To qualify, producers must demonstrate the use of clean electricity within three years of plant operation, ensuring genuine low-carbon production.

On 11 January 2024, the Biden-Harris Administration awarded USD623 million in grants for electric vehicle and hydrogen refuelling infrastructure.[1635]

On 17 January 2024, the Department of Energy Office of Clean Energy Demonstrations chose a consortium to aid the growth of the clean hydrogen economy and support the Regional Clean H2Hubs.[1636] The consortium is led by the Energy Future Initiatives Foundation along with partners Standard & Poors Global and Intercontinental Exchange. The consortium will design "demand-pull" strategies to boost the demand for and the purchasing of clean hydrogen produced by the H2Hubs.

[1630] Second Annual Japan-U.S. Energy Security Dialogue Held, Ministry of Economy, Trade and Industry (Palo Alro) 30 October 2023. Access Date: 10 December 2023. https://www.meti.go.jp/english/press/2023/1030_004.html

[1631] Joint Statement on the Second Annual Japan-U.S. Energy Security Dialogue, Ministry of Economy, Trade and Industry (Palo Alto) 30 October 2023. Access Date: 10 December 2023. https://www.meti.go.jp/press/2023/10/20231030004/20231030004-2.pdf

[1632] Joint Statement of the Japan-U.S. Economic Policy Consultative Committee, Ministry of Economy, Trade and Industry (Tokyo) 14 November 2023. Access Date: 13 November 2023. https://www.meti.go.jp/press/2023/11/20231116006/20231116006-1.pdf

[1633] 2023 APEC Ministerial Meeting, Asia-Pacific Economic Cooperation (San-Francisco) 17 November 2023. Access Date: 13 December 2023. https://www.meti.go.jp/press/2023/11/20231116004/20231116004-a-eng.pdf

[1634] Section 45V Credit for Production of Clean Hydrogen; Section 48(a)(15) Election To Treat Clean Hydrogen Production Facilities as Energy Property, Federal Register (Washington D.C.) 26 December 2023. Access Date: 9 March 2023. https://www.federalregister.gov/documents/2023/12/26/2023-28359/section-45v-credit-for-production-of-clean-hydrogen-section-48a15-election-to-treat-clean-hydrogen

[1635] Biden-Harris Administration Bolsters Electric Vehicle Future With More Than $600 Million in New Funding, Joint office of Energy and Transportation (Washington D.C.) 11 January 2024. Access Date: 1 May 2024. https://driveelectric.gov/news/new-cfi-funding

[1636] DOE Selects Consortium to Bridge Early Demand for Clean Hydrogen, Providing Market Certainty and Unlocking Private Sector Investment, Department of Energy (Washington D.C.) 17 January 2024. Access Date: 30 April 2024. https://www.energy.gov/oced/articles/doe-selects-consortium-bridge-early-demand-clean-hydrogen-providing-market-certainty

On 23 January 2024, the DOE finalized a term sheet for a USD1.6 billion loan with Plug Power to support six hydrogen production facilities.[1637]

On 25 January 2024, the DOE announced USD254 million in funding to support 49 projects aiming to accelerate the decarbonization of the industrial sector and reduce industrial emissions.[1638] Of this, six projects receiving a total funding of USD20.7 million will support the development and research of hydrogen technology. Furthermore, USD37 million will be allocated to seven projects supporting the decarbonization of iron and steel production by developing the opportunities afforded by hydrogen use in steelmaking.

On 1 February 2024, the DOE awarded vouchers worth USD3.2 million for 31 organizations to boost various clean hydrogen technologies.[1639] The vouchers provided by the DOE will allow these organizations to gain expertise from other participating entities and gain access to testing facilities. The initiative aspires to speed up the production process for clean technologies nationwide and support the goals of the national clean hydrogen strategy to reduce carbon emissions and develop advanced materials and manufacturing techniques.

On 14 February 2024, the Department of Energy's Hydrogen and Fuel Cell Technologies Office allocated USD10 million for a hydrogen direct reduction project at a steel plant in Toledo.[1640]

On 11 March 2024, President Biden released the President's Budget for the Fiscal Year 2025.[1641] The budget includes investments for the DOE to support the acceleration of clean energy. These include USD179 million for the Hydrogen and Fuel Cell Technologies Office, USD85 million in research and development investments for hydrogen with carbon management, and USD24.4 million for research and development towards natural gas decarbonization, hydrogen technologies and hydrogen storage.[1642]

On 13 March 2024, the DOE announced a USD750 million investment in 52 projects aimed at clean hydrogen cost reduction and hydrogen supply chain development.[1643] The projects are expected to help produce ten gigawatts of electrolysers or 1.3 million metric tons to annual clean hydrogen production capacity.

On 15 March 2024, the United States and the European Union released a joint statement following the 11th EU-US Energy Council reaffirming their commitments to common certification schemes for hydrogen.[1644]

[1637] Plug Power jumps on prospective govt loan, liquid green hydrogen production start, Reuters (Washington D.C.) 9 February 2024. Access Date: 7 March 2024. https://www.reuters.com/markets/commodities/plug-power-starts-liquid-green-hydrogen-production-2024-01-23/

[1638] Biden-Harris Administration Announces $254 Million to Decarbonize America's Industrial Sector and Revitalize Domestic Manufacturing, Department of Energy (Washington D.C) 25 January 2024. Access Date: 14 May 2024. https://www.energy.gov/articles/biden-harris-administration-announces-254-million-decarbonize-americas-industrial-sector

[1639] DOE Awards $3.2 Million in Vouchers to 31 Small Businesses and Other Entities to Accelerate Market Adoption of Clean Hydrogen Technologies, Department of Energy (Washington D.C.) 1 February 2024. Access Date: 30 April 2024. https://www.energy.gov/eere/fuelcells/articles/doe-awards-32-million-vouchers-31-small-businesses-and-other-entities

[1640] Department of Energy Announces $10 Million to Demonstrate Innovative Hydrogen Solution for Industrial Decarbonization, Department of Energy (Washington D.C.) 14 February 2024. Access Date: 30 April 2024. https://www.energy.gov/eere/fuelcells/articles/department-energy-announces-10-million-demonstrate-innovative-hydrogen

[1641] Statement by Secretary Granholm on the President's Fiscal Year 2025 Budget, Department of Energy (Washington D.C.) 11 March 2024. Access Date: 5 May 2024. https://www.energy.gov/articles/statement-secretary-granholm-presidents-fiscal-year-2025-budget

[1642] Department of Energy FY 2025 Budget in Brief, Department of Energy (Washington D.C.) 6 March 2024. Access Date: 5 May 2024. https://www.energy.gov/sites/default/files/2024-03/doe-fy-2025-budget-in-brief-v2.pdf

[1643] Biden-Harris Administration Announces $750 Million to Support America's Growing Hydrogen Industry as Part of Investing in America Agenda, Department of Energy (Washington D.C.) 13 March 2024. Access Date: 30 April 2024. https://www.energy.gov/articles/biden-harris-administration-announces-750-million-support-americas-growing-hydrogen

[1644] Statement by the EU and the US following the 11th EU-US Energy Council, European Commission (Washington D.C.) 15 March 2024. Access Date: 21 April 2024. https://ec.europa.eu/commission/presscorner/detail/en/statement_24_1516

On 25 March 2024, the Department of Energy's Hydrogen and Fuel Cell Technologies Office announced the renewal of the Roll-to-Roll Consortium focusing specifically on hydrogen.[1645] The consortium brings together national laboratories which focus on developing manufacturing processes which make electrolysers and fuel cells more affordable.

On 27 March 2024, the DOE announced that it will be providing USD6 billion for 33 projects in over twenty states to help local industries cut their greenhouse gas emissions.[1646] Projects focusing on hydrogen include iron production substituting hydrogen for fossil fuels in Cleveland.

On 10 April 2024, Senior Advisor for International Climate Policy John Podesta and Japanese Minister of Economy, Trade and Industry Ken Saito held a policy dialogue and released a joint statement.[1647] The statement highlighted the collaboration between Japan and the Unites States on combining the efforts of the U.S. Inflation Reduction Act and Japan's Green Transformation Promotion Strategy. The dialogue discussed the development and deployment of zero- and low-emission technologies, including hydrogen.

The United States has fully complied with its commitment to enhance efforts to develop the rule-based, transparent global market and supply chains for low carbon and renewable hydrogen based on reliable international standards and certification schemes adhering to environmental and social standards. The United States advanced strong actions to develop the supply chain for low carbon and renewable hydrogen through full hydrogen lifecycle funding including for transport and heavy industry, R&D investments to lower costs, and a hydrogen strategy. The United States supported the development of the rule-based global market for hydrogen, with strong actions, by jointly establishing an organization dedicated to facilitating hydrogen trade. The United States advanced standards by establishing renewable derived requirements for hydrogen tax credits.

Thus, the United States receives a score of +1.

Analyst: Minahil Syed

European Union: +1

The European Union has fully complied with its commitment to enhance efforts to develop the rule-based, transparent global market and supply chains for low carbon and renewable hydrogen based on reliable standards and certification schemes adhering to environmental and social standards.

On 22 May 2023, European Commission President Ursula von der Leyen and Korean President Suk Yeol Yoon announced the EU-Korea Green Partnership at the EU-Korea Summit in Seoul.[1648] This partnership affirmed their commitment to achieving their respective 2030 goals of reducing greenhouse gas emissions and increased cooperation on the clean and fair energy transition, focusing on low-carbon hydrogen, green mobility, and carbon capture, utilization and storage (CCUS), and transitioning away from unabated coal-fired power generation.

