

THE FUTURE OF HYDROGEN

Part 3 : Hydrogen in the Middle East - Regulation

**ADDLESHAW
GODDARD**

MORE IMAGINATION MORE IMPACT

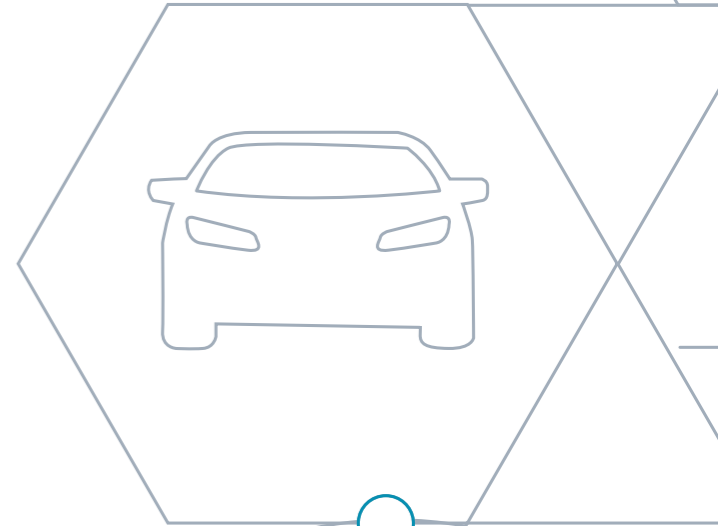
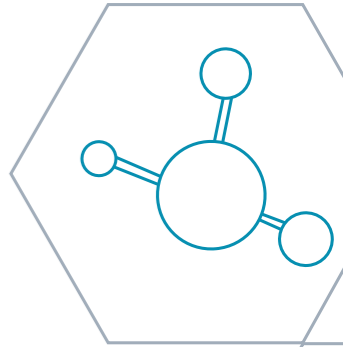


BASED ON THE DII DESERT ENERGY PARTNERS' MEETING 2021

AS EXPLORED IN THE PREVIOUS ARTICLES IN THIS SERIES, HYDROGEN HAS SIGNIFICANT GLOBAL CROSS CUTTING POTENTIAL BOTH AS A FUEL AND FOR A RANGE OF INDUSTRIAL AND OTHER APPLICATIONS. THE MIDDLE EAST AND GULF IN PARTICULAR POSSESS THE IDEAL CHARACTERISTICS TO BECOME LEADING PRODUCERS AND EXPORTERS OF GREEN AND BLUE HYDROGEN, AND ARE IN POSITION TO CAPITALISE ON THE PROJECTED INTERNATIONAL ENGAGEMENT. HOWEVER, WHILE THERE IS AN ABUNDANCE OF NEW INVESTMENT ACTIVITY AND START-UP BUSINESSES, AT PRESENT THE DEVELOPING HYDROGEN MARKET IN THE GULF IS NOT SUBJECT TO A SPECIFIC REGULATORY OR LEGAL FRAMEWORK.

The region lacks comprehensive safety codes, regulations for hydrogen production and infrastructure and systems for certification of origin, as well as meaningful government schemes to promote hydrogen production, export and research. Applicable legislation for hydrogen projects tends only to be broad gas market regulation. There are ripe trading possibilities on offer, especially supplying the nascent European market, and the potential applications of hydrogen cover transport, electricity generation, industrials, fuels, heating and carbon emission reduction, among other areas. To best exploit these opportunities the public and private sectors should move forward together in considering impactful measures and regulations.

In this article we will explore the principles and targets which might concern regulators, along with setting out a toolbox of potential measures.



CHANGING AMBITIONS

THE MENA STATES HAVE MADE COMMITMENTS TO ACT ON CARBON EMISSIONS, INCLUDING THROUGH ENTRY INTO THE PARIS CLIMATE ACCORDS, AND SOME HAVE SET CHALLENGING REDUCTION TARGETS. MOST NOTABLY, THE UAE RECENTLY ANNOUNCED \$163 BILLION IN PLANNED 'CLEAN AND RENEWABLE' ENERGY INVESTMENT AS PART OF ITS TARGET OF NET ZERO BY 2050. MOREOVER, AS SET OUT EARLIER IN THIS SERIES, AREAS LIKE THE GULF COULD BE AMONG THE MOST VULNERABLE IN THE WORLD TO THE IMPACTS OF CLIMATE CHANGE. PROMOTING SUSTAINABLE AND LOW-CARBON FUELS AND TECHNOLOGIES LIKE HYDROGEN SHOULD THEREFORE BE PARAMOUNT AMBITIONS.

