

Future Fuels: Powering a Clean Economy with Hydrogen and Ammonia

Dynamo Energy Hub

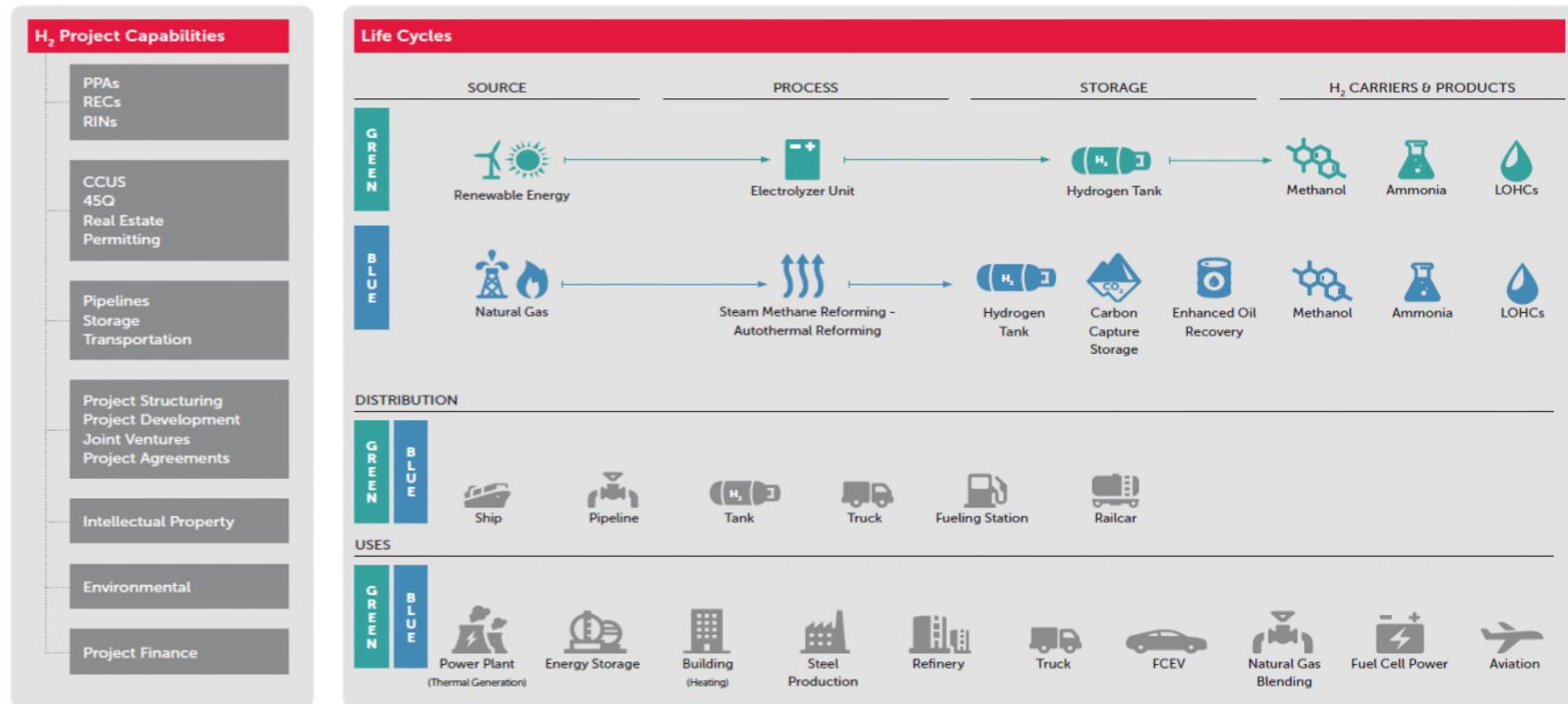
March 2, 2022



Baker Botts: Focused on Hydrogen

Baker Botts' multidisciplinary energy teams are at the forefront of this developing industry

DECARBONIZED HYDROGEN



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EXPERIENCE



CCUS

INTERNATIONAL ENERGY COMPANY

In respect of CO₂ off take agreement and carbon sequestration project associated with power plant in California.