On 24 May 2023, European Commissioner for Transport Adina Vãlean announced the Commission's support for the development of sustainable aviation fuels through the International Civil Aviation Organization's

[1645] DOE National Laboratory Consortium to Advance High-Volume Manufacturing of Critical Clean Hydrogen Technologies, Department of Energy (Washington D.C.) 25 March 2024. Access Date: 30 April 2024. https://www.energy.gov/eere/fuelcells/articles/doe-national-laboratory-consortium-advance-high-volume-manufacturing
[1646] Department of Energy Announces $6 Billion to Transform America's Industrial Sector, Strengthen Domestic Manufacturing, and Slash Emissions, Department of Energy (Washington D.C.) 27 March 2024. Access Date: 30 April 2024. https://www.energy.gov/eere/fuelcells/articles/department-energy-announces-6-billion-transform-americas-industrial-sector
[1647] Minister Saito Holds a Policy Dialogue with Senior Advisor to the U.S. President Podesta, Ministry of Economy, Trade and Industry (Tokyo) 11 April 2024. Access Date: 21 April 2024. https://www.meti.go.jp/english/press/2024/0411_002.html
[1648] European Green Deal: EU and Republic of Korea launch Green Partnership to deepen cooperation on climate action, clean energy and environmental protection, European Commission (Seoul) 22 May 2023. Access Date: 7 December 2023. https://ec.europa.eu/commission/presscorner/detail/en/ip_23_2816

Capacity-building and Training for Sustainable Aviation Fuels programme.[1649] The project allocates EUR4 million to selected partner countries for feasibility study completion and fuel certification and is aligned with the European Green Deal commitment. The majority of feasibility studies published by the programme focus on hydrogen as a potential fuel.[1650]

On 25 May 2023, European Commissioner for Energy Kadri Simson delivered the keynote address at the Estonian Hydrogen Days in Tartu, demonstrating the EUs commitment to hydrogen and bolstering market certainty as proposed delegated acts move through the European Parliament.[1651]

On 31 May 2023, European Commissioner for Energy Kadri Simson and German Minister for Economic Affairs and Climate Action Robert Habeck released a joint statement on linking the European Hydrogen Bank with Germany's H2Global to enhance hydrogen standards and markets.[1652]

On 6 June 2023, the European Climate, Infrastructure and Environment Executive Agency (CINEA) selected sixteen projects under the Innovation Fund.[1653] These projects received around EUR60 million from Emission Trading System revenues in grants to bring low-carbon technologies to the market in energy-intensive industries, including the hydrogen, energy storage, and renewable energy sectors.

On 7 June 2023, President von der Leyen and High Representative of the European Union for Foreign Affairs and Security Policy Josep Borrell adopted a Joint Communication for a New Agenda for Relations between the EU and Latin America and the Caribbean (EU-LAC).[1654] This partnership launched the EU-LAC Global Gateway Investment Agenda with green hydrogen as a key focus.

On 11 June 2023, President von der Leyen, Italian Prime Minister Giorgia Meloni, Dutch Prime Minister Mark Rutte and Tunisian President Kais Saied released a press statement on EU-Tunisia relations.[1655] The statement proposed to modernize the trade agreement and focus on digital and energy sectors for investment. The parties committed to organizing an investment forum as a way to inject funds into Tunisia's renewables industries, including hydrogen.

On 12 June 2023, Commissioner Simson gave a speech at the 9th Energy Infrastructure Forum declaring hydrogen as the Commission's long-term energy focus.[1656] The speech highlighted the revised TEN-E

[1649] Decarbonising aviation: European Commission to support development of sustainable aviation fuels around the world, European Commission Directorate for Mobility and Transport (Brussels) 24 May 2023. Access Date: 7 December 2023. https://transport.ec.europa.eu/news-events/news/decarbonising-aviation-european-commission-support-development-sustainable-aviation-fuels-around-2023-05-24_en

[1650] ICAO Assistance, Capacity-building and Training for Sustainable Aviation Fuels (ICAO ACT-SAF), International Civil Aviation Organization (Montreal) 17 November 2023. Access Date: 11 December 2023. https://www.icao.int/environmental-protection/Pages/act-saf.aspx

[1651] Keynote speech by Commissioner Simson at the Estonian Hydrogen Days 2023, European Commission (Tartu) 25 May 2023. Access Date: 7 December 2023. https://ec.europa.eu/commission/presscorner/detail/en/SPEECH_23_2928

[1652] Joint statement by Commissioner Simson and German Minister Habeck on energy issues (Brussels) 31 May 2023. Access Date: 7 December 2023. https://energy.ec.europa.eu/news/joint-statement-commissioner-simson-and-german-minister-habeck-energy-issues-2023-05-31_en

[1653] 16 grants from the Innovation Fund awarded to projects across Europe, European Climate, Infrastructure and Environment Executive Agency (Brussels) 6 June 2023. Access Date: 7 December 2023. https://cinea.ec.europa.eu/news-events/news/16-grants-innovation-fund-awarded-projects-across-europe-2023-06-06_en

[1654] New Agenda to strengthen EU's partnership with Latin America and the Caribbean, European Commission (Brussels) 7 June 2023. Access Date: 7 December 2023. https://ec.europa.eu/commission/presscorner/detail/en/ip_23_3045

[1655] Press statement by President von der Leyen with Italian Prime Minister Meloni, Dutch Prime Minister Rutte and Tunisian President Saied, European Commission (Tunis) 11 June 2023. Access Date: 7 December 2023. https://ec.europa.eu/commission/presscorner/detail/en/statement_23_3201

[1656] Opening address by Commissioner Simson at the 9th Energy Infrastructure Forum, European Commission (Copenhagen) 12 June 2023. Access Date: 7 December 2023. https://ec.europa.eu/commission/presscorner/detail/en/speech_23_3219

regulation as the framework for hydrogen infrastructure development signals adherence to regulatory frameworks for sustainable energy solutions.

On 13 June 2023, President von der Leyen announced EUR10 billion in Global Gateway investments in the Caribbean and Latin America and EUR2 billion to boost Brazil's green hydrogen production and improve energy efficiency in its industries.[1657] This action highlights the EU's commitment to clean energy, and to addressing hydrogen production as a crucial component of sustainable development and environmental compliance in both regions.

On 14 June 2023, the Head of Division for the Latin American and Caribbean Public Sector for the European Investment Bank (EIB) Kritstin Lang, Executive Vice-President José Miguel Benavente of the Product Development Corporation, Chilean Minister of Finance Mario Marcell Cullell, and the KfW Development Bank signed a statement of intent establishing the Team Europe Renewable Hydrogen Funding Platform for Chile.[1658] The agreement allows for up to EUR200 million in financing and a grant of EUR16.5 million from the EU Latin America and Caribbean Investment Facility and aims to support Chile's renewable hydrogen industry. The initiative advances Chile's goals of achieving 100 per cent clean energy by 2050, promoting economic decarbonization, creating green jobs, and fostering business opportunities for both Chilean and European companies.

On 20 June 2023, the European Commission published two delegated acts specifying detailed rules on the EU definition of renewable hydrogen.[1659] The first act details requirements for categorizing hydrogen, hydrogen-based fuels, or other energy carriers as renewable fuels of non-biological origin (RFNBOs). The second act standardises calculation methodology for life-cycle greenhouse gas emissions for RFNBOs. The regulations ensure legal certainty and develops the rules-based, transparent global market for low-carbon and renewable hydrogen.

On 22 June 2023, the European Commission approved a EUR280 million Belgian initiative to support ArcelorMittal Belgium with its goal of partially decarbonizing its steel production processes through hydrogen.[1660] The plant plans to use the financing to phase out natural gas, replacing it with renewable hydrogen.

On 26 June 2023, the European Union approved France's revised EUR40.3 billion recovery and resilience plan, which includes a REPowerEU chapter that plans to support industrial applications for hydrogen.[1661]

On 26 June 2023, CINEA Acting Director Paloma Aba Garotte announced EUR144.6 million in grants for the Antwerp@C CO2 Export Hub for CCUS.[1662] Decarbonizing the Port of Antwerp-Bruges which houses

[1657] In Brazil, President von der Leyen announces EUR 10 billion of Global Gateway investments in Latin America and the Caribbean, European Commission (Brasilia) 13 June 2023. Access Date: 7 December 2023. https://ec.europa.eu/commission/presscorner/detail/en/ac_23_3265

[1658] Chile: EU, EIB and KfW to finance renewable hydrogen projects with up to €216.5 million, European Investment Bank (Santiago de Chile) 14 June 2023. Access Date: 7 December 2023. https://www.eib.org/en/press/all/2023-223-eu-eib-and-kfw-to-finance-renewable-hydrogen-projects-in-chile-with-up-to-eur216-5-million

[1659] Renewable hydrogen production: new rules formally adopted, European Commission Directorate-General for Energy (Brussels) 20 June 2023. Access Date: 7 December 2023. https://energy.ec.europa.eu/news/renewable-hydrogen-production-new-rules-formally-adopted-2023-06-20_en

[1660] State Aid: Commission approves E €280 million Belgian measure to support ArcelorMittal decarbonize its steel production, European Commission (Brussels) 22 June 2023. Access Date: 7 December 2023. https://ec.europa.eu/commission/presscorner/detail/en/IP_23_3404

[1661] NextGenerationEU: European Commission endorses France's €40.3 billion modified recovery and resilience plan, including REPowerEU chapter (Brussels) 26 June 2023. Access Date: 7 December 2023. https://ec.europa.eu/commission/presscorner/detail/en/ip_23_3495

[1662] CEF Energy: Antwerp@C CO2 Export Hub receives 144.6 million of EU funding for CO2 capture infrastructure, European Climate, Infrastructure and Environment Executive Agency (Antwerp) 26 June 2023. Access Date: 7 December 2023. https://cinea.ec.europa.eu/news-events/news/cef-energy-antwerpc-co2-export-hub-receives-1446-million-eu-funding-co2-capture-infrastructure-2023-06-26_en

the hydrogen-committed Fluxys pipeline advances renewable and low carbon hydrogen supply chains and enhances their adherence to environmental standards.[1663]

On 4 July 2023, European Commission Executive Vice President and Commissioner for Climate Action Frans Timmermans and Vice Premier of the People's Republic of China Xuexiang Ding released a joint statement on cooperation in implementing the United Nations Framework Convention on Climate Change, the Paris Agreement, and the Kunming-Montreal Global Biodiversity Framework during the fourth EU-China High Level Dialogue on Environment and Climate in Beijing.[1664] Both sides identified hydrogen as a key area for cooperation.

On 6 July 2023, Commissioner Simson visited pioneering projects in the decarbonization technology field, including several projects for renewable hydrogen production and carbon capture utilization and storage at the Port of Antwerp-Bruges.[1665] These projects included the Fluxys pipeline which will transition from transporting natural gas to hydrogen. The commissioner collected input from stakeholders and citizens to inform the development of a new EU strategy for carbon capture, utilization, and storage deployment.

On 6 July 2023, Commissioner Simson delivered the keynote at the Eurogas First European Renewable Gas Conference where she encouraged the adoption of regulatory frameworks for fossil-fuel alternatives including hydrogen.[1666] Adopting the Commission's proposed legislation across the EU aims to advance the rules-based, transparent market for hydrogen.