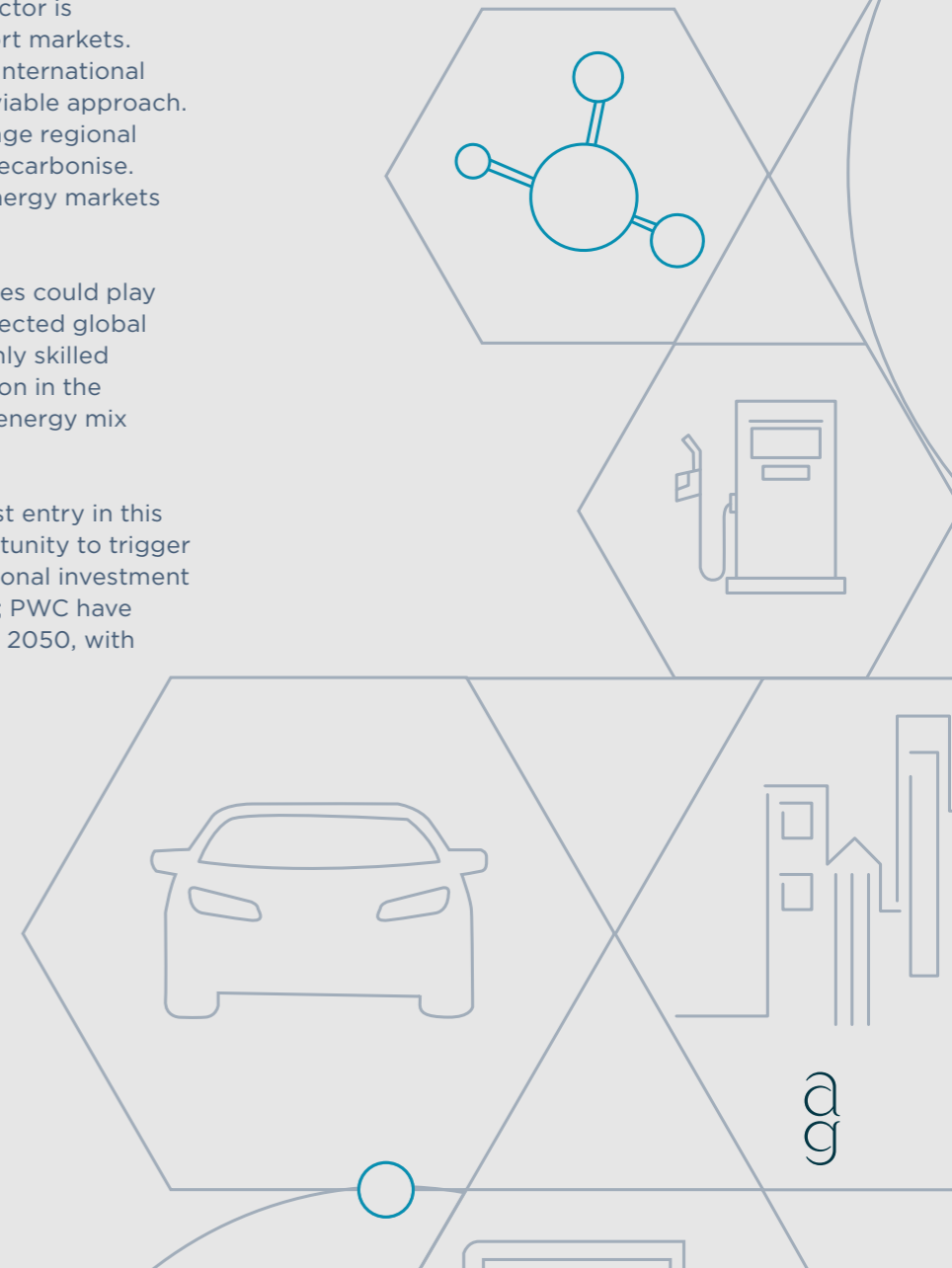
Whilst still an extremely profitable market, the Middle Eastern energy sector is heavily exposed to fluctuations and constrictions of the oil and gas export markets. Economies like Saudi Arabia rely on historic reserves and leveraging on international debt markets against such inconsistencies, but this may no longer be a viable approach. Potential international measures like carbon pricing could severely damage regional manufacturers and exporters. So too could a sustained global drive to decarbonise. These risks would be significantly mitigated through diversification of energy markets and an increased hydrogen offering.

In addition, diversification into hydrogen and other emerging technologies could play a key role in future-proofing the economies of the region. Given the projected global engagement with hydrogen, investment in these technologies and a highly skilled workforce may allow governments to defend and strengthen their position in the international energy market. In the face of climate challenges, a diverse energy mix could also be key for energy independence and security.