FOREIGN INVESTMENT BANK ACQUISITION

Advising on acquisition of preferred equity interests in the sponsor owner of two carbon capture facilities connected to ethanol production facilities in Texas as part of a Section 45Q tax equity transaction.

OIL & GAS MAJOR

Advising on land acquisition issues and strategies associated with geologic sequestration of captured carbon.

MINERAL OWNERS

Affiliated group of individual mineral owners as to lease of pore space for CO₂ sequestration.

ONSITE-LAROSA

Representation in development of carbon capture project for use in chemical oil recovery.

TAX EQUITY INVESTOR

Advising tax equity investor in carbon capture project for use in enhanced oil recovery.

LNG PROJECT

Advising as to availability of section 45Q tax credits.

CARBON CAPTURE FACILITY

Sponsor in the development of a carbon capture facility adjacent to a coal-fired power plant as part of a Section 45Q tax equity transaction.

HEARTLAND NATURAL RESOURCES

As to section 45Q tax credits for enhanced oil recovery project.

OIL & GAS EXPLORATION AND PRODUCTION COMPANY

With respect to environmental and tax issues (section 45Q) associated with sequestration of captured carbon oxide.

LEADING U.S. POWER GENERATION AND RETAIL COMPANY

Environmental permitting and counseling for largest U.S. carbon capture and sequestration project.

ONE OF THE LARGEST REFINERS IN THE UNITED STATES

Advising major refining company on environmental, risk, tax and financing aspects of CCUS.

PETROCHEMICAL MANUFACTURER

Regarding securing section 45Q tax credits for utilization of CO₂.

OILFIELD SERVICES COMPANY

With regard to securing section 45Q tax credits.

ENERGY COMPANY

Advising on the availability of section 45Q tax credits with respect to CCUS activity.

FERTILIZER MANUFACTURER

Advised on section 45Q tax credits for utilization of captured carbon dioxide.

EAGLE MATERIALS

Advised Eagle Materials on grant proposals for the U.S. Department of Energy funding for research on CCUS technologies.



HYDROGEN

AIR PRODUCTS

Advising Air Products on all aspects of the development and financing of the NEOM Helios project – the world's first green hydrogen/ammonia export megaproject. The project is a joint venture between Air Products, ACWA Power, and NEOM, and will comprise 4GW of renewables and an estimated output of 1.2 million tons of ammonia per year.

PM HYDROGEN

On the development process for a scalable hydrogen processing facility.

MIDDLE EAST JOINT VENTURE

Advising a joint venture on the development and financing of a 400MW hydrogen power project in the Middle East, together with related carbon capture and storage and pipeline infrastructure.

FUELS COMPANY

Advising on the sale of their Middle Eastern hydrogen production facility, and associated buy-back of hydrogen from the acquirer.

INTERNATIONAL ENERGY COMPANY

In respect of CO₂ offtake agreement and carbon sequestration project associated with power plant in California.

AME E-INNOVATIONS

Drafting and negotiating fuel offtake arrangements for their Highly Innovative Fuels (HIF) projects, which will produce green hydrogen and combine it with carbon dioxide to produce e-fuels.

LEADING VEHICLE MANUFACTURER

As lead IP counsel in joint development agreements involving development of hydrogen fuel cell technology.

MAJOR INTERNATIONAL INFRASTRUCTURE COMPANY

Advising on joint venture and project development for a blue ammonia project in the U.S. Gulf of Mexico region.

PORTFOLIO COMPANY OF AN INVESTMENT FUND

In respect of the commercialization of fuel cell technology and a joint venture for the production of hydrogen.

MAREA ENERGY PARTNERS

Negotiation and drafting of a hydrogen supply contract for its very low sulfur fuel oil production facility.

U.S. MIDSTREAM COMPANY

Advising on the development of a multi-state, cross-border low-carbon ammonia export project.

AVIATION TECHNOLOGY COMPANY

Advising on intellectual property and corporate issues in connection with the development of fuel cells for application in the aviation industry.

LEADING VEHICLE MANUFACTURER

Strategic development arrangements supporting innovation in hydrogen fuel cell electric vehicles and related fueling infrastructure.

