ESF Asia 2022

ENERGY & SUSTAINABILITY FORUM

Decarbonising the Downstream Industry

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ADVISORY MEETING REPORT

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PATHWAYS AND POLICIES: DEFINING AND DRIVING THE ENERGY TRANSITION IN ASIA

Our inaugural ESF Asia advisory meeting kicked off discussing the impact of recent events on energy transition perspectives. During the height of the COVID pandemic and consequent demand destruction for refined products, 'transition' was THE buzzword.

More recently, the war in Ukraine has thrown the market another curveball of uncertainty which for some has seen the transition lose a degree of significance. For others, namely Europe, its acted as an accelerator with investments ramping up, particularly into renewable fuels despite concerns around feedstock limitations.

Whether an accelerator or braker, the situation with Russia and Ukraine has been a wake-up call for many, bringing to light some of the longer-term impacts set to be encountered; higher energy costs, increased volatility, significant supply-demand imbalances and extreme price volatility.

Locally across Asia; Singapore, South Korea, and Japan are setting the standards and steering the cause when it comes to the energy transition and decarbonisation, where despite being primarily economic driven, we are beginning to see Governments promote the transition through the creation of policies or subsidy schemes and grants. More widely, the developments materialising in other parts of the World, Asia has the opportunity to watch, and learn from, and ultimately follow suit.

Specifically touching upon a few countries represented by our advisors. First in Indonesia, the Government are laying the foundations for a carbon tax that is likely to trigger further regulations with the introduction of several carbon pricing mechanisms including carbon trading. Despite a long way to go, the introduction of a carbon pricing strategy is not without its challenges with aspects still unclear, or to be established by relevant authorities.

Next to India, Reliance for quite some time has been decarbonising and investing in renewables. A lot of the company's efforts and investments are consolidating in Jamnagar with a timeline to come onstream between 2030-2035.

there is much hope that by 2030 India will look very different that it does today with respect to energy intensity, dependency, price and mix.

Furthermore, heavily dependent on the energy imports, there is an economic need for the country to reduce its dependency on oil imports. Exacerbated by the COVID pandemic and Russia-Ukraine war, a lot of debate has been created around energy independence with the Government pushing the generation of energy from internal resources. India has tremendous potential when it comes to biomass and solar. The Government already has an aggressive ethanol blending target of 20 per cent ethanol blended in petrol by the year 2025 which will help reduce the country's dependency on imports and stabilise prices.

India's Prime Minister, Narendra Modi has an ambitious target of cutting the country's emissions by one gigaton by 2030 and installing around five hundred megawatts of electricity especially from renewable sources, which will directly support Indian Oil's ambitious plans to develop green hydrogen, under its recently announced joint venture with Larsen & Toubro and ReNew Power. With an ambitious supply chain of a green product to feed India's refineries, there is much hope that by 2030 India will look very different that it does today with respect to energy intensity, dependency, price and mix.

Looking to Korea and discussing LOTTE Chemical's role in achieving carbon neutrality by 2025 and the development of domestic and international low carbon supply chains. The company are focused on three routes, (green) hydrogen, CCUS and renewable energy. When it comes to hydrogen, and an ultimate green destination, like many, the route will first be grey and blue. Furthermore, with challenges to produce green domestically, the country will target production in the Middle East, Malaysia and Australia.

The transition from the grey assets in place today highlights the importance and the need of international carbon tax clarity. During this transition phase the industry cannot go from grey to all green and must go through a blue transition using existing assets.

That brought discussion onto the importance of being able to measure emissions at various points and accurately track carbon from the massive sources, energy products and carriers active today throughout supply chain, particularly around hydrogen. The creation of that chain with an international standard is a reoccurring challenge heard from those in the meeting and from peers globally.