Perhaps above all, the natural and market advantages explored in the last entry in this series give the Middle East, and the Gulf in particular, an excellent opportunity to trigger domestic growth and exports along with creating new jobs and international investment in the growing hydrogen economy. Such gains could be very substantial; PWC have estimated an annual \$300 billion, 530 million tons (Mt) global market by 2050, with green hydrogen production alone creating 400,000 new jobs.²

¹ Reuters: UAE Launches plan to achieve net zero emissions by 2050, accessed 26 November 2021, <https://www.reuters.com/world/middle-east/uae-launches-plan-achieve-net-zero-emissions-by-2050-2021-10-07/>

² PWC, The Dawn of Green Hydrogen, page 1, 07/06/2021



BENEFITS OF REGULATION

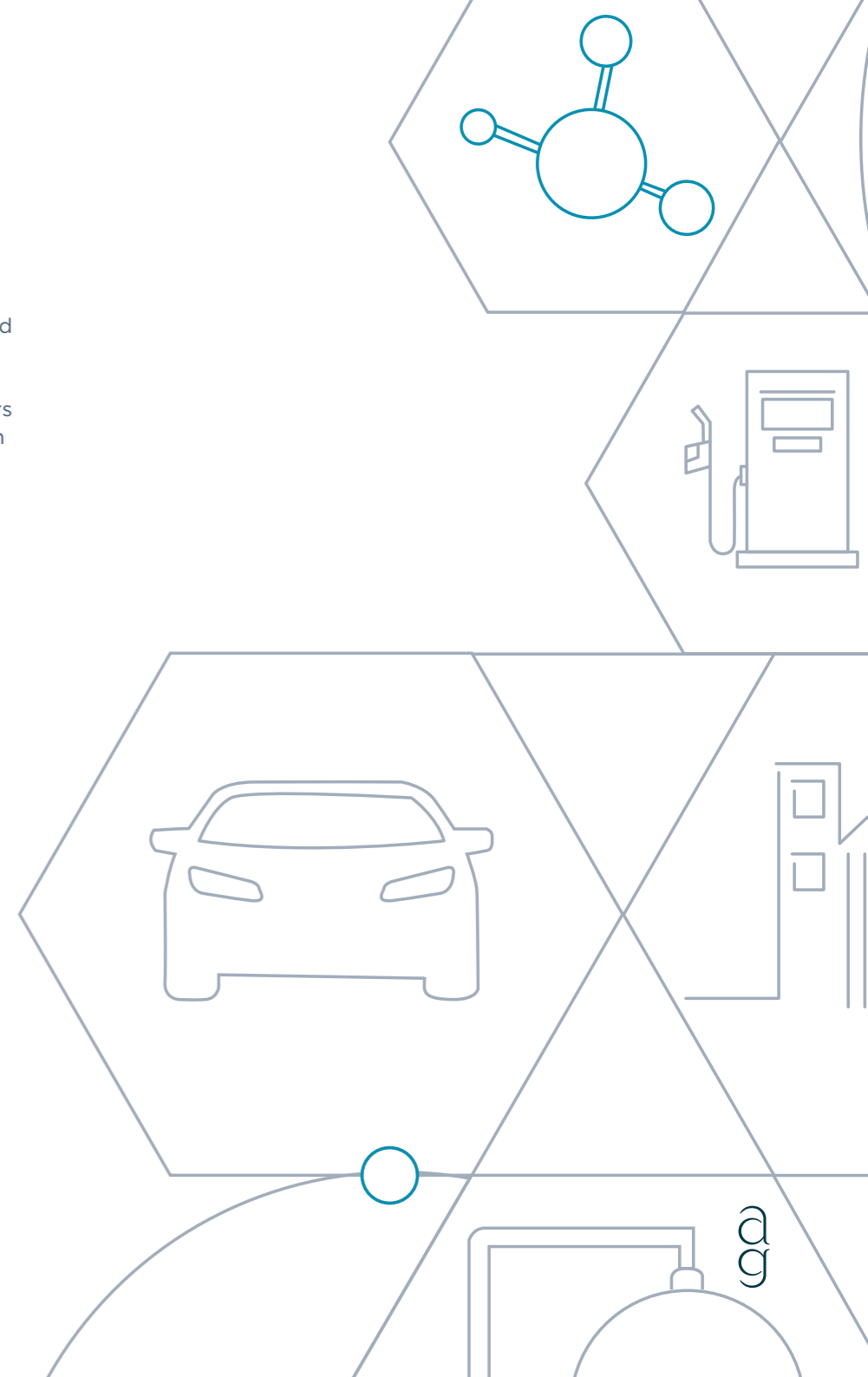
GOVERNMENTS HAVE A RANGE OF POTENTIAL REGULATORY TOOLS AT THEIR DISPOSAL AND AN EFFECTIVE BLEND OF POSITIVE STEPS PROMOTING TARGETED GROWTH, AGAINST NEGATIVE MEASURES WHICH PUNISH UNDESIRABLE COURSES OF ACTION MUST BE CALCULATED CAREFULLY IN EACH STATE. DEPENDING ON THE GOVERNMENT'S PRIORITIES, INTERVENTIONS INTO THE PRIVATE SECTOR COULD PURSUE A VARIETY OF SPECIFIC BENEFITS.

