

	United States		Canada		Europe
H2 Approach	Hydrogen Production Tax Credit - under Inflation Reduction Act		CAD\$17.7 billion (approx. \$USD 13 billion) in tax credits		EUR 800 million (USD\$864 million) is up for application in September 2023. The fund will remain open for applications at set periods until 2025. The total fund may amount up to EUR 20 billion (USD\$21.6 billion) or (EUR40/ton CO2) pending carbon prices.
Eligibility	Any project developed up till 1 Jan 2033 will be eligible for application to claim the tax credits. Credit is for hydrogen produced after 12/31/22		Implemented fully from March 2023 and phased out after 2030.		The Fund is open to large-scale projects with capital expenditure over EUR7.5million (USD\$8.2 million). The projects must be sufficiently mature in terms of planning, business model and financial structure.
	Hydrogen Production (both renewables and fossil fuels)		<p>Claims only for cost of purchase and installation of electrolysers or natural gas with CCUS. Operational costs to produce H2 are not eligible.</p> <p>Additionally, organisations applying must compensate its employees with fair wages based on most-recent Multi-employer Collective Bargaining agreements and have 10% of tradesperson hours completed by registered apprentices.</p> <p>Lastly, ongoing compliance checks are compulsory and include:</p> <ul style="list-style-type: none"> - Completed front-end engineering design study of project - Completed project carbon intensity assessment to establish an Approved Credit Rate (ACR) - Conduct assessment period at TBC date in project timeline that demonstrates the project's achieved carbon intensity rate is same as projected in the ACR. 		The Innovation Fund is currently open to projects developing breakthrough technologies for all energy-intensive sectors, including: <ul style="list-style-type: none"> - Carbon-intensive substituting products (incl. H2 production) <ul style="list-style-type: none"> - Renewable energy - Energy storage - CCS - CCUS - Electrolyser purchase.
Credit Calculations	Carbon Intensity of H2 (kgCO2eq/kgH2)	Associated Tax Credit (USD\$)	Carbon Intensity of H2 (kgCO2eq/kgH2)	Associated Tax Credit (%)	N/A
	0-0.45	\$0.60-\$3.00	<0.75	40%	
	0.45-1.5	\$0.2-0.59	0.75 < 2.0	25%	
	1.5-2.5	\$0.15-0.19	2.0 < 4.0	15%	
	2.5-4.0	\$0.12-0.14			

United Kingdom		Australia
<p>Pledged £20 billion (USD\$24.8 billion) into upscaling CCS projects across the UK, rolled out across 20 years.</p> <p>It focuses on CCS initiatives particularly in North Wales, North-West of England and the East Coast.</p>	<p>The UK intends to develop a Low Carbon H2 certification scheme to establish a trustworthy method for proving H2 emissions credentials. They aim to introduce the scheme by 2025.</p> <p>It has recently closed consultation for the scheme and is reviewing the data gathered.</p>	<p>AUD\$2 billion (USD\$1.3 billion) in production contracts for green (renewable) H2 and AUD\$38 million (USD\$25 million) to Guarantee of Origin Scheme</p>
TBC	N/A	TBC
<p>The UK has committed to delivering at least two CCUS clusters by mid-2020s, with a further four clusters by 2030 latest.</p>	<p>The certification scheme will be similar to Australia's Guarantee of Origin. The overall aim is to ensure transparency and confidence in the UK's low carbon H2 sector.</p> <p>The UK has also extended the appointment of its H2 Champion, Jane Toogood for an additional 6 months.</p> <p>The H2 Champion was originally appointed in July 2022 as an independent advisor to government and industry on the development of the UK's H2 economy.</p>	<p>Only green/renewable H2 production will be eligible for application such as wind/solar powered electrolysis of water.</p> <p>H2 produced from fossil fuels regardless of CCUS will not be eligible.</p>
N/A	N/A	N/A

Japan				
<p>In 2021, Japan introduced the carbon neutral investment incentive which is called "Green Growth Strategy".</p>	<p>Green Innovation Fund - JPY 2 trillion (approx.USD\$14 billion) to provide continuous support for emissions-reducing investments over 10 years.</p>	<p>Carbon Pricing Scheme - Comprised of a carbon levy, introduced around 2028/29 and CO2 emissions trading system (ETS) officially beginning 2026/27.</p> <p>The levy will begin low and gradually increase over time at a TBC rate.</p>	<p>Green Transition Bonds - issuance of JPY 20 trillion (USD\$140 billion) over 10 years.</p> <p>Its first issuance in 2023 is expected to be 1.6 trillion yen.</p>	<p>Basic Hydrogen Strategy (Revision in June, 2023)</p>
<p>It applies to investments that reduce greenhouse gas emissions in the production process and contribute to making products that accelerate decarbonisation.</p> <p>Investments of up to JPY 50 billion (USD\$360m) as certified under an environment adaptation plan made by 31 March 2024 will be eligible for a maximum 10% tax credit or for 50% special depreciation writeoff.</p> <p>The percentage tax credit will depend on how significant the investment contributes to the reduction of emissions.</p>	<p>NEDO (New Energy and Industrial Technology Development Organisation) and METI (Ministry of Economy, Trade and Industry), responsible for governing the fund, looked for projects that would focus on priority fields for which implementation plans have been formulated within the Green Growth Strategy.</p> <p>Examples of projects funded by the Green Innovation Fund</p> <ul style="list-style-type: none"> -Cost Reductions for Offshore Wind Power Generation -Next-Generation Solar Cell Development - Large-scale Hydrogen Supply Chain Establishment 	<p style="text-align: center;">N/A</p> <p>The trial phase began in May 2023 with a database of participating companies and their initiatives is expected to be released at end of 2023.</p>	<p>The bond issuance period will open in the second half of 2023.</p> <p>Projects that focus on not only renewable energy but also reducing emissions such as power generation plants switching from fossil fuel to hydrogen and ammonia would be eligible for these transition bonds.</p>	<p>The strategy aims to:</p> <ul style="list-style-type: none"> - Increase the amount of hydrogen introduced to Japan (domestic production and imports combined) to 12 million tons/year by 2040 (cost target of 30 yen/Nm³, equivalent to approx. 336/yen/kg H₂, in 2030 remains unchanged). - Target introduction of water electrolyzers, with 15 GW capacity, by Japanese companies (including overseas bases) by 2030. - Support system for supply chain establishment and supply infrastructure development. <p>A supply chain investment plan of 15 trillion yen (USD\$102 billion) over 15 years is under consideration by the Japanese government and private sectors combined. The fields being looked at are:</p> <ol style="list-style-type: none"> (1) Hydrogen supply (hydrogen production, construction of hydrogen supply chain) (2) Decarbonized power generation (3) Fuel cells (4) Direct use of hydrogen (decarbonized steel, decarbonized chemical products, hydrogen fueled ships) (5) Utilization of hydrogen compounds (fuel ammonia, carbon recycling products)
<p>Eligible investments can either:</p> <p>Choose a tax credit (up to 10%) pending contribution towards emissions reductions.</p> <p style="text-align: center;">OR</p> <p>A 50% tax deduction of the amounts invested in emission reductions.</p>	<p style="text-align: center;">N/A</p>	<p style="text-align: center;">N/A</p>	<p style="text-align: center;">N/A</p>	<p style="text-align: center;">N/A</p>