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# Asia energy transition enters more pragmatic phase



The Malaysian Reserve, Malaysia

The continent's upstream sector is under fresh pressure to move faster

by AUFA MARDHIAH

ASIA'S energy industry is entering a more pragmatic phase, as governments, producers, utilities and technology providers confront a harder truth about the region's future, where the energy transition will not be won by renewables alone, nor can energy security be preserved only through hydrocarbons.

Across the recent Offshore Technology Conference (OTC) Asia 2026, that tension surfaced repeatedly in different forms, from upstream oil and gas (O&G) development to offshore asset design, grid modernisation and carbon capture.

What emerged was not a region retreating from decarbonisation, but one becoming more hard-headed about the scale, pace and sequencing needed to keep economies powered while lowering emissions.

Moving beyond slogans, the industry is now asking how Asia can expand power systems quickly enough for data centres and industrial demand, how offshore operators can keep projects commercially viable under tighter margins and stricter scrutiny, and how producers can still bring on O&G supply fast enough to support growth in a world shaped by volatility, conflict and rising electricity consumption.

That shift in tone matters because Asia's energy challenge is larger and more complex than most other regions.

The continent still houses billions of people whose energy use is growing, while many economies remain exposed to imported fuels, uneven infrastructure and fast-rising electricity demand from urbanisation, manufacturing and digitalisation.

At the same time, the pressure to decarbonise is becoming sharper, whether through investor expectations, national climate commitments or the steady improvement in renewable energy (RE) economics.

For many speakers at the conference, this is precisely why the region can no longer afford to treat security, affordability and sustainability as separate agendas.

Instead, all three now have to move together.

## Upstream Urgency Returns as Asia Prioritises Security

One of the clearest messages from the conference was that Asia's upstream sector is under fresh pressure to move faster.

Energy security has re-emerged as a central commercial and strategic driver, pushing operators to accelerate developments, simplify execution and reassess resources that may have once looked too marginal or too complex.

That sense of urgency was especially strong during the session on energy security, fast-tracking developments and market volatility, where speakers argued that the old rhythm of long project cycles and excessive pre-development optimisation is increasingly out of step with present-day realities.

Halliburton Company senior VP for Asia Pacific Martin White stressed the need for Asia to accelerate.

"We have to accelerate if Asia is going to remain at the forefront of artificial intelligence (AI) and if we're going to continue to provide that safe, reliable, affordable, resilient energy for 5.2 billion people who are growing every day," he said during the session.

His remarks captured a broader industry mood.

The issue is no longer simply whether

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(From left) Huzaini, Gautam, Chaudhry, Shanmugam and (moderator) Raksit Pattanapitoon at the OTC Asia on Renewable and New Energy Strategic 7

O&G demand will remain relevant over the coming decades.

For much of Asia, the more immediate concern is whether supply can be brought on in time, at the right cost and with enough resilience to support economies that are still heavily dependent on dispatchable energy.

That is particularly important as geopolitical uncertainty clouds global trade flows and raises the risk of supply disruptions.

It is also becoming more pressing as the expansion of AI and digital infrastructure drives new electricity demand that cannot always be met by intermittent sources alone.

Petroleum Nasional Bhd (Petronas) upstream development VP Mohd Nazlee Rasol said the industry now needs to spend less time designing the perfect solution and more time delivering workable developments faster.

He said operators had often become too focused on solving every subsurface risk before sanctioning projects, a mindset that ended up adding complexity, contingencies and delays.

"Now we should be a lot more pragmatic. You cannot solve everything before you actually start to develop," he said.

That pragmatism is not about cutting corners.

Rather, it reflects a recognition that execution discipline, project timing and design simplicity have become just as important as technical optimisation in a volatile market.

Speakers pointed to phased developments, early production systems and simpler facility concepts as practical ways to reduce cycle times and bring supply forward without waiting for ideal conditions.

Mohd Nazlee also pointed out that timing itself has become a competitive advantage.

In a less predictable market, operators need the ability not only to accelerate projects, but also to slow them when monsoon risks, weaker demand or capital constraints make that necessary.

That flexibility, once seen as secondary, is now becoming part of how companies manage value and risk.

The session also suggested that the industry's traditional execution model is under strain.

Sequential handovers between operators, contractors and service providers were described as increasingly ill-suited to a market that demands faster turnaround and tighter cost control.