PATHWAYS TO SCALABLE DEPLOYMENT OF RENEWABLE FUELS AND SAF IN ASIA

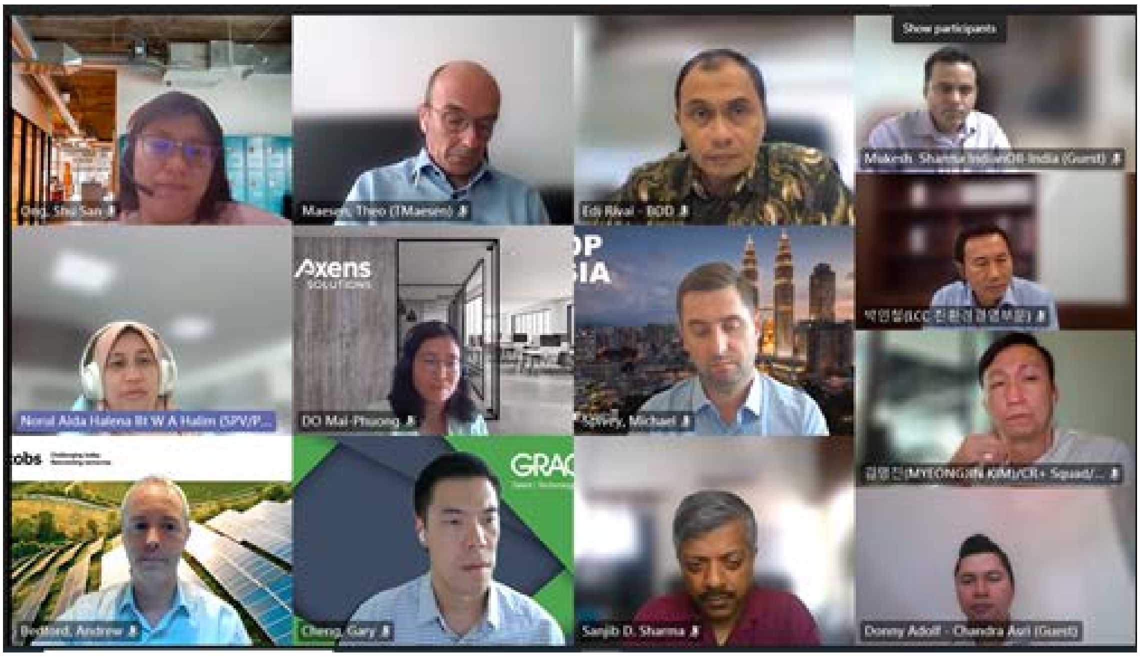
Next the discussion turned to the rising importance of low carbon fuels/green chemicals to displace conventional fuels. First discussing SAF, there is significant interest in the region to explore the potential for SAF production.

Globally we are witnessing a large drive from both airlines and consumers to produce SAF. The introduction of a global, market-based measure designed to offset international aviation CO_2 emissions, CORSIA is without doubt incentivising the production of SAF. Many companies in Asia can see value and a route to product, cementing SAF as an energy transition technology that is able to be financed or meet commercial project justification.

In order to achieve production at scale, multiple technology pathways are required such as HEFA, Alcohol-to-jet (ATJ), CO_2 to fuels, biomass pyrolysis, of which many are at a variety of stages in commercialisation and maturity. While these technologies are still challenged, today there is a strong focus on waste oils and greases as a pathway, but they too are not without their constraints; namely the availability of feedstocks or political backlash.

It was highlighted that Asia, with an abundance of biomass lends itself to crop valorisation, giving the region the longterm development opportunity to buildout a significant green chemical industry.