On 10 July 2023, CINEA selected CICERONEGreenNH3stud to receive an EUR3.4 million grant as part of a project to build international green hydrogen supply-chains.[1667]

On 10 July 2023, the European Commission modified the Netherlands state aid scheme and approved EUR30 billion to support a variety of projects, encompassing renewable electricity and heat, low carbon and renewable gas and hydrogen, and transport fuels.[1668]

On 11 July 2023, the European Parliament approved new rules on alternative fuel stations for cars and trucks.[1669] EU members will deploy hydrogen refuelling stations along the core TEN-T network every 200 km.

On 11 July 2023, European Union Commissioner Adina Vălean presented the CountEmissionsEU regulation, introducing a standardized formula for calculating emissions in the transport sector based on an International

[1663] REPowerEU: Commissioner Simson to visit pioneering hydrogen and CCUS projects in Belgium, European Commission (Brussels) 6 July 2023. Access Date: 5 November 2023. https://energy.ec.europa.eu/news/repowereu-commissioner-simson-visit-pioneering-hydrogen-and-ccus-projects-belgium-2023-07-06_en

[1664] Joint Press Release following the fourth EU-China High Level Environment and Climate Dialogue, European Commission Directorate-General for Climate (Beijing) 24 July 2023. Access Date: 8 December 2023. https://climate.ec.europa.eu/news-your-voice/news/joint-press-release-following-fourth-eu-china-high-level-environment-and-climate-dialogue-2023-07-24_en

[1665] REPowerEU: Commissioner Simson to visit pioneering hydrogen and CCUS projects in Belgium, European Commission (Brussels) 6 July 2023. Access Date: 5 November 2023. https://energy.ec.europa.eu/news/repowereu-commissioner-simson-visit-pioneering-hydrogen-and-ccus-projects-belgium-2023-07-06_en

[1666] Keynote speech by Commissioner Simson at Eurogas 1st European Renewable Gas Conference, European Commission (Brussels) 6 July 2023. Access Date: 7 December 2023. https://ec.europa.eu/commission/presscorner/detail/en/speech_23_3720

[1667] CEF Energy: two studies selected for funding under cross-border renewables, European Climate, Infrastructure and Environment Executive Agency (Brussels) 10 July 2023. Access Date: 7 December 2023. https://cinea.ec.europa.eu/news-events/news/cef-energy-two-studies-selected-funding-under-cross-border-renewables-2023-07-10_en

[1668] State aid: Commission approves modification of Dutch scheme to reduce greenhouse gas emissions, European Commission (Brussels) 10 July 2023. Access Date: 7 December 2023. https://ec.europa.eu/commission/presscorner/detail/en/ip_23_3743

[1669] MEPs adopt new rules for more charging stations and greener maritime fuels, European Parliament (Strasbourg) 11 July 2023. Access Date: 8 December 2023. https://www.europarl.europa.eu/news/en/press-room/20230707IPR02419/meps-adopt-new-rules-for-more-charging-stations-and-greener-maritime-fuels

Organization of Standardization.[1670] The CountEmissionsEU regulation introduces a standardized formula for calculating emissions, fostering transparency, and standardizing reporting to enhance efficiency.

On 12 July 2023, EIB Group announced an additional EUR45 billion in clean energy financing and extended support for manufacturing in state-of-the-art Strategic Net-Zero Technologies.[1671] Funding allocation eligibility aligns with the EU's Green Industrial Plan and its emphasis on hydrogen.[1672]

On 13 July 2023, the EU invested EUR3.6 billion in 41 clean tech projects, financed through Emissions Trading System (ETS) revenues.[1673] These projects cover a wide range of industries, including wind and solar energy, and renewable hydrogen. The selected projects span 15 EU Member States.

On 14 July 2023, EIB and the European Union-Community of Latin American and Caribbean States (CELAC) Summit of Heads of State and Government announced financing of EUR800 million, aiming to support the renewable hydrogen industry as part of the European Union's Global Gateway initiative.[1674]

On 17 July 2023, President von der Leyen and Argentinian President Alberto Fernandez signed a Memorandum of Understanding (MoU) at the summit of the EU and Community of Latin American and Caribbean States in Brussels.[1675] The MoU enhanced EU and Argentina's energy collaboration on key areas including renewable energy, hydrogen utilization, and methane emissions reduction. The MoU emphasized the need to ensure that future investments adhere to pertinent environmental legislation.

On 17 July 2023, the EIB, under the Team Europe Renewable Hydrogen Funding Platform for Chile, approved an EUR100 million loan for Chile's renewable hydrogen industry.[1676]

On 18 July 2023, Commissioner Simson and Uruguay's Minister for Foreign Affairs Francisco Bustillo signed a Memorandum of Understanding to collaborate on renewable energy, energy efficiency and renewable hydrogen.[1677] The Memorandum stressed that investments in renewable energy, energy efficiency, and renewable hydrogen adhere to pertinent environmental legislation in both the EU and Uruguay.

[1670] Press Conference by Commissioner Valean on Commission proposals for more efficient and sustainable freight, European Commission (Strasbourg) 11 July 2023. Access Date: 8 December 2023.
https://ec.europa.eu/commission/presscorner/detail/en/speech_23_3810
[1671] EIB to support Green Deal Industrial Plan with €45 billion I additional financing 12 July 2023. Access Date: 8 December 2023.
https://www.eib.org/en/press/all/2023-270-eib-to-support-green-deal-industrial-plan-with-eur45-billion-in-additional-financing
[1672] COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE EUROPEAN COUNCIL, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS A Green Deal Industrial Plan for the Net-Zero Age, European Commission (Brussels) 1 February 2023. Access Date: 11 December 2023.
https://commission.europa.eu/system/files/2023-02/COM_2023_62_2_EN_ACT_A%20Green%20Deal%20Industrial%20Plan%20for%20the%20Net-Zero%20Age.pdf
[1673] Innovation Fund: EU invests €3.6 billion of emissions trading revenues in innovative clean tech projects, European Commission (Brussels) 13 July 2023. Access Date: 5 November 2023.
https://ec.europa.eu/commission/presscorner/detail/en/ip_23_3787
[1674] Latin American: EIB to announce EUR800 million in financing for climate action projects in Argentina, Brazil, Chile at EU-CELAC summit, European Investment Bank (Luxembourg City) 14 July 2023. Access Date: 8 December 2023.
https://www.eib.org/en/press/all/2023-274-latin-america-eib-to-announce-eur800-million-in-financing-for-climate-action-projects-in-argentina-brazil-and-chile-at-eu-celac-summit
[1675] EU-CELAC Summit: EU and Argentina step up cooperation on clean energy transition and energy security, European Commission (Brussels) 17 July 2023. Access Date: 8 December 2023.
https://ec.europa.eu/commission/presscorner/detail/en/IP_23_3859
[1676] Chile: EIB to finance climate action projects in Chile with more than E €300 million including its first green mortgage loan outside Europe, European Commission (Brussels) 17 July 2023. Access Date: 8 December 2023.
https://ec.europa.eu/commission/presscorner/detail/en/ip_23_3864
[1677] EU-CELAC Summit: EU and Uruguay boost cooperation on renewable energy, energy efficiency and renewable hydrogen, European Commission (Brussels) 18 July 2023. Access Date: 8 December 2023.
https://ec.europa.eu/commission/presscorner/detail/en/IP_23_3899

On 21 July 2023, Commissioner Simson and Japanese Minister for Economy, Trade and Industry Yasutoshi Nishimura discussed bilateral cooperation on hydrogen at the at the 14th Clean Energy Ministerial and 8th Mission Innovation Ministerial.[1678]

On 21 July 2023, Commissioner Simson addressed the Joint Ministerial Plenary of the 14th Clean Energy Ministerial and 8th Mission Innovation Ministerial, where she emphasized hydrogen's role in the energy transition and called for its mass commercialization.[1679]

On 22 July 2023, Commissioner Simson delivered a speech at the G20 Energy Transitions Ministerial Meeting.[1680] The speech urged the G20 to adopt transparent, rules-based global hydrogen markets with reliable international standards and certification schemes.

On 22 July 2023, Commissioner Simson and the G20 Energy Ministers committed to "support acceleration of production, utilization, as well as development of transparent and resilient global markets for hydrogen produced from zero and low emission technologies and its derivatives such as ammonia by developing voluntary and mutually agreed harmonizing standards as well as mutually recognized, and interoperable certification schemes."[1681] The Ministers also agreed to high level steps needed to achieve their commitment including collaboration on national standards development for low carbon hydrogen and movement towards global harmonization, free trade advancement, research and development (R&D) cooperation for technological innovation, finance activation to support the entire supply chain, as well as voluntary information exchanges.

On 22 July 2023, the European Commission, along with Australia, Brazil, Canada, Chile, Germany, Japan, Saudi Arabia, Korea, the Netherlands, the United Arab Emirates, the United Kingdom, the United States and Uruguay, jointly launched the International Hydrogen Trade Forum to advance the global hydrogen market.[1682] The Forum aims to connect importers and exporters and reduce barriers to trade and bolsters the global market for hydrogen.

