Energy Transition INITELLIGENCE





INTELLIGENCE BRIEFING

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SCROLL DOWN

THE OMAN ENERGY ESG FORUM OPEDS - VIEWS YOU CAN USE EXCLUSIVE SOUNDINGS

"Next Decade is Window of Opportunity for Oman Green Hydrogen Hub!"

Dr. Firas Al-Abduwani, Acting Managing Director HYDROM (Hydrogen Oman)

Oman is in a unique position because of its complementary profiles of land, available ports, wind and solar, all adjacent to a water resource, the sea. But according to international forecasts, there will be a shift from around 2035-2040, where solar and battery energy storage become the prominent drivers of cost and wind becomes less of an important factor. The opportunity for us to act will be about seven years ahead of that. Thereafter, the market, which is today between 20 competing nations, expands to a circle of 60.

First Mover Advantage?

Hydrogen is by default is a very localized industry. Trying to transform it into something that is regionally transportable is a challenge. That is one of the risks, so if you can present yourself as a regional hub with the right logistics, political stability, and geographic location, then you have an advantage. But there are very few players today who are vertically integrated and able to go it alone. Consortia are the way to go, at least for the nascent market.







Dr. Firas Al-Abduwani, Acting Managing Director CONTINUED HYDROM (Hydrogen Oman)

Off takers Critical in Certain Economies?

Most of the policies on hydrogen so far have been supply driven, but there are some nations now focusing on the demand side. Oman's play in hydrogen for local use is for the medium to the long term. But in other nations, where energy security has become more prominent, such as western Europe or Japan, hydrogen is becoming a tangible and required solution. At Hydrom, we were mandated to be the focal entity to orchestrate Oman's green hydrogen story, with an auction process and evaluation criteria. Having a firm offtake is one of the key criteria we will use in evaluating bidders. We also structured things in such a way that off takers can come in with small equity, so there's flexibility in our approach.

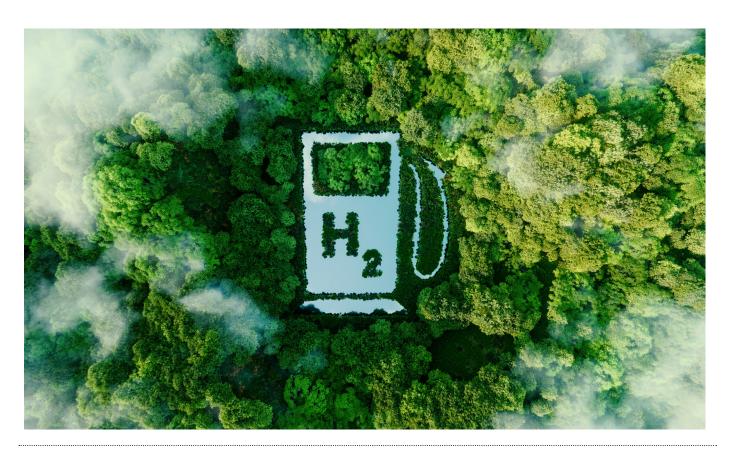
Risks across multiple areas?

Financial capability, development capability, asset ownership, and maintenance are all risks. Internal policies in other countries also have an impact on the global market. As an example, the Inflation Reduction Act in the US has prompted many technology providers to shift their focus from where the supply was going to be most attractive, such as Oman - to the US, because there are now subsidies which can reach up to \$3 per kilogram.

One million tons of Green Hydrogen in Oman by 2030?

We have identified a target of one million tons of ammonia equivalent by 2030, to send to the global market. We have looked at the economic scale of projects needed and are now delineating the land required, with awards to be made in 2023 and 2024. In totality, we have around 1.8 million metric tons of projects to come to the market by 2030. Realistically, with some of these perhaps failing to achieve financial close, we will secureenough volume to reach the one million tons target.

*Source: The 9th Oman Energy ESG Forum, Nov. 22nd, 2022









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Q4 2022

MIDDLE EAST & NORTH AFRICA Climate Finance Ambition Ramps Up





INSIGHTS

COP27 fails to tackle credibility of carbon credits



Bill Spindle Former Climate & Energy Editor, SEMAFOR

Failures at COP27 mean that carbon credits may play a much bigger role in decarbonization plans of countries and companies without assurances their claims of reducing emissions are real and not exaggerated.

Among the issues aimed at preventing greenwashing that were not resolved at the conference was whether countries will be allowed to conceal the details of how a credit was created and whether specific reductions can be "double counted," or claimed by two different entities even though it happened only once.

Governments at the United Nations conference sought to negotiate rules for how countries can take advantage of the financing mechanism to raise money for projects that remove carbon from the atmosphere, prevent deforestation or head off future emissions. U.S. Climate Envoy John Kerry touted carbon credits as a way to channel tens of billions of dollars from the developed to the developing world to address climate change.

The negotiations are part of an effort — encouraged by a wave of companies, countries, and other entities aiming for carbon neutrality — to create a new system to channel money through the sale of carbon credits into preserving forests and mangroves and closing down coalburning power plants. The credits allow the entities to pay others to remove carbon from the atmosphere or reduce emissions instead of doing it themselves, while still claiming credit for the reductions.

Global business consultant McKinsey & Company says the roughly \$2 billion market for voluntary credits alone could grow 15-fold by 2030 and perhaps as much as 100-fold by 2050. Through a combination of regulation in mandatory markets and integrity strengthening in voluntary schemes, the price of credits will need to rise.