Speakers instead pushed for earlier engagement, parallel planning and longer-term partnerships across the value chain, arguing that many of the delays embedded in project delivery stem less from geology than from fragmented execution.

Beyond major new developments, the conference also highlighted near-term opportunities to unlock existing resources more efficiently.

White said Asia has about 20,000 idle wells and that bringing even a share of them back through intervention could deliver meaningful production at lower cost and with shorter lead times than greenfield projects.

That line of thinking points to a broader reset in the region's upstream priorities.

If the first phase of the transition debate focused heavily on what new energy systems would replace hydrocarbons, the mood at OTC Asia suggested a more immediate question is now taking precedence: How to extract more value, more quickly, from existing assets and discovered resources while still preparing for a lower-carbon future.

That is also reshaping how operators view reserves that once sat lower on the investment ladder.

Speakers said heightened security concerns are likely to draw renewed interest towards contaminated gas fields, sour gas and smaller stranded reserves that may previously have struggled to compete for capital.

Weatherford International plc global account VP Suresh Sinnappu said Asia could unlock more value from high-contaminated gas resources and smaller offshore accumulations as countries place greater emphasis on domestic supply resilience.

He said that shift could in turn support smaller and more modular solutions, including floating gas concepts and offshore LNG systems, especially where onshore infrastructure would be expensive or slow to build.

Floating LNG emerged as one of the strongest examples of this new pragmatism.

Both Petronas and ConocoPhillips Asia Pacific Sdn Bhd described the model as important for monetising stranded gas in parts of Asia where conventional development routes may be too cumbersome.

Mohd Nazlee said Petronas sees floating LNG as strategically significant because it can bring gas to market more quickly and then be redeployed between locations to maximise value over time.

Speakers acknowledged that capital costs remain high, but the tone of the discussion suggested floating LNG is increasingly viewed not as a niche idea, but as part of the region's broader toolkit for unlocking supply.

Malaysia was also framed as one of the markets better positioned to benefit from this shift.

Speakers pointed to the country's ecosystem of operators, regulators, service companies and host authorities as an advantage in moving projects forward, especially when compared with jurisdictions where alignment is weaker or execution pathways less clear.

ConocoPhillips Malaysia country president Connor Dunn said Malaysia offers a supportive setting for fast-tracked development, but added that speed only works when the value proposition, technical capability and stakeholder alignment are all in place.

He said ConocoPhillips is focused on growing the Kebabangan field offshore Sabah, first through easier platform drilling to support domestic gas demand and LNG offtake, before pursuing longer-term discovered resource opportunities around the area.

Together, these discussions showed that Asia's upstream story is no longer being told in purely cyclical terms. It is increasingly being shaped by strategic urgency.

For a region still expected to rely materially on O&G for years to come, the question is not whether to develop, but how to do so faster, more flexibly and with enough discipline to remain viable in a world that is becoming harder to predict.

## Offshore Assets are Being Redesigned for Lower-Carbon Future

The offshore assets session focused on a related but slightly different challenge, which is how to keep assets commercially competitive while reducing emissions and coping with tighter margins.

Here, too, the tone was practical rather than ideological.

Speakers did not suggest that the offshore sector is about to undergo a complete overnight redesign.

What they did suggest was that traditional designs and operating assumptions are becoming harder to defend as cost pressure, regulatory expectations and technology capabilities evolve.

Increasingly, offshore projects are being judged not only on how much they can produce, but on whether they can do so with lower carbon intensity, greater operational resilience and more disciplined capital spending.

That has pushed hybrid power systems, standardisation and digital integration into the spotlight.

Shell Sdn Bhd GM for projects in Malaysia Jill Cheng said operators are already moving towards hybrid systems that combine solar and wind with conventional backup power.

"Today, we have the hybrid system — mainly made up of solar and wind, and then with diesel only at standby," she said.

This reflects an important change in design philosophy.

Power generation remains one of the largest sources of offshore emissions, which means even modest improvements in how platforms are powered can have an outsized

## STRATEGIC PANEL 3 Accelerating Development for Energy Security: Fast-Tracking Field Strategies in a Volatile World



(From left) Connor, Mohd Nazlee, director of Development and Production PT Pertamina Hulu Energi Mery Luclawaty, White, Suresh and Rystard Energy senior VP, Prateek Pandey during session 'Accelerating Development for Energy Security: Fast-Tracking Field Strategies in a Volatile World' at OTC Asia 2026

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effect on both emissions and efficiency. Panelists said hybrid systems can help lower carbon output, simplify design and improve operating performance without undermining reliability, which remains non-negotiable in offshore environments.