On 25 July 2023, the European Council approved the 'Fit for 55' legislative package, including the Alternative Fuel Infrastructure Regulation.[1683] The adopted legislation dictates required targets for hydrogen refuelling infrastructure.[1684]

On 27 July 2023, the European Commission approved a EUR40 million German support measure for the construction and operation of an onshore Liquefied Natural Gas (LNG) terminal in Brunsbüttel.[1685] The

[1678] METI Minister Nishimura Attends the 14th Clean Energy Ministerial (CEM14) and 8th Mission Innovation Ministerial (MI-8), and a G20 Energy Transitions Ministers' Meeting, Ministry of Economy, Trade and Industry (Goa) 23 July 2023. Access Date: 9 December 2023. https://www.meti.go.jp/english/press/2023/0723_001.html

[1679] Remarks by Commissioner Simson at the Joint Ministerial Plenary of the 14th Clean Energy Ministerial and 8th Mission Innovation Ministerial, European Commission (Goa) 21 July 2023. Access Date: 8 December 2023. https://ec.europa.eu/commission/presscorner/detail/en/speech_23_3984

[1680] Remarks by Commissioner Simson at the G20 Energy Transitions Ministerial Meeting, European Commission (Goa) 22 July 2023. Access Date: 8 December 2023. https://ec.europa.eu/commission/presscorner/detail/en/speech_23_3985

[1681] Outcome Document and Chair' Summary, G20 Information Centre (Goa) 22 July 2023. Access Date: 10 November 2023. http://www.g20.utoronto.ca/2023/230722-energy.html#annex1

[1682] LAUNCH OF THE INTERNATIONAL HYDROGEN TRADE FORUM TO ACCELERATE GLOBAL COLLABORATION, Clean Energy Ministerial (Goa) 22 July 2023. Access Date: 15 December 2023. https://www.cleanenergyministerial.org/launch-of-the-international-hydrogen-trade-forum-to-accelerate-global-collaboration/

[1683] European Green Deal: Energy Efficiency Directive, FuelEU Maritime Regulation and Alternative Fuel Infrastructure Regulation adopted helping make the EU 'Fit for 55', European Commission Directorate-General for Mobillity and Transport (Brussels) 25 July 2023. Access Date: 8 December 2023. https://transport.ec.europa.eu/news-events/news/european-green-deal-energy-efficiency-directive-fueleu-maritime-regulation-and-alternative-fuel-2023-07-25_en

[1684] European Green Deal: ambitious new law agreed to deploy sufficient alternative fuels infrastructure, European Commission (Brussels) 28 March 2023. Access Date: 11 December 2023. https://ec.europa.eu/commission/presscorner/detail/en/IP_23_1867

[1685] State aid: Commission approves € 40 million German support for on-shore LNG terminal in Brunsbüttel, European Commission (Brussels) 27 July 2023. Access Date: 8 December 2023. https://ec.europa.eu/commission/presscorner/detail/en/ip_23_3612

construction of the LNG terminal will adhere to requirements allowing for future conversion to renewable hydrogen.

On 28 July 2023, the European Commission granted EUR246 million in funding for renewable hydrogen production in the Netherlands.[1686] The funding, along with the Dutch government scheme, supports at least 60MW in electrolysis capacity construction.

On 28 July 2023, the European Commission approved a Hungarian scheme of EUR2.36 billion under the State aid Temporary Crisis and Transition Framework to advance investments, facilitating the transition to a net-zero economy.[1687] This will aid investments in crucial sectors, encompassing the production of renewable hydrogen, solar panels, wind turbines, equipment for carbon capture usage and storage.

On 1 August 2023, the European Commission and Germany represented by Minister for Economic Affairs and Climate Action Robert Habeck concluded discussions with the regards to the framework conditions for future hydrogen plants and converting existing plants towards hydrogen capability.[1688] The framework now moves to the consultation phase.

On 10 August 2023, the European Commission approved a EUR6.5 billion German initiative to combat the carbon leakage risk from the German fuel emission trading system.[1689] Reducing carbon-leakage and enhancing emission transparency develops the rule-based, transparent market for hydrogen and incentivizes the use of fossil-fuel alternatives including hydrogen.

On 17 August 2023, the European Commission adopted disclosure regulations for the transitional phase of the Carbon Border Adjustment Mechanism (CBAM).[1690] The regulations contribute to the rule-based, transparent global market for hydrogen and incentivize the use of fossil-fuel alternatives including hydrogen.

On 30 August 2023, the European Commission published the Terms and Conditions for the EU Hydrogen Bank pilot auction.[1691] The auction opens hydrogen investment opportunities, and its creation of common standards advances the global market for hydrogen.

On 1 September 2023, the North Adriatic Hydrogen Valley project commenced with EUR25 million in Commission backing.[1692] The project aims to build and enhance European hydrogen markets and supply chains, especially in sectors where abatement progress lags.

[1686] State aid: Commission approves € 246 million Dutch scheme to support renewable hydrogen production, European Commission (Brussels) 28 July 2023. Access Date: 5 November 2023. https://ec.europa.eu/commission/presscorner/detail/en/ip_23_3967

[1687] State aid: Commission approves €2.36 billion Hungarian scheme for accelerated investments in strategic sectors to foster the transition to a net-zero economy, European Commission (Brussels) 28 July 2023. Access Date: 8 December 2023. https://ec.europa.eu/commission/presscorner/detail/en/ip_23_3851

[1688] Rahmen für die Kraftwerksstrategie steht – wichtige Fortschritte in Gesprächen mit EU-Kommission zu Wasserstoffkraftwerken erzielt, Bundesministerium für Wirtschaft und Klimaschutz (Berlin) 1 August 2023. Translation provided by Google Translate. Access Date: 2 December. https://www.bmwk.de/Redaktion/DE/Pressemitteilungen/2023/08/20230801-rahmen-fuer-die-kraftwerksstrategie-steht.html

[1689] State aid: Commission approves €6.5 billion German scheme to address carbon leakage risk for energy-intensive companies resulting from national fuel emission trading system, European Commission (Brussels) 10 August 2023. Access Date: 8 December 2023. https://ec.europa.eu/commission/presscorner/detail/en/IP_23_4105

[1690] Commission adopts detailed reporting rules for the Carbon Border Adjustment Mechanism's transitional phase, European Commission (Brussels) 17 August 2023. Access Date: 8 December 2023. https://ec.europa.eu/commission/presscorner/detail/en/ip_23_4186

[1691] Upcoming EU Hydrogen Bank pilot auction: European Commission publishes Terms & Conditions, European Directorate-General for Climate Action (Brussels) 30 August 2023. Access Date: 8 December 2023. https://climate.ec.europa.eu/news-your-voice/news/upcoming-eu-hydrogen-bank-pilot-auction-european-commission-publishes-terms-conditions-2023-08-30_en

[1692] North Adriatic Hydrogen Valley, European Commission Clean Hydrogen Partnership (Ljubljana) 1 September 2023. Access Date: 8 December 2023. https://www.clean-hydrogen.europa.eu/projects-repository/nahv_en

On 11 September 2023, the European Commission announced EUR352 million in funding for the implementation of alternative fuels infrastructure.[1693] The chosen initiatives facilitate the broad adoption of low- and zero-emission vehicles across all modes of transportation. Projects earmarked for funding include eighteen hydrogen refuelling stations.

On 12 September 2023, the European Parliament voted to enhance the deployment of renewable energy including hydrogen.[1694] The updated Renewable Energy Directives outline greenhouse gas emission reductions of 14.5 per cent in the transport sector. This initiative increases the quota for renewable fuels, including hydrogen.

On 28 September 2023, Commissioner Simson announced the EU's intention to hold the first joint renewable hydrogen import auction through the European Hydrogen Bank before June 2024.[1695] Joint auctions common criteria aim to enhance rule-based hydrogen market development.

On 1 October 2023, the European Commission Directorate-General Taxation and Customs Union began implementing the CBAM.[1696] The CBAM, meant to reduce carbon leakage, enters a transitional phase to the end of 2025, requiring reporting from six sectors, including hydrogen.

On 5 October 2023, Commissioner Simson and Algerian Minister of Energy and Mines Mohamed Arkab discussed enhancing energy ties between the EU and Algeria at the fifth annual EU-Algeria High Level Energy Dialogue in Brussels.[1697] The meeting discussed energy cooperation between the EU and Algeria with a focus in areas such as renewable hydrogen.

On 9 October 2023, the European Council granted final approval of two pillars of the 'Fit for 55' legislative package the ReFuelEU Aviation Regulation, and the revised Renewable Energy Directive.[1698] The updated directives outline emission reductions of 14.5 per cent in the transport sector. The regulation increases the quota for renewable fuels, including hydrogen. The approval ensures fair competition among European companies through the implementation of the CBAM.

On 10 October 2023, Executive Vice-President for Interinstitutional Relations Maroš Šefčovič hosted the Clean Transition Dialogue on Hydrogen.[1699] The Dialogue engages stakeholders to promote the EU renewable hydrogen import auction system and to develop the rule-based hydrogen market.

[1693] Alternative fuels infrastructure: €352 million in EU funding for low-and zero-emission transport projects 11 September 2023. Access Date: 8 December 2023. https://transport.ec.europa.eu/news-events/news/alternative-fuels-infrastructure-eu352-million-eu-funding-low-and-zero-emission-transport-projects-2023-09-11_en

[1694] MEPs back plans to boost use of renewable energy, European Parliament (Strasbourg) 12 September 2023. Access Date: 8 December 2023. https://www.europarl.europa.eu/news/en/press-room/20230911IPR04926/meps-back-plans-to-boost-use-of-renewable-energy

[1695] Opening remarks by Commissioner Simson at public stakeholder workshop on the international auction under the European Hydrogen Bank, European Commission (Brussels) 28 September 2023. Access Date: 5 November 2023. https://ec.europa.eu/commission/presscorner/detail/en/SPEECH_23_4691

[1696] Carbon Border Adjustment Mechanism (CBAM) Outline Questions and Answers, European Commission Directorate-General Taxation and Customs Union (Brussels) 28 November 2023. https://taxation-customs.ec.europa.eu/system/files/2023-11/CBAM%20Frequently%20Asked%20Questions_November%202023.pdf

[1697] Commissioner Simson hosts EU-Algeria High-Level Energy Dialogue in Brussels tomorrow, European Commission (Brussels) 4 October 2023. Access Date: 8 December 2023. https://energy.ec.europa.eu/news/commissioner-simson-hosts-eu-algeria-high-level-energy-dialogue-brussels-tomorrow-2023-10-04_en

[1698] Final adoption of ReFuelEU Aviation completes 'Fit for 55' legislation, putting EU on track to exceed 2030 targets, European Commission Directorate-General for Mobility and Transport (Brussels) 9 October 2023. Access Date: 8 December 2023. https://transport.ec.europa.eu/news-events/news/final-adoption-refueleu-aviation-completes-fit-55-legislation-putting-eu-track-exceed-2030-targets-2023-10-09_en

[1699] Opening remarks by President von der Leyen at the Clean Transition Dialogue on Hydrogen, European Commission (Brussels) 10 October 2023. Access Date: 5 November 2023. https://ec.europa.eu/commission/presscorner/detail/en/speech_23_4866

On 11 October 2023, Battolyser Systems signed a EUR40 million agreement with European Investment Bank to produce green hydrogen.[1700] This financing will enable the company to scale its production facility in Rotterdam towards mass production of its combined electricity storage and electrolyser stack system.

On 17 October 2023, the Directorate-General for Climate Action of the European Commission announced the adoption of a new Auctioning Regulation for 'Fit for 55' and REPowerEU plan.[1701] The Regulation expands the scope of the ETS to include the maritime industry and extends auctioning allowances for road transport creating incentives for lower carbon fuels like hydrogen.

