

Energy Transition

INTELLIGENCE BRIEFING

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SCROLL DOWN

GREEN HYDROGEN **EXCLUSIVE SOUNDINGS** **INSIGHTS** **EVENTS THIS WEEK**

Imports Key to Meeting Europe's Green Hydrogen Ambitions!

Q&A: Dr. Rene Peters, Business Director Gas Technology, TNO

Northwest Europe will be a large importer of hydrogen and hydrogen derived products from 2025 onwards and so is prepping its infrastructure accordingly. The amount of hydrogen that Europe can produce from renewable sources - solar, wind, or hydropower combined - will never be able to keep up with the expected demand growth. A study of The Netherlands, Germany and Belgium, countries which have strong industrial clusters, shows that importing hydrogen and its derivatives will be necessary. The Port of Rotterdam is actively developing receiving terminals for ammonia and to serve as an important import hub for the region. The importing of ammonia could be key to kickstarting the hydrogen value chain, with projects now being set up in the Middle East, Morocco, Portugal, and even as far as South America.

What is the state of play of the EU's hydrogen development?

The main challenge today is setting up a new value chain that needs to be developed on a large scale. Regulations are still unclear, and markets need stimulation both on the production and demand side. We need to develop the entire transport and storage infrastructure, as well as enabling cross-border transport. Technologies are essentially ready, but there are still many aspects that can be worked on, such as with electrolyzers, PEM (polymer electrolyte membrane) electrolysis, and the oxide technologies.



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CONTINUED Q&A: *Dr. Rene Peters, Business Director Gas Technology, TNO*

Is the scaling of electrolyzers getting the investment interest it needs?

There is huge interest among manufacturers in Europe to scale production capacity. However, they will only do so if there is clarity on the long-term developments and demand. This means governments must set clear policies and strategies on the targets of electrolyzer volumes in the next ten years to get the industry investing. The sector will also need government financial support in the early stages. We are still waiting for the support schemes by the European Commission and on the national level to fund some of these projects.

How advanced is the taxonomy structure for hydrogen in Europe?

Europe has been taking the lead in this conversation. We already have a CO2 emissions tax and that is driving the transition to blue and green, and we also have a taxonomy of the colours of hydrogen proposed by the European Commission. There is strong demand in industrial applications with over 50% seeking green hydrogen.

Can blue and green hydrogen play a role together?

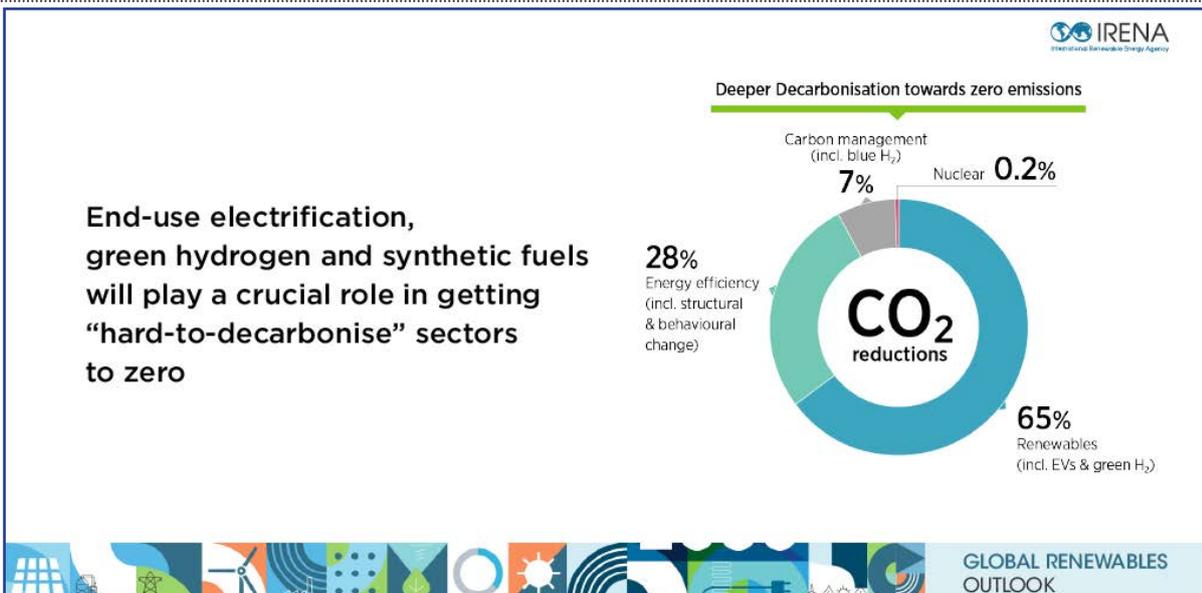
There are different views and preferences in Europe with respect to hydrogen, with Germany particularly focused on green. The Netherlands is “color blind” and is practical with respect to

hydrogen, with plans to set up its own blue hydrogen production plants in Rotterdam. In the UK, both blue hydrogen and green hydrogen are also underway. Blue hydrogen can be a significant part of the energy mix because it can be developed quickly at large volumes at a relatively low cost compared to green. The region does not have the luxury to leave out options to keep up with demand from many sectors. The important thing is that we have low carbon options.

Are there specific preferences for types of hydrogen among industries?

There are differences in the markets depending on their use and willingness to pay for the purity of the hydrogen. Today, refining and chemicals businesses use 99% grey hydrogen produced from steam methane reformation (SMR). Many refineries would consider blue hydrogen as a first option to convert to from grey. The steel industry meanwhile does not care much about the purity of the hydrogen whereas heavy mobility trucks would want to use purer green hydrogen for fuel cells. The advantage of green over blue is that it also lessens dependency on natural gas, and in the long-term could be a good alternative in refining, chemicals and even power generation for balancing the grid.