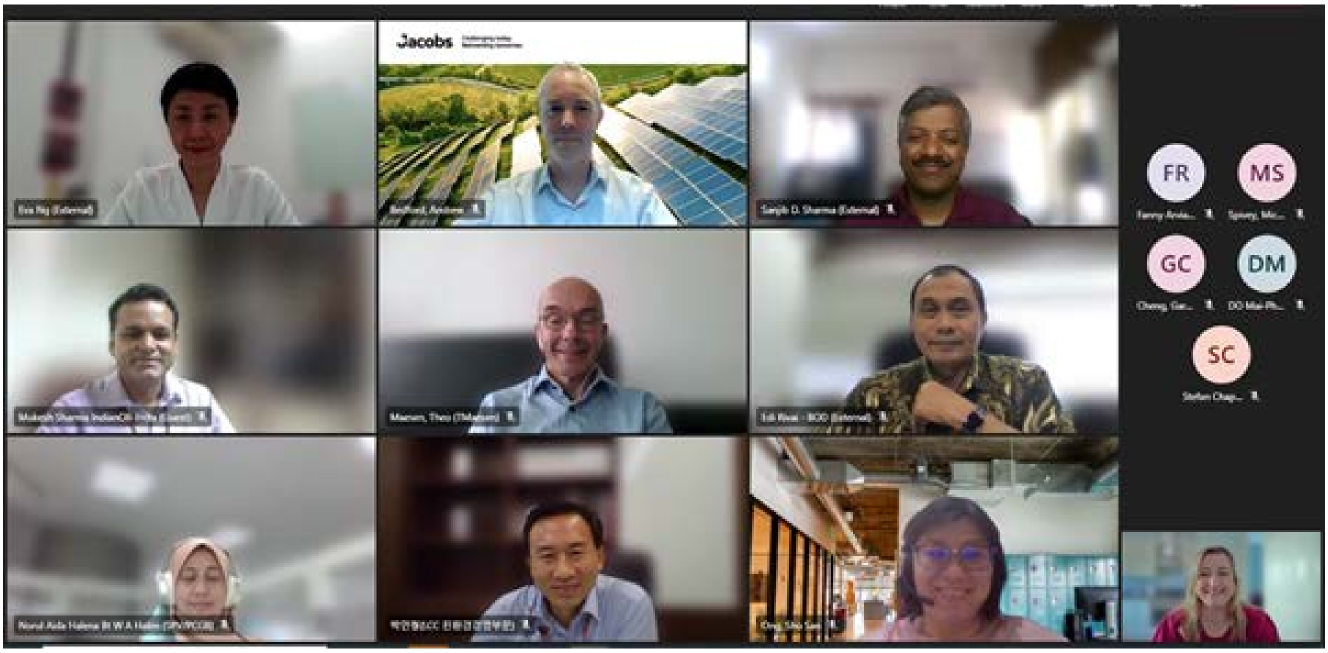
One of the critical elements around renewable fuels, whether it be green diesel, HVO or SAF is securing the feedstocks which requires developing new supply chains. For HVO, challenges, questions and uncertainties surrounding pricing of blended feedstocks were raised.



LAYING THE GROUNDWORK TO DEVELOP AND SCALE DECARBONISATION: FROM FIRST TO FIFTH GEAR

When it comes to the speed or pace of low carbon/transition projects, the economics for the region are still very much a challenge. Without doubt as technologies mature, they will become more economical for more in the region to pursue. Transitioning traditional hydrocarbon-based products to bio based or circular based feedstocks is no mean feat that for many developing countries in the region will still take quite some time.

Whilst the region cannot do nothing, it's not something that many in Asia can do in fifth gear, at least until the right supportive regulatory frameworks and policies are in place to give confidence to make investment in proven scalable technologies with ROI. Furthermore, the impact of higher oil prices to the economics of sustainable investments has certainly created more nervousness. Whilst we wait to see how things will pan out, ultimately it will see some impact on decision making, but looking beyond short-term sentiments in pursuits of long-term strategies should be the goal.



Until then the region must lay the groundwork and develop their decarbonization roadmaps, ready to execute when the time is right.

Ultimately, it's a balance between what works and makes money now, maximising investments in existing assets, vs. the opportunities presented by diversifying and transitioning to a more sustainable portfolio. As put by one advisor, unlike our European peers, the sunset for Asia is still to come and until a strategic decision is made otherwise, for many the opportunities to play in hydrocarbons continue.

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Whilst refining and petrochemicals may be seen as a sunset industry in Europe, the reality for many countries in Asia is finding a balance between taking action now towards a sustainable energy future, vs. providing affordable and reliable energy that supports economic growth and the energy needs of our future generations. As such countries like Malaysia, Indonesia and Vietnam continue to invest in refining capacity. Added to that, in light of the ramifications in Russia, countries are looking to bolster their national energy security with Vietnam shared as example with their recently announced plans to build a fourth refinery and expand its third.

As time brought the discission to a close, it was clear that that region has set about laying the groundwork for the development of their decarbonisation roadmaps. With examples and lessons to be shared from global peers, ESF Asia represents the best opportunity for Asia's downstream oil & gas industry to network and knowledge share in the context of decarbonisation and sustainability.

Join us at #ESFAsia where we will be covering all of these important topics and more. As the only event dedicated to downstream decarbonisation and sustainability, ESF Asia 2022 is a truly unmissable event.
Find out more here: esfasia.europetro.com

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