On 20 October 2023, the European Commission adopted a revised Strategic Energy Technology (SET) Plan. The SET Plan now reflects the European Green Deal, the REPowerEU Plan, and the Green Deal Industrial Plan, incorporating the Net-Zero Industry Act.[1702] The approach establishes a dedicated workstream on hydrogen to implement the European Research Area pilot on Green Hydrogen and fosters collaboration between the European Technology and Innovation Platforms and the Clean Hydrogen Alliance.

On 24 October 2023, President Von der Leyen and Mauritanian President Mohamed Ould Ghazouani announced a new Team Europe initiative to support green hydrogen development in Mauritania.[1703] The initiative includes infrastructure development to increase production and the legal and fiscal frameworks that contribute to a rule-based global hydrogen market according to environmental and social standards.

On 24 October 2023, Commissioner Simson and Norwegian Minister of Petroleum and Energy Terje Aasland, co-chaired the EU-Norway Energy Dialogue in Brussels.[1704] This dialogue included panels on hydrogen and addressed policies within the EU's Fit for 55 package and the Net-Zero Industry Act.

On 24 October 2023, President von der Leyen and President of Namibia Hage Geingob agreed to a strategic partnership for sustainable raw materials value chains and renewable hydrogen at the Global Gateway Forum held in Brussels.[1705] This collaboration, supported by EUR1 billion in investments from the EU, its member states, and European financial institutions, aimed to enhance economic development and integration in the region. The Namibian Ports Authority will receive support for operational excellence to establish the Port of Walvis Bay as a regional hub for the green hydrogen and derivatives economy. The partnership roadmap includes harmonization efforts for environmental and social standards in addition to green fuel certification adherence.

[1700] €40 million European backing for Dutch hydrogen innovator Battolyser Systems, European Commission (Brussels) 11 October 2023. Access Date: 5 November 2023. https://ec.europa.eu/commission/presscorner/detail/en/IP_23_4921

[1701] Commission adopts new ETS Auctioning Regulation for Fit for 55, European Commission Directorate-General for Climate Action 17 October 2023. Access Date: 8 December 2023. https://climate.ec.europa.eu/news-your-voice/news/commission-adopts-new-ets-auctioning-regulation-fit-55-2023-10-17_en

[1702] Updated Strategic Energy Technology Plan for Europe's clean, secure and competitive energy future, European Commission (Brussels) 20 October 2023. Access Date: 8 December 2023.
https://ec.europa.eu/commission/presscorner/detail/en/IP_23_5146

[1703] Global Gateway: EU launches a Team Europe Initiative to develop green hydrogen in Mauritania and accelerate its energy transition, European Commission (Brussels) 24 October 2023. Access Date: 8 November 2023.
https://ec.europa.eu/commission/presscorner/detail/en/ip_23_5268

[1704] Commissioner Simson hosts EU-Norway Energy Dialogue and 6th Energy Conference to deepen Green Alliance and support the clean energy transition, European Commission Directorate-General for Energy (Brussels) 24 October 2023. Access Date: 8 December 2023. https://energy.ec.europa.eu/news/commissioner-simson-hosts-eu-norway-energy-dialogue-and-6th-energy-conference-deepen-green-alliance-2023-10-24_en

[1705] Global Gateway: EU and Namibia agree on next steps of strategic partnership on sustainable raw materials and green hydrogen, European Commission (Brussels) 24 October 2023. Access Date: 8 December 2023.
https://ec.europa.eu/commission/presscorner/detail/en/IP_23_5263

On 24 October 2023, the European Parliament Environment Committee adopted proposals to enhance emission standards for new heavy-duty vehicles (HDVs), encompassing buses, trucks, and trailers.[1706] The emission reduction timelines and targets develop the demand side of the market for hydrogen. The proposals also call on the commission to organize annual forums on zero emission HDVs.

On 25 October 2023, the European Commission hosted the Global Gateway Forum which included dialogues on the green energy transition and renewable hydrogen.[1707] This event fosters leader discussion in developing a rule-based global market for hydrogen based on international standards and certification schemes.

On 25 October 2023, the European Commission adopted a Delegated Regulation amending the Registry Regulation 2019/1122 in line with the revised ETS Directive within the Fit for 55 legislative package.[1708] The Regulation expands the scope of the ETS to include the maritime industry and extends auctioning allowances for road transport creating incentives for lower carbon fuels like hydrogen.

On 26 October 2023, the EIB strengthened its collaboration with Hrvatske Autoceste, concentrating on projects related to the environmental sustainability of Croatia's motorway network.[1709] The EIB will provide advisory services on the development of a multiyear plan for the decarbonization of the bus fleet and for hydrogen refuelling stations along highways.

On 15 November 2023, EIB Board of Directors approved EUR3.1 billion for research and development including solid-oxide electrolysers, part of the hydrogen supply chain.[1710]

On 16 November 2023, the European Commission approved Belgium's modified recovery and resilience plan, worth EUR5.26 billion.[1711] The funds include a REPowerEU chapter which supports increasing the production and deployment of renewable hydrogen and decarbonizing industry and transport.

On 20 November 2023, Executive Vice-President Šefčovič delivered the keynote speech to kick off the European Hydrogen Week 2023.[1712] The European Hydrogen Week provides a forum for stakeholders to develop hydrogen industry.

[1706] MEPs support CO2 emissions reduction target for trucks and buses, European Parliament (Strasbourg) 24 October 2023. Access Date: 8 December 2023. https://www.europarl.europa.eu/news/en/press-room/20231023IPR08171/meps-support-co2-emissions-reduction-targets-for-trucks-and-buses

[1707] Global Gateway Forum 2023, European Commission Global Gateway Forum (Brussels) 25 October 2023. Access Date: 8 November 2023. https://global-gateway-forum.ec.europa.eu/index_en

[1708] Commission adopts new ETS Union Registry Regulation for Fit for 55, European Commission Directorate-General for Climate Action (Brussels) 25 October 2023. Access Date: 8 December 2023. https://climate.ec.europa.eu/news-your-voice/news/commission-adopts-new-ets-union-registry-regulation-fit-55-2023-10-25_en

[1709] Croatia: EIB supports sustainable development of green transport infrastructure, European Investment Bank (Luxembourg City) 26 October 2023. Access Date: 8 December 2023. https://www.eib.org/en/press/all/2023-397-croatia-eib-supports-sustainable-development-of-green-transport-infrastructure

[1710] EIB backs €9.3 billion transport, business, energy, water and urban investment, European Investment Bank (Luxembourg City) 15 November 2023. Access Date: 8 December 2023. https://www.eib.org/en/press/all/2023-423-eib-backs-eur9-3-billion-transport-business-energy-water-and-urban-investment

[1711] Commission endorses Belgium's €5.3 billion modified recovery and resilience plan, including a REPowerEU chapter, European Commission (Brussels) 16 November 2023. Access Date: 15 December 2023. https://ec.europa.eu/commission/presscorner/detail/en/ip_23_5788

[1712] European Hydrogen Week 2023 kicks off in Brussels, European Commission Directorate-General for Energy (Brussels) 20 November 2023. Access Date: 8 December 2023. https://energy.ec.europa.eu/news/european-hydrogen-week-2023-kicks-brussels-2023-11-20_en

On 21 November 2023, the European Commission approved Greece's modified recovery and resilience plan, worth EUR35.95 billion.[1713] The funds include a REPowerEU chapter to boost renewable hydrogen production and promote energy sharing.

On 21 November 2023, the European Commission approved Finland's modified recovery and resilience plan, worth EUR1.95 billion.[1714] The reforms include a REPowerEU chapter aiming to accelerate renewable hydrogen deployment and invest in the net-zero industry value chain.

On 21 November 2023, the European Commission approved Croatia's modified recovery and resilience plan, worth EUR10 billion.[1715] The funds include a REPowerEU chapter aiming to increase the production and deployment of renewable hydrogen and addressing bottlenecks in zero-emission energy transport.

On 23 November 2023, the European Commission approved Hungary's modified recovery and resilience plan, worth EUR10.4 billion.[1716] The funds include a REPowerEU chapter to boost renewable energy production and integration, including hydrogen energy.

On 23 November 2023, the European Commission opened the EUR4 billion Innovation Fund's call for proposals to support the development of decarbonization technologies, including cleantech manufacturing and hydrogen production.[1717]

On 23 November 2023, the European Commission held the inaugural European Hydrogen Bank auction with EUR800 million in Innovation Fund subsidies bid on through a per kilogram premium price.[1718] The Commission also allows the member states to fund additional projects not chosen at auction. The auction develops a market for low carbon and renewable hydrogen while providing investment and production incentives. Provisions for member states to fund additional projects based on the auction process encourages certification and standard diffusion and safeguards an integrated market.

On 23 November 2023, Commissioner Simson and the representatives of South Africa's Presidency met to discuss energy investments, with specific focus on wind generation, electricity grids, and hydrogen.[1719] The discussion led to an information and idea exchange on South Africa's energy landscape and transition initiatives.

[1713] Commission endorses Greece's €35.95 billion modified recovery and resilience plan, including a REPowerEU chapter. European Commission (Brussels) 21 November 2023. Access Date: 15 December 2023. https://ec.europa.eu/commission/presscorner/detail/en/ip_23_5914

[1714] Commission endorses Finland's €1.95 billion modified recovery and resilience plan, including a REPowerEU chapter. European Commission (Brussels) 21 November 2023. Access Date: 15 December 2023. https://ec.europa.eu/commission/presscorner/detail/en/ip_23_5917

[1715] Commission endorses Croatia's €10 billion modified recovery and resilience plan, including a REPowerEU chapter*, European Commission (Brussels) 21 November 2023. Access Date: 15 December 2023. https://ec.europa.eu/commission/presscorner/detail/en/ip_23_5915

[1716] Commission endorses Hungary's €4.6 billion REPowerEU chapter, to complement its recovery and resilience plan, European Commission (Brussels) 23 November 2023. Access Date: 15 December 2023. https://ec.europa.eu/commission/presscorner/detail/en/ip_23_5991

[1717] Commission opens €4 billion call for proposals for net-zero technologies under the Innovation Fund, European Commission (Brussels) 23 November 2023. Access Date: 15 December 2023. https://ec.europa.eu/commission/presscorner/detail/en/IP_23_5948

[1718] Commission launches first European Hydrogen Bank auction with €800 million of subsidies for renewable hydrogen production, European Commission (Brussels) 23 November 2023. Access Date: 8 December 2023. https://ec.europa.eu/commission/presscorner/detail/en/IP_23_5982

[1719] Commissioner Simson in South Africa to discuss energy investments and renewable hydrogen, European Commission Directorate-General for Energy (Brussels) 23 November 2023. Access Date: 8 December 2023. https://energy.ec.europa.eu/news/commissioner-simson-south-africa-discuss-energy-investment-and-renewable-hydrogen-2023-11-23_en

On 24 November 2023, the European Commission approved Italy's modified recovery and resilience plan, worth EUR194.4 billion.[1720] The plan funds an increase in hydrogen production and contributes to Italy's zero-emission rail and bus network.

