

Adnoc, Mubadala and ADQ to develop hydrogen alliance

Adnoc announced plans to establish a 'hydrogen ecosystem' as part of its latest spending push



A Hyundai Motor's Nexo hydrogen car is fuelled at a hydrogen station in Seoul, South Korea. In November Adnoc said it plans to ramp up production of hydrogen, which is already used in its downstream sector. Reuters



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Abu Dhabi National Oil Company, Mubadala and industrial holding company ADQ signed an agreement to form a hydrogen alliance focusing on low-carbon green and blue hydrogen as part of the UAE's continued energy diversification efforts.

The alliance will look to establish Abu Dhabi as a "trusted exporter of hydrogen to emerging international markets and build a substantial green hydrogen economy in the UAE", according to a statement by the Abu Dhabi Media Office on Twitter.

The announcement follows plans revealed by Adnoc to establish a 'hydrogen ecosystem' as part of its latest spending push.

In November, the state oil company said it plans to ramp up production of hydrogen, which is already used in its downstream sector. The increased production will help meet emerging global demand for the gas and for ammonia derived from it.

Hydrogen has an estimated \$11 trillion market potential, according to Bank of America Securities and is expected to generate \$2.5tn in direct revenues and \$11tn of indirect infrastructure by 2050 as its production increases six-fold.

The alliance plans to develop a roadmap to accelerate the adoption and use of the lighter, cleaner gas in the UAE across major sectors such as utilities, mobility and industry.

Under the agreement, the three companies will align their approach to position Abu Dhabi as a "reliable and secure supplier of hydrogen and its carriers to customers around the world".

Adnoc plans to explore "green hydrogen opportunities" and will place "special emphasis" on pursuing blue hydrogen projects by expanding on its existing hydrogen capacity, leveraging significant gas reserves and infrastructure, Dr Sultan Al Jaber, UAE minister of industry and advanced technology and Adnoc Group chief executive, said.

"Working together as an alliance, we will identify viable international market opportunities, while we develop a roadmap to create hydrogen production sites in Abu Dhabi, and the UAE," he added.

Grey hydrogen refers to the manufacture of the gas using fossil fuels and currently accounts for 95 per cent of production. Blue hydrogen is extracted from natural gas, through a process called methane reformation, which relies on carbon capture and storage. Green hydrogen, which refers to the gas produced entirely from renewable sources is a relatively expensive way to produce the clean fuel.

Hydrogen has become increasingly important in the energy mix of several oil-producing states in the Middle East.

Saudi Arabia, the world's largest oil exporter, is also putting together a strategy to develop hydrogen production capabilities as it looks for newer, alternative fuels to be part of its energy mix.

Mubadala's focus on hydrogen is part of its engagement in "new energy investments that will contribute to more efficient and lower-emission energy solutions," said Khaldoon Al Mubarak, managing director and group chief executive at the Abu Dhabi-based investment company.

"Hydrogen offers significant potential in this regard and with the renewables expertise and experience of Masdar, we are well placed to develop leadership in the green hydrogen value chain," he added. Masdar, which is owned by Mubadala is a renewable energy developer with a global footprint.

Presently, Adnoc produces 300,000 tonnes of hydrogen annually for use in its downstream operations. The company plans to expand its manufacturing capacity for the gas to more than 500,000 tonnes.

The alliance will pursue development of green hydrogen across the UAE, while Adnoc will continue to produce blue hydrogen using its existing infrastructure, independently.

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