They currently range from as little as a few dollars in voluntary markets for each ton of carbon — the fundamental unit of exchange across all markets — to the high double digits in mandatory compliance markets like Europe, where the price briefly crossed \$100 earlier this year. Prices hovering in the low triple digits will eventually be needed to reflect the actual cost of carbon, according to the World Bank and other analysts.

In theory, that could be a conduit to finance a big chunk of the world's progress towards carbon neutrality, the end game where as much carbon is being pulled out of the atmosphere as is being spewed into it.

BILL'S VIEW:

An earlier, U.N.-run carbon credit initiative enabled a wave of greenwashing. That's caused many critics to give up on offsets, altogether. But there are few ways to channel money into decarbonization on this scale, so it's worth another attempt to get carbon markets right.

The problem is that this still isn't happening. The Paris Agreement of 2015 offered a new approach to carbon credits, one that allows countries to harness the efforts of all countries and companies, as well as an array of other entities from local governments to philanthropists.

Over the long haul, the framework holds the potential to gradually weave together the rigor of a growing number of legally binding carbon credits trading systems — from the northeast of the United States to Europe and China — with a freewheeling and fast growing market made up of voluntary players operating under their own set of rules.

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Walter Simpson Managing Director CC Energy Development

ESG is Simply Good Business.

ESG is fundamental to the way we will be successful as a business and not just an add-on. The challenge has been getting that accepted by organizations. I can onlytalk about how we've done it internally; we looked at what it is that will make us successful as a business and then related those factors to what we are doing in the ESG space. We're going to be successful if we're a low-cost operator, if we have a low environmental footprint and if we're valued by the communities we work with - three very important elements of being successful and that applies across a lot of industries today.

Unlocking Potential Through ESG?

In the environmental space, if I manage my water effectively, I can be effective from a cost perspective, but it's also helping the community that's next to me and they appreciate that. If I'm training my people effectively and developing them properly, then I'm getting better work, ideas, and new technology brought in. That all helps the bottom line. And if I'm using and developing local contractors, I'm building my position in the community, but I'm also getting the benefit from using

the local supply chain and reducing costs by not having to import so much. So, you can start to see how business benefits from relating all those ESG factors to the bottom line.

Developing Tomorrows Industry Leaders?

My experience in recruiting graduates here is that they are competitive and demonstrate top-quality leadership and problem-solving skills comparable with graduates anywhere else in the world. The challenge is getting those people the experience and knowledge in the sector that they need, to be able to become the future leaders of this industry. That's where our social responsibility comes in. We make sure we give them the training, the experience, the international exposure to become future leaders and to be able to drive that forward. To me, that is just good business. We're not going to be successful if we don't have the next cadre coming through the pipeline and if we don't develop them properly.

*Source: The 9th Oman Energy ESG Forum, Nov. 22nd, 2022

REPORT

MAKING CHINA'S RURAL ENERGY GREAT AGAIN!

China has 65% of its population living in urban areas today. Thus, it's no surprise that security of urban energy supply has been given top priority in the backdrop of fighting air pollution and decarbonizing its energy mix in the last two decades. However, growing attention has been paid to rural areas in recent years when policy makers reckon that urban air pollution won't be effective tackled without grappling with the surrounding rural energy woes. And very importantly, rural energy is an integral part of the "modern energy system" the country aspired to build. For the first time, China's national energy development plan - "14th Five-Year Plan on Modern Energy Systems" (FYP) - has dedicated, for the first time, one entire chapter on rural energy.

A role model for the developing world in the 1980s

Four decades ago, China's rural energy development was widely regarded as a role model for developing countries. Its achievements were exemplified in the following four areas:

- 1) Prioritizing energy conservation, with over 100 million wood-saving cookstoves installed in rural households in the 1980s;
- 2) Building small-scale hydropower as a means to achieve rural electrification;
- 3) Using local resources to produce biogas for clean cooking; and
- 4) Developing analytical energy models and formulating comprehensive energy development plans for rural areas, integrating energy as an important part of economic development agenda.

It is particularly worth mentioning that, when President Xi Jinping served as the Chief of the Liangjiahe Village in Shaanxi Province in the mid-1970s, his biggest wish was to find an entry lever to promote economic growth. One day, he read on the People's Daily that many areas in Sichuan Province had deployed biogas for clean cooking. He was very excited and decided that his village should also adopt biogas as a solution to its lack of coal and firewood. With Xi's efforts, the Liangjiahe Village became the first "biogas village" in Shaanxi Province, with more than 70% of households in the village using biogas.

Source: © CN Innovation (www.cn-innovation.tech)

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EXCLUSIVE SOUNDINGS



ESG: "Cross sector collaboration on ESG in Oman has transformed in the past year. The whole road map has been worked on by sectors together to make one single goal and I am comforted with the fact that we will have much more collaboration moving forward because we have a common target."

H.E. Eng. Naif Ali Hamed Al-Abri President, Civil Aviation Authority Oman



GREEN HYDROGEN: "The rising cost of gas and other fossil fuels is making hydrogen from those sources less competitive. But if you can produce your hydrogen from a green source that is not reliant on the market price, but rather on the assets that you will be building on purpose, in that scenario, you're seeing that you can already be very competitive. That is something that many of the users of hydrogen - the industrial users - are seeing and are ready to lock in their contracts on that basis."

Amir SharifiChief Investment Officer, Hy24