Measures which signal the interest of the state in expanding their hydrogen market are likely to result in increased international investment. This effect can be compounded by greater transparency and certainty regarding the governance and institutional framework which will apply to the sector. If this obvious engagement with the market is matched by incentives that increase the short term profitability of green and blue hydrogen, then this may draw sophisticated international corporations and global expertise into domestic start-ups and ventures.

Moreover, to capitalise on the expected growth of the global hydrogen market it will be a necessity to develop regional funding models and establish an appropriate balance of project finance and government incentives. Increased certainty in the sector and measures or incentives which increase the competitiveness of hydrogen products should result in greater availability of low cost private project finance. This would be hugely beneficial for supporting the range of pilot projects and start-ups which would be necessary for the developing market.

International partnerships will be key for both production projects and developing export links. For example, as expanded upon in previous articles in this series, the European Union is pursuing very ambitious hydrogen policies and is likely to be highly reliant on imports. Partners like the European states would be encouraged by the implementation of detailed product standards and certifications as well as health and safety codes protecting the workforce.

Because of the value to governments in developing the hydrogen market it would be beneficial to reduce the current expense of green hydrogen. Even with reductions in the cost of renewable energy, sustainable hydrogen will still require support to be immediately competitive with traditional fuel sources. Governments could select positive measures such as renewable premiums, subsidies and tax reductions (where applicable) to assist hydrogen start-ups and research projects. Another option is to levy tariffs, taxes or other negative measures against other energy sources and products.



TOOLBOX FOR REGULATION

CARBON PRICING BASED ON CONSUMPTION OF PRODUCTS COULD BE AN IMPACTFUL NEGATIVE MEASURE FOR DRIVING THE ENERGY TRANSITION AND ESTABLISHING COST PARITY FOR SUSTAINABLE FUELS AND PRODUCTS, INCLUDING HYDROGEN AND GOODS MANUFACTURED USING CLEAN HYDROGEN. THIS IS ESPECIALLY TRUE IN STATES LIKE SAUDI ARABIA WHERE THE SCALE OF THE ECONOMY WOULD AMPLIFY THE SIGNIFICANCE OF SUCH MEASURES. MOREOVER, SAUDI ARABIA, AMONG OTHERS, HAS EXISTING SUBSIDIES FOR FOSSIL FUELS. IF THESE WERE TRANSFERRED TO CLEANER FUELS LIKE HYDROGEN IT WOULD PROFOUNDLY ACCELERATE MARKET TRANSITION.

Implementing a clear certification system with stamps of origin could be key to unlocking large scale export to markets like Europe and Japan, which have demonstrated interest in importing low carbon hydrogen. As discussed earlier in this series, higher prices are anticipated for green and blue hydrogen, but premiums will be reliant upon trustworthy certificates of origin and measurements of carbon intensity. Given the immense green hydrogen potential in the MENA region, it would seem sensible if this region would play a key role in developing and promoting such certification schemes.

Other Middle Eastern nations could emulate the approach of the UAE, where a five year strategy for hydrogen is already established. This coordinated framework sets out which bodies are leading development and powerfully signals support for the industry. Such measures raise confidence and could be augmented with other publicity, like public export and production targets or monitoring and publishing success stories among hydrogen start-ups. A coordinated state approach also allows for easy data collection and the possibility of focusing on key issues, like alleviating the cost of electrolysis. This method of target-driven guidance of the private sector has the benefit of not requiring heavy-handed regulatory intervention. Instead, the government can set out a roadmap for development and encourage the private sector to realise it.