[FULL INTERVIEW HERE](#)



SOURCE: IRENA

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EXCLUSIVE SOUNDINGS



“The more data-driven the approach is in the agribusiness, whether in the farming or the supply chain, the less there will be waste and miles to get that food to the plate. We may not be able to prevent that 100%, but then we see other ways which can be done such as recycling and upcycling of that food waste.”

Elie Skaf

Co-Founder and CEO, Right Farm

“While there are reasons to be bullish around hydrogen’s potential, this does not mean we should ignore the clear obstacles in the way of hydrogen’s development. To reach 2030 targets there needs to be rapid change in the conditions for hydrogen production, without them the idea of a hydrogen powered Europe may not be dumb, but it won’t be realistic either.”

Frank Wouters

President of the Long Duration Energy Storage
Chairman of the MENA Hydrogen Alliance

Source: Energy Voice



“We have seen a marked shift in what the energy and resources transition mean to executives over the past year. Energy and natural resources industries are moving from ambition to action. While close to a quarter of capital expenditure in 2021 was directed toward change, we can expect this to grow toward 50% by 2025, establishing a transition path with greater clarity.”

Peter Parry

Chairman of Global Energy & Natural Resources, Bain & Company

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INSIGHTS

Energy: The Good, The Bad, The Ugly



Bill Spindle
Council on Foreign Relations
International Affairs Fellow, India

Three visits provide three reminders of the high stakes when it comes to such an essential part of our world.

Readers of an energy and climate blog may not need reminding, but I beg your indulgence to use this post to do it anyway: the stakes of the decisions we're collectively making on these issues could not be higher these days.

This hit home for me in triplicate during a stop in India's northeastern state of Manipur. I stayed in the main city, Imphal, making excursions into the surrounding countryside. Each made a deep impression.

The first outing underscored the ways electricity, even a little bit of it, can change the lives of the poor and energy deprived. This is the heart of the energy challenge for economically developing countries like India, and many even-poorer countries across Asia, Africa and Latin America.

I bumped and bounced for five hours in the back seat of a jeep, winding deep into the hills beyond Imphal to visit the tiny village of Leisang. Leisang happens to be the final village in India to officially be electrified, back in 2018. Electricity arrived as part of a government drive to grid connect all of India — a country that, when I visited for the first time back in 2004, had hundreds of millions of people with no electricity at all.

Prime Minister Narendra Modi made rural electrification a priority when he came to power in 2014.



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Much of that has come to pass.

"We're used to the electricity now. Everybody is happy when it's on," Meena Rai, a 36-year-old mother of five told me as she showed off her electric burner.

The operative phrase there is, "when it's on," of course. As her caveat implies, the reality of electrification still hasn't met the hype, to be sure. When I visited, the power had been out for several days, a common problem for Leisang and, frankly, just about every Indian in a country still unable to deliver consistent power.

[FULL ARTICLE HERE](#)



Energy will Democratize, Decarbonize, and then Digitalize!

Dev Sanyal, Chief Executive Officer, VARO Energy

There is going to be a trend that has not been really in the forefront over the course of the last few years, which I believe is going to be the democratization of energy. You're going to see less of dependence on a few suppliers for many, many consumers and see more diversification, and more opportunities for new energy sources to develop as we move forward.

What this current crisis has demonstrated is that there is an asymmetry between producers and consumers, and that cannot remain in perpetuity. In fact, there is going to be an acceleration of changing that. Today, any CEO of any company, any energy company, has to look at two dimensions, which is energy security, as well as the energy transition, because of this velocity around the democratization of energy, which, if you take a step back, won't occur on the basis of recreating the past. It will be about creating a new future, which means we will also see the 'second D', which is decarbonization. And that I think will be also enabled by the 'third D' which is digitalization. Why again create the past? Create the future. When we take a step back in our company, obviously what is first and foremost is making sure we provide the energy security. But we cannot just stay there. We have to move forward because we believe there's going to be an acceleration in terms of energy transition.

There are four things we are really focused on. The first is re-emphasizing the current narrative around security, looking at both the perspective of providing security but also reducing carbon as well as ensuring efficiencies. The second is repurposing, which is about how do you take the existing infrastructure rather than just build new infrastructure? The third dimension is reshaping the portfolio. The world needs 30% more energy over the course of the next two decades, and that's a story of prosperity. And the final 'R': reinventing customer solutions. How do you provide customers, all of whom announced net zero targets, how do you provide them both the security they need to prosper, but also enable them to be successful in the energy transition? ■

Source: World Economic Forum

Renewable Power Absorption Quota: China's Screw-Driver to Expand Renewable Energy Consumption

As stated in our two previous reports, China's PV and onshore wind have already reached grid-parity with coal-fired power, requiring no subsidy for further scaling their deployment. At the same time, much of the "lower-hanging fruits" have already been harvested, so next-phase development will require the remaining hurdles be cleared and new policy tools be invented.

Inspired by the RFS (renewable portfolio standards) practices in the US and also based their own experiences in fostering energy conservation (see Insight China report of April 25, 2022), the Chinese policymakers have found a new tool - the RPAQ or "renewable power absorption quota", to accelerate the green transition. This Insight report decodes how it works.

RPAQ in a nutshell:

RPAQ is a "mandated" obligation for a local administration and market participants within its jurisdiction to absorb certain percentage of renewables in their total power consumption. It was designed by the National Development and Reform Commission (NDRC)/National Energy Administration (NEA) as a top-down command-and-control policy instrument that forces market participants to absorb more renewables in their portfolios.

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

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Catherine Sheridan

Chief Operations Officer
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Maryam AlMansoori

General Manager
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