ONE OF THE LARGEST REFINERS IN THE UNITED STATES

Entering into an innovative hydrogen collaboration agreement to assess regulatory and other legal issues associated with hydrogen.

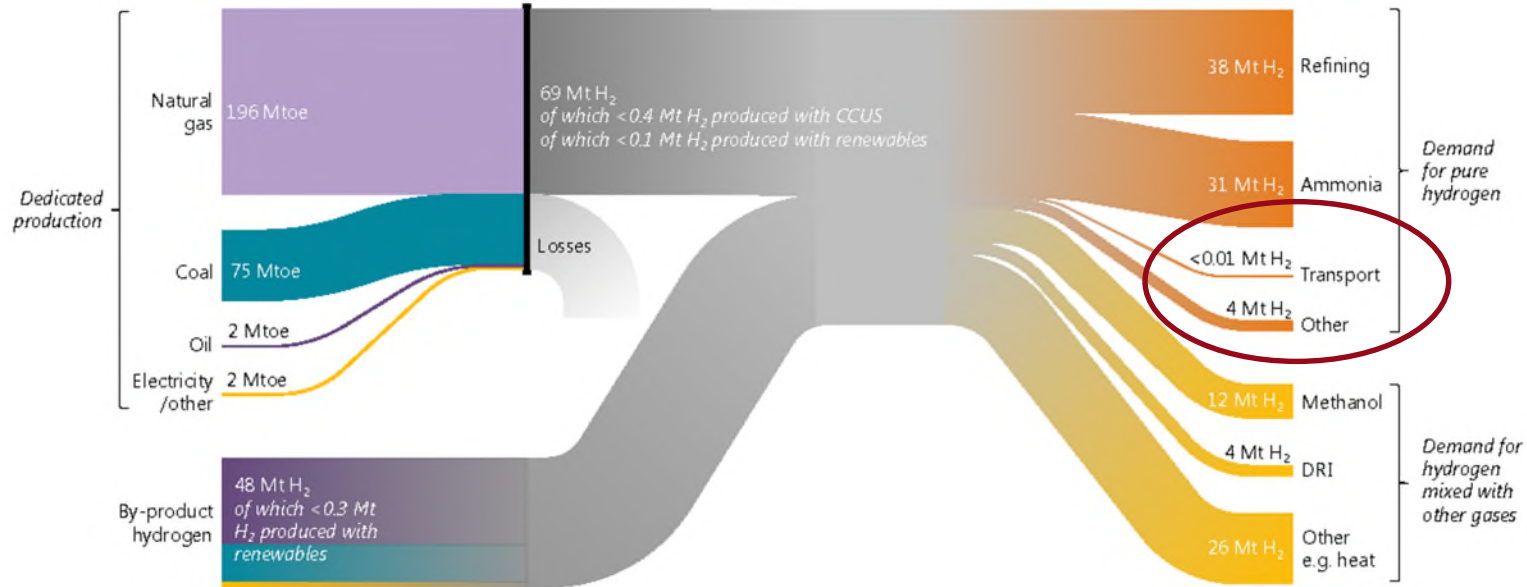
FOREIGN INVESTOR

Advising on a transaction in which a joint venture between foreign investors sold its entire interest in Plug Power Inc.

GREEN AMMONIA PROJECT DEVELOPER

Advising developers of a green ammonia export project in Canada on project structuring and M&A matters.

Current Hydrogen Value Chain



Notes: Other forms of pure hydrogen demand include the chemicals, metals, electronics and glass-making industries. Other forms of demand for hydrogen mixed with other gases (e.g. carbon monoxide) include the generation of heat from steel works arising gases and by-product gases from steam crackers. The shares of hydrogen production based on renewables are calculated using the share of renewable electricity in global electricity generation. The share of dedicated hydrogen produced with CCUS is estimated based on existing installations with permanent geological storage, assuming an 85% utilisation rate. Several estimates are made as to the shares of by-products and dedicated generation in various end uses, while input energy for by-product production is assumed equal to energy content of hydrogen produced without further allocation. All figures shown are estimates for 2018. The thickness of the lines in the Sankey diagram are sized according to energy contents of the flows depicted.