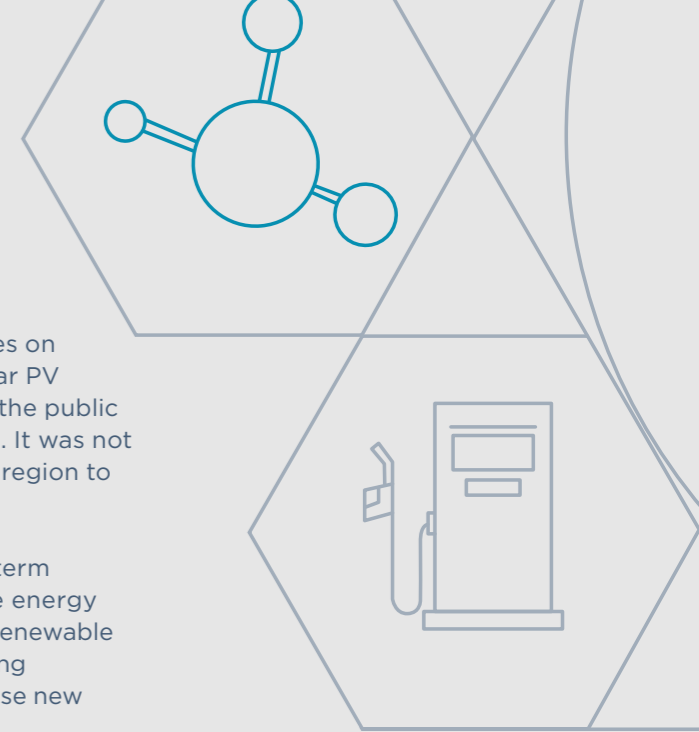
The UAE has further demonstrated an astonishing ability to push down prices on emerging technologies. It has generated a very significant proportion of solar PV installations in the Gulf, for instance, due in part to focused management of the public procurement process, promoting tenders and driving increased competition. It was not alone in this success, and the same pressures which were utilised across the region to dramatically reduce renewable energy costs could be applied to hydrogen.

Educational subsidies and scholarships might be critical to establishing long-term technological leadership. If states like the UAE, which already has a diverse energy market and highly skilled workforce, emphasise the building of expertise in renewable energy engineering and transition technologies it could capitalise on its existing strengths. A pool of highly skilled personnel could allow a state to quickly utilise new technologies and maintain a competitive edge.

More immediately, the provision of affordable funding to support sustainable businesses may prove a highly effective positive measure, geared at rapidly levelling up renewable energy, efficiency and clean industry and production. A leading example would be the institution in Dubai of the government-backed Dubai Green Fund. Specific hydrogen funds, or earmarked amounts within wider funds, could massively accelerate growth in the sector. This could go hand in hand with the availability of research funding for projects covering hydrogen and other transition technologies.

Moreover, if states wished to increase their technological offering through greater international involvement one option might be the targeted easing of local partnership requirements for companies conducting hydrogen research and development. Other licencing and financing restrictions upon entering the market could similarly be subject to targeted exemptions. Where national energy markets are not yet privatised, states might even take the step of allowing private companies into public-dominated sectors like power generation. There are already success stories of state backed hydrogen joint ventures. For instance, the Dubai Electricity and Water Authority collaboration with Siemens to establish an industrial scale pilot solar-powered hydrogen plant.

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CONCLUSION

Some governments in the in the GCC region provide a business friendly environment with low or no taxes and, based on this, traditionally rely largely on the private sector engine of pure profit-maximisation to drive the development of technologies and energy assets. However, with the generous returns of fossil fuel exploitation facing an uncertain future, the opportunities of early engagement with the energy transition may justify a more active regulatory approach.

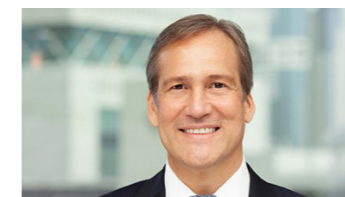
Governments may alternatively decide that their light-touch regulatory environments have drawn investment in the past and opt to spur hydrogen development through target setting and development pathways. Each state's approach will reflect their natural, commercial and geopolitical features and priorities. What is clear is that Middle Eastern governments have an opportunity to shape their own hydrogen markets, and a wide array of possible measures with which to do so.

FURTHER INFORMATION

AS ONE OF THREE AG OFFICES WITHIN THE GCC OUR DUBAI PRACTICE OPERATES AS A REGIONAL HUB SUPPORTING CLIENTS WITH DIVERSE BUSINESS INTERESTS, BOTH ON THE GROUND IN THE UNITED ARAB EMIRATES AND ACROSS BOTH THE GULF REGION AND AFRICA.

Our experienced team, with its Arabic and English bilingual capability, combines the standards of a top international law firm with a keen awareness of, and sensitivity to, local law and practices.

FOR FURTHER INFORMATION IN RELATION TO HYDROGEN IN THE REGION AND HOW WE CAN SUPPORT YOU, PLEASE CONTACT:



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