The discussion also reinforced that the sector is being forced to think more carefully about repeatability.

In an era of narrower profit margins and greater scrutiny, standardisation is increasingly being treated as a lever for lowering costs and shortening delivery timelines.

Speakers referred to "one design, build many" approaches and reusable platform playbooks as ways to replicate successful concepts, improve supply chain efficiency and enhance project bankability.

That may sound less glamorous than breakthrough technology, but in practice it could prove just as important.

A sector that has historically prized customisation is now being nudged towards models that reward replication, earlier planning discipline and standard execution pathways.

At the same time, the conference made clear that the offshore industry remains cautious in adopting new technologies as safety, reliability and capital exposure are critical.

Still, speakers acknowledged that the same conservatism that protects offshore projects can also slow innovation, particularly when newer solutions already exist but lack enough operating history to satisfy decision-makers.

This is where collaboration across the value chain becomes important.

Several speakers argued that many of the cost savings and design improvements now being discussed can only be realised if operators, contractors, technology providers and regulators are aligned earlier in the planning process.

While late-stage coordination tends to lock in old assumptions, early-stage coordination gives projects more room to optimise for cost, emissions and operability at the same time.

The discussion also pointed to a wider shift in industry priorities.

Energy security, which has returned forcefully in upstream conversations, is now influencing how offshore assets are designed and powered as well.

Speakers said recent global disruptions have reinforced the case for more resilient and localised energy systems, even as decarbonisation remains an important objective.

ABB Malaysia Sdn Bhd head of offshore for the energy industries division Khaleef Khan noted that energy security is not a given.

That observation linked the offshore discussion back to the conference's broader theme.

Whether the subject was hydrocarbons, renewables or digitalisation, speakers kept returning to the same conclusion that resilience now matters as much as efficiency and future competitiveness will depend on how well projects combine the two.

The offshore sector, in other words, is not being pushed towards one single end-state.

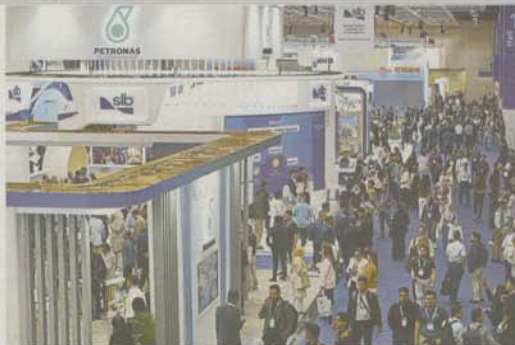
It is being pushed towards smarter design choices that can lower emissions, preserve reliability and keep assets economic in a more demanding operating environment.

### Grid Limits May Decide How Fast the Transition Can Move

If one session at OTC Asia made clear where Asia's transition bottleneck may lie, it was the panel on grid and infrastructure for renewables and new energies.

The central message was that renewable generation is becoming more viable, and in some cases cheaper, but the harder question now is whether the region's electricity systems can absorb that change fast enough.

Gentari Sdn Bhd chief strategy and port-



The offshore industry remains cautious in adopting new technologies as safety, reliability and capital exposure are critical



Pertamina at OTC Asia 2026

folio officer M Huzaini Ghazali noted that this is the same in a lot of different regions within Asia as well.

"At least from a generation perspective, renewable energies end up being extremely competitive, even the cheaper option," he said.

That statement matters because it signals how far the conversation has moved.

The debate is no longer confined to whether solar and wind can compete on cost.

Instead, attention is shifting towards transmission capacity, grid flexibility, balancing resources, digital tools and the regulatory structures needed to support high-renewable systems at scale.

That is a much more difficult problem. RE can be built relatively quickly in the right conditions but power networks, market rules and cross-border coordination often cannot.

Speakers said this is especially relevant in Asia, where the transition is being shaped not only by climate ambitions, but also by affordability concerns and energy security pressures in countries still dependent on imported fuels.

AM Green Ammonia CEO Gautam Reddy said that is why renewables are gaining traction in major markets such as India and China, where combinations of solar, wind and storage are already proving cost-competitive in some settings against conventional generation.