Source: IEA 2019. All rights reserved.

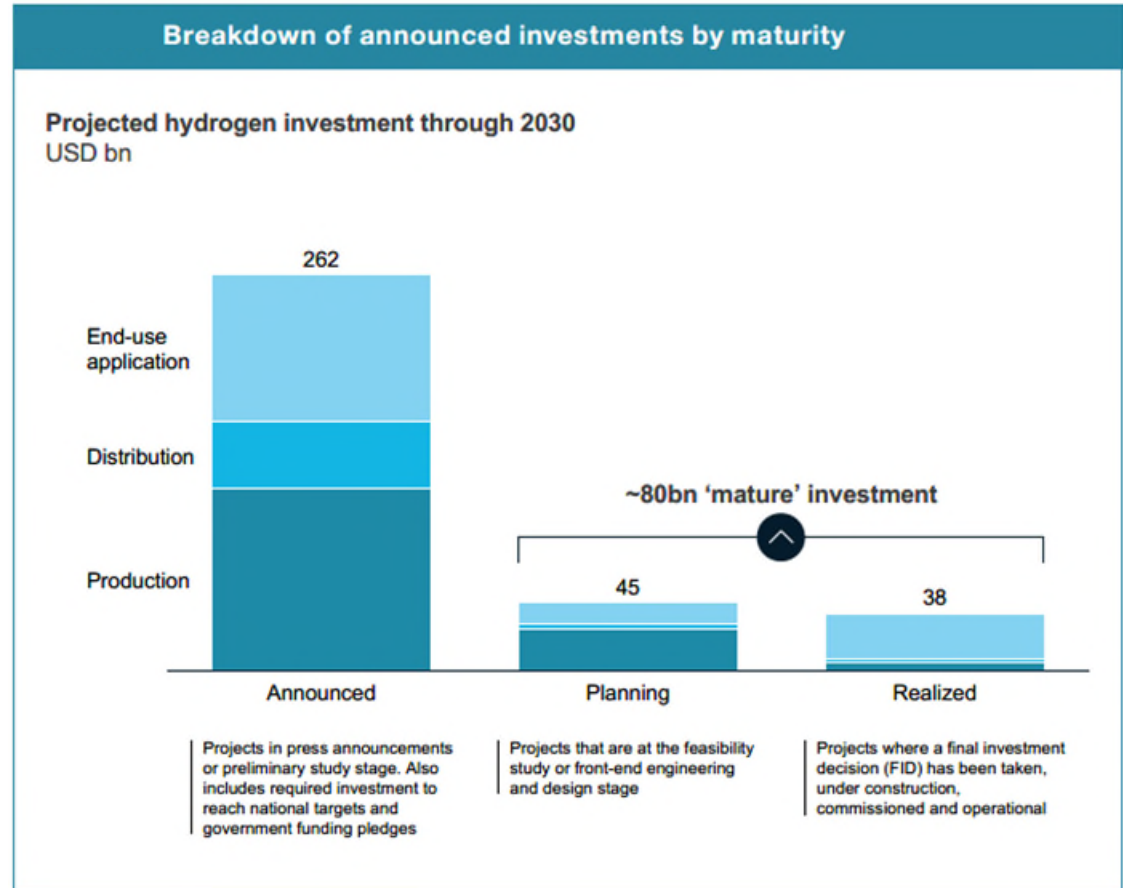
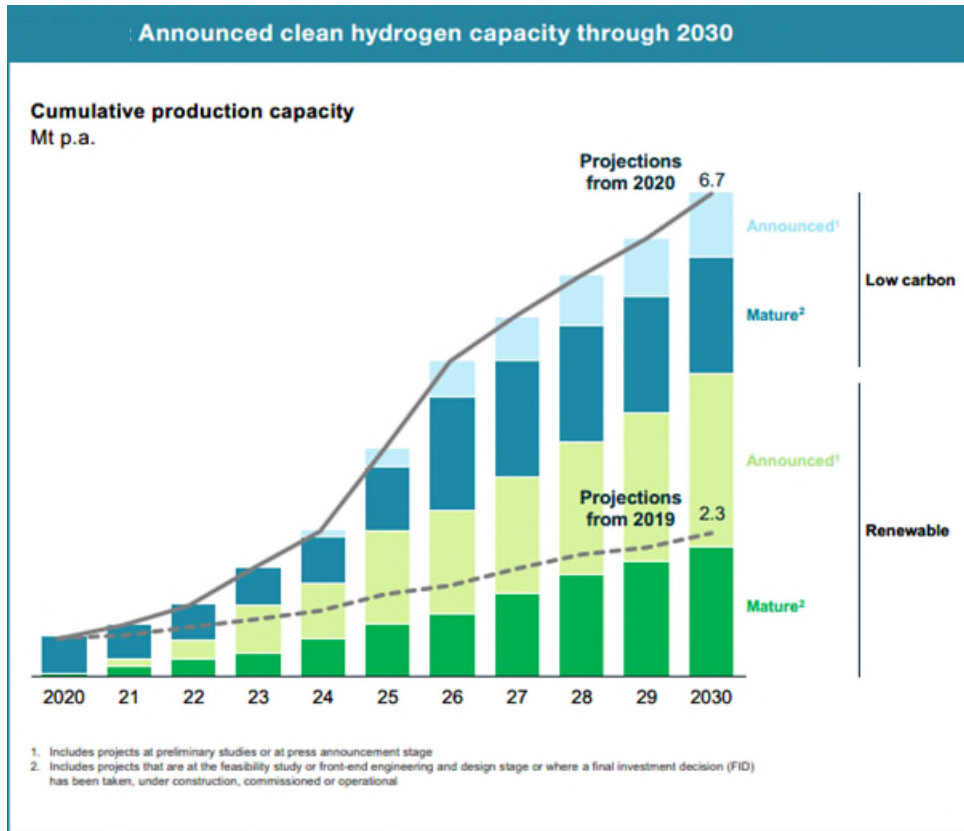
What is Driving Investment in Hydrogen



