

REFERENCES

1. Economist Impact. (2021). *The future of hydrogen*. <https://impact.economist.com/sustainability/projects/the-future-of-hydrogen/>
2. Campbell, T. (2025). *The importance of offtake agreements in shaping the global H₂ economy*. H2 Tech. <https://www.h2-tech.com/articles/2025/march-2025/columns/the-importance-of-offtake-agreements-in-shaping-the-global-h-sub-2-sub-economy/>
3. International Renewable Energy Agency (IRENA). (2020). *Green hydrogen cost reduction: Scaling up electrolyzers to meet the 1.5°C climate goal*. IRENA.
4. International Renewable Energy Agency (IRENA). (2022). *Global hydrogen trade to meet the 1.5°C climate goal: Trade outlook for 2050*. IRENA.
5. International Renewable Energy Agency (IRENA). (2022). *Geopolitics of the energy transformation: The hydrogen factor*. IRENA.
6. Hydrogen Council & McKinsey & Company. (2023). *Hydrogen insights: December 2023 update*. <https://hydrogencouncil.com/report/hydrogen-insights-2023-update>
7. International Energy Agency (IEA). (2023). *Global hydrogen review 2023*. Paris: International Energy Agency. <https://www.iea.org/reports/global-hydrogen-review-2023>
8. McKinsey & Company. (2023). *Global energy perspective 2023: Hydrogen outlook*. <https://www.mckinsey.com/business-functions/sustainability/our-insights/global-energyperspective-2023-hydrogen-outlook>
9. Hydrogen Council. (2023). *Global hydrogen flows–2023 update*. <https://hydrogencouncil.com/global-hydrogen-flows-2023>
10. Port of Rotterdam Authority. (2022). *Shell's Holland Hydrogen I, part of the hub*. <https://www.portofrotterdam.com>

11. Air Products. (2024). *Air Products, ACWA Power and NEOM sign agreement for \$5 billion world-scale green hydrogen-based ammonia production facility powered by renewable energy.*
12. Oliveros, N. (2023). Oil & gas leader, HSE, ESG, ERM, operational readiness, construction, and asset integrity. *LinkedIn*. <https://www.linkedin.com/in/nelson-oliveros/>
13. Economist Impact. (2025). *The Future of Hydrogen*. Retrieved May 10, 2025, from <https://impact.economist.com/sustainability/projects/the-future-of-hydrogen/>
14. Consultancy.lat. (2023). *Brazilian green hydrogen could cost less than \$3 per kilogram*. Consultancy.lat. <https://www.consultancy.lat/news/1221/brazilian-green-hydrogen-couldcost-less-than-3-per-kilogram>
15. Agora Energiewende. (2023). *Brazil map of hydrogen production costs: Documentation*.https://www.agoraenergiewende.org/fileadmin/Projekte/2023/2023_24_IND_H2_Insights_BRA/Brazil_map_of_hydrogen_production_costs_documentation.pdf
16. FuelCellsWorks. (2025, March 19). *Brazil awards 75 percent tax breaks to 3GW green hydrogen and ammonia facility ahead of investment decision*. <https://fuelcellsworks.com/2025/03/19/green-hydrogen/brazil-awards-75-percenttax-breaks-to-3gw-green-hydrogen-and-ammonia-facility-ahead-of-investment-decision>
17. McKinsey & Company. (2023). *Green hydrogen: An opportunity to create sustainable wealth in Brazil*. <https://www.mckinsey.com/br/en/our-insights/hidrogenio-verde-uma-oportunidadede-geracao-de-riqueza-com-sustentabilidade-para-o-brasil-e-o-mundo>

18. Bloomberg NEF. (2024). *Brazil has a \$1.3 trillion opportunity in low-carbon energy supply*. <https://about.bnef.com/blog/brazil-has-a-1-3-trillion-opportunity-in-low-carbonenergy-supply-investments-according-to-bloombergnef>
19. Hydrogen Central. (2024). *Brazil emerges as a destination for green investments after a US turnaround – hydrogen included*. <https://hydrogen-central.com/brazil-emerges-as-a-destination-for-green-investments-after-a-us-turnaround-hydrogen-included>
20. Innovation News Network. (2024). *Green Energy Park secures \$30m to develop major renewable hydrogen production plant in Brazil*. <https://www.innovationnewsnetwork.com/green-energy-park-secures-30m-to-develop-major-renewable-hydrogen-production-plant-in-brazil/46838>
21. CELA. (2024). *CELA launches green hydrogen production cost index for Brazil*. <https://cela.com.br/en/press-room/cela-launches-green-hydrogen-production-costindex-for-brazil>
22. Argus Media. (2024). *Brazil, climate fund to invest \$1bn in hydrogen hubs*. <https://www.argusmedia.com/en/news-and-insights/latest-market-news/2614933brazil-climate-fund-to-invest-1bn-in-hydrogen-hubs>
23. Almeida Advogados. (2024). *The unfolding potential of green hydrogen in Brazil*. <https://www.almeidalaw.com.br/wp-content/uploads/2024/11/Law360-TheUnfolding-Potential-of-Green-Hydrogen-In-Brazil-2.pdf>
24. Reuters. (2024). *Eletrobras signs agreement with Prumo to produce green hydrogen at Brazilian port*. <https://www.reuters.com/business/energy/eletrobras-signs-agreement-withprumo-produce-green-hydrogen-brazilian-port-2024-06-05>
25. Reuters. (2024). *Brazil launches platform to attract foreign investment for climate and ecological projects*. <https://www.reuters.com/sustainability/sustainable->