However he also stressed that the question is no longer whether the shift will happen, but how quickly grids, regulations and commercial structures can adapt.

For Malaysia, that challenge is becoming increasingly visible.

Tenaga Nasional Bhd (TNB) grid system operator head for Peninsular Malaysia Shanmugam Thoppalan said the transmission backbone expected to be built in the next

five years could exceed what had been developed over the last 20 years, especially on the 500 kilovolt (kV) network.

That is a striking illustration of the scale now being contemplated. It also reflects the dual pressure on the system.

On one side is renewable integration, which introduces more variability and reduces the role of conventional baseload generation at certain times of day.

On the other is fast-growing electricity demand from data centres and industrial users, particularly in Johor and the Klang Valley.

Shanmugam said the problem is not simply one of adding capacity. The more difficult issue is how to maintain reliability when conventional generation is turned down and solar output rises or falls with changing weather conditions.

That is where flexibility becomes central.

He said gas will remain an important balancing source in Malaysia's transition because solar and storage alone cannot yet fully provide the system flexibility needed to manage intermittency and sudden shocks.

That view reinforces one of the conference's broader conclusions.

Asia's transition is unlikely to follow a clean substitution model in which renewables rapidly displace hydrocarbons across the board.

A more realistic pathway, at least in the medium term, is one in which gas, grids, storage and digital control systems work together to enable greater renewable penetration without destabilising the system.

The discussion also cast regional interconnection in a new light.

Shanmugam said electricity links and gas systems should increasingly be viewed as complementary infrastructure, with the ASEAN Power Grid potentially functioning as

a "virtual pipeline" for sharing energy across borders.

That phrase neatly captured how power trade may eventually fit into ASEAN's wider energy architecture.

Rather than replacing domestic systems, interconnections could strengthen them by making neighbouring networks more responsive and mutually supportive.

Speakers said the region will eventually need to move beyond bilateral arrangements towards more complex multilateral structures, even if bilateral links remain the near-term path.

The value of interconnections, Shanmugam said, is already visible in the mutual support provided by Malaysia's existing ties with Thailand and Singapore, even before the region fully monetises broader power trade.

Still, infrastructure alone will not solve the problem.

Digitalisation was repeatedly described as essential to unlocking hidden capacity within existing systems and operating them more intelligently.

Siemens Energy Sdn Bhd senior VP of digital grid Adnan Chaudhry said utilities can no longer rely only on building more hardware when better monitoring and analytics may allow them to extract materially more performance from what is already in place.

He pointed to basic measures such as putting sensors on transmission lines and tracking conductor temperature, wind and sagging in real time.

That kind of data can allow operators to move more power through the same assets than static planning assumptions would normally permit.

Both Chaudhry and Shanmugam said future grids will need AI-driven forecasting and near real-time analytics because systems with high renewable penetration cannot be safely run through manual processes alone.

The rise of data centres makes this challenge even more urgent.

Shanmugam said Malaysia's data centre buildout is emerging not only as a source of new demand, but also as a source of operational complexity because of the rapid switching behaviour associated with backup and uninterruptible power systems.

At the same time, he said the clean electricity appetite of these facilities is helping to drive interest in much larger renewable projects, well beyond the smaller solar farm configurations seen previously.

That creates both strain and opportunity. It stretches the grid, but it also strengthens the commercial case for bigger renewable and transmission investments.

The panel also took a measured view on green hydrogen and ammonia.

Gautam said green hydrogen has become cheaper than many had expected a few years ago, but remains heavily dependent on policy support, in-mated demand or both in most markets. That caution was consistent with the rest of the discussion.

Technology may be progressing, but scaling still depends on regulation, commercial visibility and infrastructure that can support large capital commitments over long timeframes.

Huzaini said private capital will only flow into the grid and transition infrastructure at scale if regulation is predictable, economic value is visible to all participants and there is greater clarity over how costs and returns will be shared.

Taken together, the session suggested that the next phase of Asia's energy transition will be decided less by the cost curve of generation technology than by the strength of the backbone carrying it.

Without faster grid expansion, smarter operations and stronger regional coordination, renewable progress may continue, but the system around it could become the limiting factor.



Shell's power generation remains one of the largest sources of offshore emissions



Swiss-Dutch company Allseas shows its Sandpiper vessel