MAIN PART OF THE CALL FOCUSING ON INNOVATIVE SOLUTIONS AND DEMONSTRATIONS
Total budget up to 1bn – division between areas not yet established



The Pace of Development is Accelerating



Source: Hydrogen Council

Baker Botts Team: Thomas Holmberg

Partner



Tom Holmberg is a partner in the Global Projects Group at Baker Botts. He assists clients with energy projects and transactions around the world. He focuses on the development of [liquefied natural gas \(LNG\)](#), [hydrogen](#), [CCUS](#), and natural gas [pipeline projects](#) and transactions. He works with clients at all stages of such projects in areas that include project structuring, contracting, governmental approvals, and the negotiation of commercial agreements and project development documents. He is the co-chair of the LNG, hydrogen and CCUS practice groups.

EDUCATION/HONORS

- J.D., Georgetown University Law Center 2000
Managing Editor, *Law and Policy in International Business*
- B.A., Economics, University of Arizona 1993

Mr. Holmberg advises clients on an array of regulatory issues, including contract and tariff matters before the Federal Energy Regulatory Commission (FERC). He also represents clients before the Department of Energy (DOE) for authorizations to export and import natural gas under the Natural Gas Act. He has handled administrative and appellate litigation before the FERC and the courts on these matters. He has also represented clients before FERC in electricity market restructuring proceedings.

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Baker Botts Team: Frank X. Schoen

Partner



EDUCATION/HONORS

- J.D., New York University School of Law 2005
- Robert McKay Scholar

- A.B., Business Economics, Brown University 2000

- A.B., Philosophy, Brown University 2000

Frank Schoen is a partner in the Global Projects Department. Frank represents private equity sponsors and project developers, as well as commercial and investment banks, investment firms and other financial institutions, on project finance, leveraged finance and acquisition finance transactions in the conventional power, renewable energy, oil and gas, and infrastructure sectors. Frank has extensive experience with the development, construction, financing, acquisition, sale and restructuring of large-scale projects.

Prior to joining Baker Botts, Frank practiced for many years in the New York offices of international law firms. In addition, he served as in-house counsel in the New York office of a leading renewable energy company, where he focused on the development, construction, financing and sale of utility-scale solar power projects in North America.

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