On 24 November 2023, President von der Leyen, European Council President Charles Michel and Canadian Prime Minister Justin Trudeau launched the Canada-EU Green Alliance.[1721] The Alliance's General Principles include clauses on collaboration towards international hydrogen standard and certification schemes as well as strategies to incentivize hydrogen development and uptake.[1722]

On 27 November 2023, The EIB and IVECO Group signed a financial agreement, granting up to EUR500 million in loans to support various initiatives including hydrogen fuel cell production.[1723] The financing aims to support the decarbonization of the transport sector by developing advanced electrification, efficiency, and safety technologies, which may include hydrogen.

On 28 November 2023, the European Commission released an action plan for decarbonizing the energy grid.[1724] The plan also outlined the kickstart of low-carbon hydrogen production as one of its key value drivers. The plan also includes provisions for the disbursement of public funding into hydrogen storage, distribution, and infrastructure.

On 28 November 2023, the European Commission adopted the first list of Projects of Common Interest and Projects of Mutual Interest.[1725] Of the 166 selected projects, 65 focus on hydrogen and electrolysers.

On 29 November 2023, the European Commission announced a new tool to map renewable energy projects, infrastructure, and other data.[1726] The mapping tool can be used to identify areas for renewable energy investment and development, including hydrogen energy.

On 30 November 2023, Executive Vice President Šefčovič spoke at the Clean Transition Dialogue.[1727] Šefčovič emphasized the need to scale up renewables by investing in energy storage solutions and hydrogen to accelerate the green transition.

[1720] Commission endorses Italy's €194 billion modified recovery and resilience plan, including a REPowerEU chapter, European Commission (Brussels) 24 November 2023. Access Date: 15 December 2023. https://ec.europa.eu/commission/presscorner/detail/en/ip_23_6050

[1721] Creating good, middle-class jobs, and building a strong, secure future with European partners, Prime Minister of Canada (St. John's) 24 November 2023. Access Date: 2 February 2024. https://www.pm.gc.ca/en/news/news-releases/2023/11/24/creating-good-middle-class-jobs-and-building-strong-secure-future-european

[1722] Canada - European Union Green Alliance, Environment and Climate Change Canada (Ottawa) 24 November 2023. Access Date 9 March 2024. https://www.canada.ca/en/environment-climate-change/corporate/international-affairs/partnerships-countries-regions/europe/green-alliance-canada-european-union.html

[1723] Italy: The EIB grants loans of up to €500 million to IVECO Group N.V. for decarbonization of the transport sector, European Investment Bank (Turin) 27 November 2023. Access Date: 8 December 2023. https://www.eib.org/en/press/all/2023-474-eib-to-finance-iveco-group-n-v-for-up-to-500-million-euros-for-the-decarbonisation-of-the-transport-sector

[1724] COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS, European Commission (Brussels) 28 November 2023. Access Date: 13 December 2023. https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52023DC0757

[1725] Commission proposes 166 cross-border energy projects for EU support to help deliver the European Green Deal, European Commission (Brussels) 28 November 2023. Access Date: 15 December 2023. https://ec.europa.eu/commission/presscorner/detail/en/IP_23_6047

[1726] New tool to map energy infrastructure and renewable energy potential whilst protecting nature, European Commission Directorate-General for the Environment (Brussels) 29 November 2023. Access Date: 13 December 2023.https://environment.ec.europa.eu/news/new-tool-map-energy-infrastructure-and-renewable-energy-potential-whilst-protecting-nature-2023-11-29_en

[1727] Speech by Executive Vice-President Šefčovič at the Clean Transition Dialogue with energy intensive industries, European Commission (Brussels) 30 November 2023. Access Date: 15 December 2023. https://ec.europa.eu/commission/presscorner/detail/en/speech_23_6218

On 1 December 2023, Commissioner Simson met with Japanese Minister of Economy, Trade, and Industry Yasutoshi Nishimura to welcome the progress of the Japan-EU Green Alliance and to discuss energy cooperation in hydrogen and other areas.[1728]

On 2 December 2023, EIB Vice-President Ambroise Fayolle and President of the Brazilian Development Bank Alozio Mercandante signed a Memorandum of Understanding on co-financing clean and renewable energy projects at COP28 in Dubai.[1729] The Memorandum enhanced coordination, engaged in potential credit line discussions, and advanced renewable energy collaboration, including on hydrogen energy.

On 4 December 2023, the EIB granted Ørsted EUR400 in loans to accelerate new offshore wind farm construction.[1730] Ørsted directly utilizes offshore wind electricity to power renewable hydrogen plants in nine projects across the EU.[1731] The funding aims to expedite the rollout of wind energy and plans to cover projects along the Polish coast and Germany's North Sea coast.

On 8 December 2024, the Council of the European Union and the European Parliament announced a provisional agreement on internal market rules for hydrogen and other gases to allow for their easier integration into the energy market.[1732] The agreement will see the creation of a regulatory framework for hydrogen infrastructure and markets.

On 13 December 2023, Commissioner Kadri participated in the Green Hydrogen Summit Oman.[1733] This meeting fostering cooperation with Oman on hydrogen and the global energy transition. The commissioner also held roundtable discussions on political engagement between the EU and Oman on green hydrogen.

On 13 December 2023, the European Union and Chile signed an Advanced Framework and an Interim Trade Agreement.[1734] The framework agreement formalizes cooperation on hydrogen.[1735]

On 19 December 2023, the European Commission granted approval for an EUR2.6 billion direct grant to Stahl-Holding-Saar GmbH & Co KGaA (SHS) in Germany.[1736] The funding aims to the partially decarbonize SHS's steel production processes through renewable hydrogen.

[1728] Minister Nishimura Holds Meeting with Ms. Kadri Simson, European Commissioner for Energy, Ministry of Economy, Trade and Industry (Tokyo) 1 December 2023. Access Date: 15 December 2023. https://www.meti.go.jp/english/press/2023/1201_002.html

[1729] COP28: EIB to co-finance climate action projects with the Brazilian Development Bank, BNDES, European Investment Bank (Dubai) 2 December 2023. Access Date: 8 December 2023. https://www.eib.org/en/press/all/2023-485-cop28-eib-to-co-finance-climate-action-projects-with-the-brazilian-development-bank-bndes.

[1730] Denmark: REPowerEU-EIB and Ørsted sign €400 million framework loan for offshore wind farms 4 December 2023. Access Date: 8 December 2023. https://www.eib.org/en/press/all/2023-494-repowereu-eib-and-oersted-sign-eur400-million-framework-loan-for-offshore-wind-farms

[1731] Power-to-X: Our green hydrogen projects and other green fuels projects, Ørsted (Fredericia) 6 December 2022. Access Date: 12 December 2023. https://orsted.com/en/what-we-do/renewable-energy-solutions/power-to-x/our-projects

[1732] Gas package: Council and Parliament reach deal on future hydrogen and gas market, Council of the European Union (Brussels) 8 December 2023. Access Date: 4 March 2024. https://www.consilium.europa.eu/en/press/press-releases/2023/12/08/gas-package-council-and-parliament-reach-deal-on-future-hydrogen-and-gas-market/

[1733] Commissioner Simson in Oman to foster cooperation on hydrogen and the global energy transition, European Commission (Brussels) 12 December 2023. Access Date: 3 March 2024. https://energy.ec.europa.eu/news/commissioner-simson-oman-foster-cooperation-hydrogen-and-global-energy-transition-2023-12-12_en

[1734] EU and Chile sign modern and ambitious trade and political agreements, European Commission (Brussels) 13 December 2023. Access Date: 3 March 2024. https://ec.europa.eu/commission/presscorner/detail/en/ip_23_6542

[1735] Factsheet on EU-Chile Advanced Framework Agreement, European Commission (Brussels) 13 December 2023. Access Date: 9 March 2024. https://ec.europa.eu/commission/presscorner/detail/en/fs_22_7571

[1736] Commission approves €2.6 billion German State aid measure to support Stahl-Holding-Saar decarbonize its steel production through hydrogen use, European Commission (Brussels) 19 December 2023. Access Date: 3 March 2024. https://ec.europa.eu/commission/presscorner/detail/en/ip_23_6647

On 19 December 2023, the EIB and Germany collaborated to expand the Green Hydrogen Fund to accelerate the development of large-scale hydrogen projects to aid the green energy transition.[1737]

On 19 December 2023, Commissioner Simson, French Minister for Energy Transition Agnès Pannier-Runacher, Spanish Minister of Ecological Transition and the Demographic Challenge Teresa Rebera, and Deputy Representative of Portugal to the European Union Manuela Teixeira Pinto signed an MoU on cross-border energy interconnectedness in South-West Europe.[1738] The MoU commits signatories to explore renewable hydrogen potential in the Iberian Peninsula and low carbon hydrogen possibilities in France including for transport.

On 19 December 2023, the European Commission invested over EUR65 million in seventeen technology projects including one for hydrogen in Croatia.[1739]

On 20 December 2023, the European Commission and Germany jointly announced that Germany is joining as the first member state to the EU's new Auctions-as-a-Service scheme under the EU's European Hydrogen Bank.[1740] Germany will invest EUR350million for hydrogen production in Germany in addition to EUR800million investment for European projects deriving from the EU innovation fund.

On 21 December 2023, the European Union provided EUR1.2 billion for Bulgaria's Just Transition Fund (JTF).[1741] The JTF aims to invest in developing hydrogen-based value chains, and pilot projects for the production and storage of renewable hydrogen.

On 19 January 2024, Commissioner Simson gave a speech at the Central and Southeast Europe Energy Connectivity Ministerial Meeting.[1742] The speech highlighted the importance of regional collaboration on hydrogen and biomethane networks.

On 22 January 2024, the EIB and Nordic Investment Bank agreed to provide EUR371 million with InvestEU for H2 Green Steel's large-scale production of green steel with minimal carbon footprint.[1743] The project aims to reduce carbon emissions by 95 per cent compared to current manufacturing process by replacing coal with electrolysis.