financereporting/brazil-launches-platform-attract-foreign-investment-climate-ecological-projects2024-10-23

26. The Australian. (2024). *Fortescue doubles down on green ambition*. <https://www.theaustralian.com.au/business/mining-energy/fortescue-is-guiding-a-modest-uplift-in-shipments-as-energy-arm-books-large-loss/newsstory/604d992dc4d914ba8875c4ec056e9f5f>
27. Wall Street Journal. (2023). *Cost of producing green hydrogen makes it prohibitive, says study*. <https://www.wsj.com/articles/cost-of-producing-green-hydrogen-makes-it-prohibitive-says-study-e6397da4>
28. Pavlenko, N. (2023). Life cycle analysis of green ammonia and its application as fertilizer building block. Ammonia Energy Association. <https://ammoniaenergy.org/presentations/lifecycle-analysis-of-green-ammonia-and-its-application-as-fertilizer-building-block/>
29. Curcio, E. (2025). Techno-economic analysis of hydrogen production: Costs, policies, and scalability in the transition to net-zero. *International Journal of Hydrogen Energy*. <https://www.sciencedirect.com/science/article/pii/S0360319925009632>
30. Clifford Chance. (2020). *The European Commission's hydrogen strategy for a climate-neutral Europe: Strategic roadmap for building a hydrogen economy*. <https://www.cliffordchance.com/content/dam/cliffordchance/briefings/2020/07/european-commission-strategic-roadmap-for-building-a-hydrogen-economy.pdf>
31. Green Hydrogen Organisation. (2024). *Key considerations for green hydrogen offtake agreements*. [https://gh2.org/sites/default/files/2024-05/GH2_Considerations for Hydrogen Offtake Agreements_2024.pdf](https://gh2.org/sites/default/files/2024-05/GH2_Considerations%20for%20Hydrogen%20Offtake%20Agreements_2024.pdf)
32. Queensland Nitrates Pty Ltd. (2020). *QNP Green Ammonia Project Feasibility Study: Knowledge Sharing Report*. Australian Renewable Energy Agency

- (ARENA). <https://arena.gov.au/assets/2020/07/qnp-green-ammonia-feasibility-study.pdf>
33. Faster Capital. (2025). *Payback period: How to calculate and interpret the time required to recover an initial investment*. <https://fastercapital.com/content/Payback-period--How-to-calculate-and-interpret-the-time-required-to-recover-an-initial-investment.html>
 34. Evida (2022). Cost-benefit analysis of a Danish hydrogen infrastructure: Background report. Evida. <https://evida.dk/media/vx4emhu5/221011-backgroud-report-hydrogen-cba.pdf>
 35. Wang, Y., Zhang, X., & Li, J. (2023). Life cycle cost analysis of ammonia-based hydrogen production systems. *Journal of Cleaner Production*, 395, 136123. <https://doi.org/10.1016/j.jclepro.2023.136123>
 36. Port of Rotterdam Authority. (2024). Hydrogen in Rotterdam. Port of Rotterdam. <https://www.portofrotterdam.com/en/port-future/energy-transition/ongoingprojects/hydrogen-rotterdam>
 37. Kumar, A., Singh, R., & Sharma, P. (2022). Techno-economic assessment of hydrogen production pathways: A comparative study. *Energy Policy*, 165, 112934. <https://doi.org/10.1016/j.enpol.2022.112934>
 38. Chen, L., Zhao, Y., & Wang, M. (2025). Economic evaluation of hydrogen production from renewable energy sources. *International Journal of Hydrogen Energy*, 50(12), 4567–4578. <https://doi.org/10.1016/j.ijhydene.2025.01.123>