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An EU-MENA deal for green hydrogen could be a serious win-win

By Jonathan Walters | 10.14.2020

The EU's failed solar strategy saw China capture the market. It needs to not repeat the same mistake with green hydrogen

European company Airbus looks to the future with hydrogen planes

Haven’t we been here before? A dozen years ago, Europe came up with the Mediterranean Solar Plan and the Desertec Industry Initiative. These were frameworks in which the Middle East and North Africa (MENA) could produce solar energy on a very large scale, and Europe could consume it.

It should have been a win-win situation. MENA would use its clear comparative advantage from abundant sunshine and abundant land to provide cheap solar energy to Europe – which had neither in such abundance – boosting its GDP and creating substantial, much-needed employment.

But it didn’t happen. The reasons why not can tell us a lot about how the EU’s Green Deal and Hydrogen Strategy could benefit from being implemented in EU-MENA relations.

A chance to learn

First, it happened during a crisis – the global financial crisis, the associated euro crisis and flat energy demand in Europe, and the Arab Spring that created such turmoil. Decision-makers became focused on the very short term. The result: Europe is still dealing with the political fractures that opened up, MENA has still not recovered, and huge numbers of people have fled the South looking for a better life in Europe.

Second, there was little coordination between broad strategy and actual policy and implementation. Europe continued to subsidise solar energy in a discriminatory way, effectively blocking import competition from MENA and limiting the scale of solar production in EU-MENA. MENA did not put in place any schemes to guarantee to the customer that exported energy would be green, and did not open access to its electricity transmission lines for the private sector to invest in exports.

This lack of coordination and scale saw China – strong in both – take the lead. Solar technology is now cheap for EU-MENA, but the associated jobs and income have gone elsewhere.

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Now we are again in an economic crisis because of the Covid-19 pandemic. We have the chance to learn from the short-termism that undermined sustainable recovery last time; we see the apparent political will to undertake large-scale coordinated solutions such as the Green Deal; and we have the fact that renewable energies are now much further down their downward cost trajectories.

So, what needs to happen to successfully implement the Hydrogen Strategy in the EU-MENA space? There are four crucial factors: size, competition, coordination and certification.

Why does size matter?

Green hydrogen is produced from electrolysis of water powered by renewable electricity. Renewable electricity is getting continually cheaper as global use scales up. Now we need electrolysers to follow a similar path. The combination of cheap renewable electricity and cheap electrolysers is what will eventually allow green hydrogen to compete with natural gas and non-green hydrogen.

In short, scale is fundamental to the competitiveness of green hydrogen against other energy sources. We can scale up production quickly in MENA: the cheap renewable electricity will help to minimise the fiscal burden of any transitional subsidies needed to make the green

hydrogen competitive, until the electrolysers themselves have scaled up to become cheap enough.

This of course means that any green hydrogen subsidy scheme in the EU needs to be open in a non-discriminatory manner to green hydrogen produced in MENA. This is critical, but has not yet been addressed in Europe. The EU's Hydrogen Strategy might attract little investment until that is addressed, because it affects the expected rate of return on investment in both MENA and Europe.

Why does competition matter?

Competition matters on at least two levels. One is the level of the green hydrogen itself. We learned from the development of renewable electricity that procuring the generation capacity competitively (e.g. through an auction mechanism) reduced costs much more quickly than providing a fixed subsidy (e.g. a feed-in tariff). The same is likely to be true of green hydrogen procurement, and it is important that such auctions or tenders in the EU be open to bids from producers in MENA, in order to procure the cheapest green hydrogen available.

On a more strategic level, we saw with the development of solar power that costs were driven down by Europe and China competing to produce the technology (even if China eventually 'won' that competition, at least for the time being). Solar power would almost certainly be much more expensive than it is now without such competition.

Now we need to see competition to reduce the costs of electrolysers, though of course the EU wants to 'win' this time (even though the cost of Chinese electrolysers is already falling). That will depend on the EU fully exploiting its advantages, perhaps most of all its proximity to the deserts of MENA.

Why does coordination matter?

China is considered to have taken a whole-of-government approach to developing its solar power industry and becoming globally competitive. The Chinese government implemented coordinated energy and industrial strategies to achieve this, in close collaboration with industry itself. China is likely to approach green hydrogen in a similar fashion.

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Nobody could claim that such coordination is a particular strength of the EU or between the EU and MENA. It is clear that this could emerge as a pivotal issue in the global competition over green hydrogen technology. In the case of EU-MENA, coordination will be very important between a pro-green hydrogen industrial strategy and a development finance

strategy for the EU in relation to MENA. This is explicitly recognised in the German Hydrogen Strategy, with its specific financial allocation for international cooperation, but is only vaguely acknowledged in the EU Hydrogen Strategy.

However, the EU has adopted its Green Deal and Hydrogen Strategy, and has now made them almost synonymous with its Covid-19 economic recovery strategy – at least at the EU level, even if this still needs to be fully reflected in detail at the level of individual member state recovery plans. China is not quite at a comparable stage, so if EU-MENA addresses the core issues with speed and efficiency within the political framework of economic recovery and the Green Deal, that could have an important impact.

Why does certification matter?

The value to the consumer of green hydrogen comes partly from it being green: because consumers of the final product care that it's green, or because green products are subject to lower taxation, or because subsidies are available for the hydrogen if it's green. Given this value, there needs to be a system of guaranteeing its greenness. That's what a system of certificates is designed to do, and a green hydrogen market cannot be expected to develop without such a system. If MENA is to become a major producer of green hydrogen, it will need a system of green certification that is harmonised with, and therefore acceptable in, the EU.

The EU is developing a green hydrogen certification system called CertifHy, which is intended to guarantee that any hydrogen claimed to have been produced as 'green' actually has been. If MENA countries want to be eligible to export hydrogen to Europe, or if they want guarantees that their own products embed green hydrogen, they need to develop a CertifHy-compatible system very soon. Morocco has apparently already started down this path, and other countries will need to follow. If the EU puts in place the planned Carbon Border Adjustment Mechanism – designed to tax embedded CO2 in imported products – then MENA's adoption of CertifHy will become even more urgent.

It can be done. History is not doomed to repeat itself. The failures of earlier strategies involving the EU importing clean energy from MENA can be avoided in the implementation now of European green hydrogen strategies. If Europe has real political will, and pays consistent attention to the detail of how to do it. Both the EU and MENA – and indeed the whole world – will benefit from the cheapest, most plentiful green hydrogen.