[1737] Replenishment of Green Hydrogen Fund: EIB and Germany accelerate global ramp-up of clean hydrogen, European Investment Bank (Luxembourg City) 19 December 2023. Access Date: 3 March 2024. https://www.eib.org/en/press/news/replenishment-of-green-hydrogen-fund-eib-and-germany-accelerate-global-ramp-up-of-clean-hydrogen

[1738] European Commission and Energy Ministers of France, Portugal and Spain strengthen cooperation on cross-border energy infrastructure in South-West Europe, European Commission (Brussels) 19 December 2023. Access Date: 3 March 2024. https://energy.ec.europa.eu/news/european-commission-and-energy-ministers-france-portugal-and-spain-strengthen-cooperation-cross-2023-12-19_en

[1739] EU to invest over €65 million to scale up innovative clean tech projects, European Union (Brussels) 19 December 2023. Access Date: 3 March 2024. https://ec.europa.eu/commission/presscorner/detail/en/ip_23_6720

[1740] Joint EU-Germany statement on Germany's participation in the European Hydrogen Bank "Auctions-as-a-Service" scheme, European Commission (Brussels) 20 December 2023. Access Date: 3 March 2024. https://ec.europa.eu/commission/presscorner/detail/en/ip_23_5823

[1741] EU supports just climate transition in Bulgaria with a budget of €1.2 billion, European Commission (Brussels) 21 December 2023. Access Date: 3 March 2024. https://ec.europa.eu/commission/presscorner/detail/en/ip_23_6756

[1742] Press remarks by Commissioner Simson at the Central and South Eastern Europe Energy Connectivity Ministerial Meeting, European Commission (Athens) 19 January 2024. Access Date: 4 March 2024. https://ec.europa.eu/commission/presscorner/detail/en/speech_24_326

[1743] EIB and NIB to provide €371 million with InvestEU backing for H2 Green Steel's large-scale production of green steel with minimal carbon footprint, European Commission (Brussels) 22 January 2024. Access Date: 4 March 2024. https://ec.europa.eu/commission/presscorner/detail/en/ip_24_342

On 25 January 2024, the European Commission endorsed Finland's request for an EUR202 million disbursement under the Recovery and Resilience Facility.[1744] The plan includes investments in the use of low-emission hydrogen and energy infrastructure transformation.

On 30 January 2024, the European Commission approved EUR550 million for industrial hydrogen use in Italy, supporting the development of renewable energy in Italy.[1745]

On 8 February 2024, the European Commission, Spain, and the Islamic Republic of Mauritania released a joint statement detailing a European business mission to explore green hydrogen investment opportunities in Mauritania and strong EU interest in supporting the projects.[1746]

On 15 February 2024, Executive Vice President of the European Commission for A Europe Fit for the Digital Age Margrethe Vestager released a statement detailing the European Commission's approval of the Important Project of Common European Interest (IPECEI) "Hy2Infra."[1747] The project aims to create an open renewable hydrogen network. The IPCEI "Hy2Infra" focuses on infrastructure, with a total public funding of up to EUR6.9 billion from participating Member States.

On 16 February 2024, the European Commission has approved a EUR4 billion German State aid scheme that includes funds for hydrogen powered steel production plants.[1748]

On 16 February 2024, Commissioner Simson delivered a speech at the International Hydrogen Colloquium held in Liege where she urged cooperation and monitoring of hydrogen certification implementation.[1749]

On 19 February 2024, CINEA hosted a pilot auction under the European Hydrogen Bank.[1750] The projects are expected to produce 8.8 million tonnes of renewable hydrogen over ten years.

On 23 February 2024, the European Commission approved a EUR1.3 billion German State aid scheme for hydrogen powered steel production.[1751] The new installations for phased in hydrogen use begin in 2026. The commission estimates 3.8 million tonnes of green crude steel annually, abating over 70 million tonnes of CO2 in sixteen years.

[1744] Commission endorses positive preliminary assessment of Finland's request for EUR202 million disbursement under the Recovery and Resilience Facility, European Commission (Brussels) 25 January 2024. Access Date: 4 March 2024. https://ec.europa.eu/commission/presscorner/detail/en/ip_24_402

[1745] Commission approves €550 million Italian State aid scheme to support investments for the use of hydrogen in industrial processes to foster the transition to a net-zero economy, European Commission (Brussels) 30 January 2024. Access Date: 4 March 2024. https://ec.europa.eu/commission/presscorner/detail/en/ip_24_507

[1746] Joint press statement by the President of the Islamist Republic of Mauritania, the President of the European Commission and the Prime Minister of the Spanish government, European Commission (Brussels) 8 February 2024. Access Date: 4 March 2024. https://ec.europa.eu/commission/presscorner/detail/en/statement_24_709

[1747] Statement by Executive Vice-President Vestager on the Important Project of Common European Interest "Hy2Infra", European Commission (Brussels) 15 February 2024. Access Date: 4 March 2024. https://ec.europa.eu/commission/presscorner/detail/en/statement_24_827

[1748] Commission approves €4 billion German State aid scheme partially funded under Recovery and Resilience Facility to help industries decarbonize production processes, European Commission (Brussels) 16 February 2024. Access Date: 4 March 2024. https://ec.europa.eu/commission/presscorner/detail/en/ip_24_845

[1749] Opening speech by Commissioner Simson at the International Hydrogen Colloquium 'Creating a European & Worldwide Market', European Commission (Liege) 16 February 2024. Access Date: 4 March 2024. https://ec.europa.eu/commission/presscorner/detail/en/speech_24_883

[1750] European Hydrogen Bank pilot auction: 132 bids received from 17 European countries, European Commission (Brussels) 19 February 2024. Access Date: 4 March 2024. https://climate.ec.europa.eu/news-your-voice/news/european-hydrogen-bank-pilot-auction-132-bids-received-17-european-countries-2024-02-19_en

[1751] Commission approves €1.3 billion German State aid measure funded under Recovery and Resilience Facility to support ArcelorMittal decarbonize its steel production, European Commission (Brussels) 23 February 2024. Access Date: 4 March 2024. https://ec.europa.eu/commission/presscorner/detail/en/ip_24_1009

On 29 February 2024, the European Commission announced EUR1 billion for proposals under the Connecting Europe Facility for the deployment of alternative fuels supply infrastructure including hydrogen.[1752] The program aims to make available hydrogen charging for heavy-duty vehicles on roads as well as hydrogen infrastructure at airports and ports.

On 1 March 2024, Commissioner Simson and Minister of Energy of the Republic of Azerbaijan Parviz Shahbazov released a joint statement at the 10th Ministerial Meeting of the Southern Gas Corridor Advisory Council and the 2nd Ministerial Meeting of the Green Energy Advisory Council held in Baku.[1753] The statement highlighted cooperation between the European Union and the Republic of Azerbaijan in the energy sector, including on hydrogen production.

On 5 March 2024, the EIB initiated a EUR100 million loan to the Germany-based company Sunfire to support the development of solid oxide electrolysers for green hydrogen production.[1754]

On 8 March 2024, the European Commission approved a EUR1.1 billion Italian State aid scheme which, in part, supports electrolyser production and the development of hydrogen.[1755]

On 12 March 2024, the European Commission granted EUR122.3 million to Estonia to implement hydrogen technologies to advance production and storage of clean energy.[1756] The investments target the entire hydrogen production and consumption chain from electrolysers, to vehicles and charging stations.

On 15 March 2024, the European Union and United States released a joint statement following the 11th EU-US Energy Council reaffirming their commitments to common certification schemes for hydrogen.[1757]

On 18 March 2024, the European Council and Chile endorsed a bilateral trade agreement on the conclusion of the Interim Agreement on trade.[1758] The agreement aims to provide to greater access to raw materials and clean fuel, including hydrogen, for the transition to the green economy.

On 21 March 2024, the EIB approved EUR5.5 billion for energy projects across Europe including for hydrogen production and hydrogen use.[1759] Projects include two 50-megawatt renewable hydrogen production plants and upgrading 177 buses in France to hydrogen fuel capacity.

[1752] Commission makes €1 billion available for recharging and refueling points under the Connecting Europe Facility (CEF), European Commission (Brussels) 29 February 2024. Access Date: 4 March 2024. https://transport.ec.europa.eu/news-events/news/commission-makes-eu1bn-available-recharging-and-refuelling-points-under-connecting-europe-facility-2024-02-29_en

[1753] Joint statement: 10th ministerial meeting of the Southern Gas Corridor Advisory Council and 2nd ministerial meeting of the Green Energy Advisory Council, European Commission Directorate General for Energy (Brussels) 1 March 2024. Access Date: 24 April 2024. https://energy.ec.europa.eu/news/joint-statement-10th-ministerial-meeting-southern-gas-corridor-advisory-council-and-2nd-ministerial-2024-03-01_en

[1754] Germany-based Sunfire gets €100 million in EIB support for green hydrogen, European Commission (Brussels) 5 March 2024. Access Date: April 24 2024. https://ec.europa.eu/commission/presscorner/detail/en/ip_24_1323

[1755] Commission approves €1.1 billion Italian State aid scheme to support investments in equipment necessary to foster the transition to a net-zero economy, European Commission (Brussels) 8 March 2024. Access Date: 24 April 2024. https://ec.europa.eu/commission/presscorner/detail/en/ip_24_951

[1756] Commission endorses positive preliminary assessment of Estonia's second payment request for €122.3 million under the Recovery and Resilience Facility, European Commission (Brussels) 12 March 2024. Access Date: 24 April 2024. https://ec.europa.eu/commission/presscorner/detail/en/ip_24_1400

[1757] Statement by the EU and the US following the 11th EU-US Energy Council, European Commission (Washington D.C.) 15 March 2024. Access Date: 22 April 2024. https://ec.europa.eu/commission/presscorner/detail/en/statement_24_1516

[1758] EU-Chile: Council gives final endorsement to bilateral trade agreement, Council of the European Union (Brussels) 18 March 2024. Access Date: 22 April 2024. https://www.consilium.europa.eu/en/press/press-releases/2024/03/18/eu-chile-council-gives-final-endorsement-to-bilateral-trade-agreement/

[1759] EIB approves €5.5 billion for innovation, energy and education across Europe, European Investment Bank (Brussels) 21 March 2024. Access Date: 24 April 2024. https://www.eib.org/en/press/all/2024-123-eib-approves-eur5-5-billion-for-innovation-energy-and-education-across-europe

On 27 March 2024, the European Commission approved EUR900 million for a French State aid scheme that includes funds for renewable hydrogen.[1760]

On 4 April 2024, Commissioner Simson and Australian Ministers for Climate Change and Energy and for Resources and Northern Australia Chris Bowen and Madeleine Kind released a joint press statement regarding the timely implementation of the Paris Agreement and climate collaboration goals. [1761] The parties emphasized cooperation on hydrogen production through 'hub' creation and reaffirmed their commitment to transparent and rule based global markets for hydrogen.

On 5 April 2024, the European Commission approved EUR350 million through the European Hydrogen Bank to Germany to support renewable hydrogen production.[1762] The funding will support the construction of up to 90 MW of electrolysis capacity and the production of up to 75,000 tonnes of renewable hydrogen.

On 10 April 2024, the European Parliament and the European Council adopted measures applying to new heavy-duty vehicles that strengthen carbon emission reduction targets.[1763] The new regulations incentivize investment in electrification and hydrogen technologies.

On 10 April 2024, the European Commission announced EUR424 million for 42 new alternative fuel infrastructure projects.[1764] The projects aim to install electric recharging points, hydrogen refuelling stations and electrify airports.

On 10 April 2024, the European Commission approved a EUR2.2 billion German State aid scheme that aims to substitute hydrogen fuels to decarbonize industrial processes.[1765]

On 11 April 2024, the European Parliament approved a directive for a more resilient and sustainable European Union gas market.[1766] The plans aim to encourage low-carbon hydrogen investment, production, and usage in lieu of fossil fuels.

On 11 April 2024, CINEA announced funding of EUR850 million for energy infrastructure projects including for hydrogen and electrolysers.[1767]

[1760] Commission approves €900 million French State aid scheme to support the production of energy and fuel from biomass and renewable hydrogen to foster the transition to a net-zero economy, European Commission (Brussels) 27 March 2024. Access Date: 24 April 2024. https://ec.europa.eu/commission/presscorner/detail/en/ip_24_1549

[1761] Joint Press Statement on EU-Australia energy relations, European Commission (Brussels) 4 April 2024. Access Date: 23 April 2024. https://energy.ec.europa.eu/news/joint-press-statement-eu-australia-energy-relations-2024-04-04_en

[1762] Commission approves €350 million German State aid scheme to support renewable hydrogen production, European Commission (Brussels) 5 April 2024. Access Date: 24 April 2024. https://ec.europa.eu/commission/presscorner/detail/en/ip_24_657

[1763] MEPs adopt stricter CO_2 emissions targets for trucks and buses, European Parliament (Brussels) 4 April 2024. Access Date: 22 April 2024. https://www.europarl.europa.eu/news/en/press-room/20240408IPR20305/meps-adopt-stricter-co2-emissions-targets-for-trucks-and-buses

[1764] EU boosts zero-emission mobility with over €424 million in funding for 42 projects, European Commission (Brussels) 10 April 2024. Access Date: 23 April 2024. https://transport.ec.europa.eu/news-events/news/eu-boosts-zero-emission-mobility-over-eu424-million-funding-42-projects-2024-04-10_en

[1765] Commission approves €2.2 billion German State aid scheme to support the decarbonization of industrial processes to foster the transition to a net-zero economy, European Commission (Brussels) 10 April 2024. Access Date: 23 April 2024. https://ec.europa.eu/commission/presscorner/detail/en/IP_24_1889

[1766] MEPs approve reforms for a more sustainable and resilient EU gas market, European Parliament (Brussels) 4 April 2024. Access Date: 22 April 2024. https://www.europarl.europa.eu/news/en/press-room/20240408IPR20317/meps-approve-reforms-for-a-more-sustainable-and-resilient-eu-gas-market

[1767] CEF Energy launches €850 million call for energy infrastructure projects, European Climate Infrastructure and Development Agency (Brussels) 11 April 2024. Access Date: 23 April 2024. https://cinea.ec.europa.eu/news-events/news/cef-energy-launches-eu850-million-call-energy-infrastructure-projects-2024-04-11_en

On 16 April 2024, the EIB approved a EUR50 million loan to Metropole Rouen Normandie to decarbonize its bus fleet including through purchasing 14 hydrogen-powered buses.[1768]

On 18 April 2024, the European Commission announced the LIFE Calls for proposals 2024. This initiative aims to give citizens of the EU the opportunity to create projects to reduce emissions, support the clean energy transition, and fight biodiversity loss.[1769] The EU is offering EUR571 million to support these initiatives, which could allow the EU to support innovative solutions to lower carbon emissions. Of this, EUR77 million in grants will go towards actions supporting the clean energy transition and EUR4 million in funding for clean energy projects, for which hydrogen projects are eligible for both aids.

On 25 April 2024, the European Parliament approved the Net-Zero Industry Act to reduce carbon emissions by promoting the development and accelerated deployment of zero-emission technologies.[1770] Under the Act, the European Union must produce 40% of energy needs in net-zero technologies by 2030. Several funding schemes will be made available, including EUR3 million through the Clean Hydrogen Joint Undertaking, to increase hydrogen production from electrolysis or natural gas-based hydrogen with carbon capture and storage technology to produce 10 million tonnes of domestic renewable hydrogen by 2030.[1771]

On 28 April 2024, Commissioner Simson held bilateral meetings with Saudi Arabia's Minster of Energy Abdulaziz bin Salman Al Saud to discuss opportunities for further collaboration in clean energy development.[1772] The meeting reiterated the EU and Saudi Arabia's commitment to investing in hydrogen and other zero-emissions technology to reduce emissions and meet the objectives outlined in the Paris Agreement.

On 30 April 2024, the European Commission announced EUR720 million to fund seven renewable hydrogen projects, made available with the revenue from the EU Emissions Trading System.[1773] The seven selected projects by the European Hydrogen Bank centre the EU's decarbonisation goals and are expected to produce over 1.58 million tonnes of renewable hydrogen over ten years, preventing 10 million tonnes of carbon emissions.

On 30 April 2024, the European Commission initiated a call for cross-border EU energy infrastructure projects, which will receive a funding of EUR850 million.[1774] Through the EU's Projects of Common Interest, projects pertaining to hydrogen will be eligible for funding for the first time.

[1768] France: EIB provides €50 million in financing to Metropole Rouen Normandie to overhaul its bus fleet, European Investment Bank (Brussels) 16 April 2024. Access Date: 24 April 2024. https://www.eib.org/en/press/all/2024-152-la-bei-finance-a-hauteur-de-50-meur-la-metropole-rouen-normandie-pour-le-renouvellement-de-sa-flotte-de-bus

[1769] LIFE Calls for proposals 2024: bring your green dream to life with a share of €571 million funding!, European Commission (Brussels) 18 April 2024. Access Date: 19 April 2024. https://cinea.ec.europa.eu/news-events/news/life-calls-proposals-2024-bring-your-green-dream-life-share-eu571-million-funding-2024-04-18_en

[1770] MEPs adopt plans to boost Europe's Net-Zero technology production, European Parliament (Brussels) 25 April 2024. Access Date: 15 May 2024. https://www.europarl.europa.eu/news/en/press-room/20240419IPR20568/meps-adopt-plans-to-boost-europe-s-net-zero-technology-production

[1771] Proposal for a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on establishing a framework of measures for strengthening Europe's net-zero technology products manufacturing ecosystem (Net Zero Industry Act), European Commission (Brussels) 3 March 2023. Access Date: 15 May 2024. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52023PC0161

[1772] Commission holds exploratory energy transition talks with Saudi Arabia, European Commission (Brussels) 28 April 2024. Access Date: 15 May 2024. https://ec.europa.eu/commission/presscorner/detail/en/READ_24_2341

[1773] European Hydrogen Bank auction provides €720 million for renewable hydrogen production in Europe, European Commission (Brussels) 30 April 2024. Access Date: 15 May 2024. https://ec.europa.eu/commission/presscorner/detail/en/IP_24_2333

[1774] Call launched for energy infrastructure projects worth €850 million, European Commission (Brussels) 30 April 2024. Access Date: 15 May 2024. https://ec.europa.eu/commission/presscorner/detail/en/IP_24_2333

On 7 May 2024, the European Commission announced EUR163.5 million for projects targeting cluster 5, Climate Action, Energy and Mobility, of the Horizon Europe Program.[1775] The funding will support sustainable mobility research projects to promote the green energy transition and reduce emissions, aligning with the EU's climate goals. Under Cluster 5 of Horizon Europe's Work Programme for 2023-2025, projects advancing the development of clean hydrogen technology will be eligible for this funding.[1776]

The European Union has fully complied with its commitment to enhance efforts to develop the rule-based, transparent global market and supply chains for low carbon and renewable hydrogen based on reliable international standards and certification schemes adhering to environmental and social standards. The European Union advanced strong actions to develop the supply chain for low carbon and renewable hydrogen through funding for domestic and international hydrogen production projects, international feasibility studies, hydrogen solutions to industry and transportation abatement, supply chain decarbonization, legislation designed to increase hydrogen fuelling infrastructure, pipeline and port development and retrofitting, and loans for fuel cell technology innovation and renewable electricity access for hydrogen production facilities. The European Union supported the development of the rule-based global market for hydrogen, with strong actions, by developing a transparent, rule-based auction system for hydrogen including subsidies, legislating standard carbon content calculation methodology, creating and enforcing hydrogen reporting requirements jointly establishing an organization dedicated to facilitating hydrogen trade, and jointly establishing a hydrogen governance body to support market development. The European Union forged agreements to ensure developing international supply chains adhere closely to the bloc's environmental and social standards.

Thus, European Union receives a score of +1.

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[1775] Horizon Europe: €163.5 million available to fund green, smart and resilient transport and mobility research projects, European Commission (Brussels) 7 May 2024. Access Date: 15 May 2024. https://cinea.ec.europa.eu/news-events/news/horizon-europe-eu1635-million-available-fund-green-smart-and-resilient-transport-and-mobility-2024-05-07_en

[1776] Post-Li-ion technologies and relevant manufacturing techniques for mobility applications (Generation 5) (Batt4EU Partnership) HORIZON-CL5-2024-D2-02-02, European Commission (Brussels) 7 May 2024. Access Date: 15 May 2024. https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-cl5-2024-d2-02-02?isExactMatch=true&status=31094501,31094502&callIdentifier=HORIZON-CL5-2024-D2-02&order=DESC&pageNumber=1&pageSize=50&sortBy=startDate