



20 APR, 2026

IRAN WAR A WAKE-UP CALL FOR ENERGY TRANSITION

The Edge, Malaysia



ESG

ENVIRONMENTAL . SOCIAL . GOVERNANCE

IRAN WAR A WAKE-UP CALL FOR ENERGY TRANSITION

The oil crisis, triggered by the closure of an important shipping route and damage to key infrastructure in the Middle East, has sent nations scrambling for alternative energy sources. Will this lead to a resurgence in coal-fired power plants, or will it accelerate the deployment of renewable energy and electric vehicles? **PG6**

20 APR, 2026

IRAN WAR A WAKE-UP CALL FOR ENERGY TRANSITION

The Edge, Malaysia



Page 2 of 3

E6 / ESG / THE EDGE MALAYSIA APRIL 20, 2026
COVERSTORY

IRAN WAR A WAKE-UP CALL FOR ENERGY TRANSITION

BY TAN ZHAI YUN

While most Malaysian drivers are worried that the government will reduce its petrol subsidy, having watched pump prices climb to shocking levels, Lee Yuen How is relatively at ease as he drives a Tesla Model 3. Despite charging his electric vehicle (EV) at home, his electricity bills are virtually nil, thanks to the solar panels installed on the roof of his house.

Even with the increase in electricity tariffs, announced by Tenaga Nasional Bhd on April 1, low-consumption domestic users like Lee remain unaffected. "Charging once costs me around RM25 to RM28, and I can drive over 400km, which lasts me up to four days [without any long-distance driving]," he says.

Lee believes more Malaysians may turn to EVs after this oil crisis. His view resonates with those in the industry who see the war in Iran as a wake-up call to accelerate the low-carbon energy transition — not only cutting emissions and mitigating climate change, but also securing energy supplies.

High fuel prices are expected to persist as the conflict in West Asia continues to develop. Key oil facilities and pipelines have been damaged and could take some time to repair, prolonging the supply disruptions.

"The escalating conflict in the Middle East, alongside the effective closure of the Strait of Hormuz, is forcing a broader rethink of energy security across Asia-Pacific, where most economies remain structurally dependent on imports for their energy needs. Recent global conflicts have underscored a hard truth: a fossil-fuel-dependent strategy is built on an increasingly fragile foundation," says Raksit Pattanapitoon, vice-president of renewables and power for Asia-Pacific at Rystad Energy.

Raksit believes that even if there is a ceasefire, the transition will not be halted. He draws parallels to Russia's invasion of Ukraine in 2022, which cut off the supply of natural gas to Europe.

In response, the European Union (EU) began importing fossil fuel from countries such as the US and Norway, and increased investments in renewable energy (RE) like solar and wind, which were already seeing an upward trend.

In 2025, wind and solar power together (30%) generated more electricity in the EU than fossil fuels (29%) for the first time, according to think tank Ember's *European Electricity Review*. Their combined share also surpassed hydro and nuclear power.

At the time, energy security became the centre of policy and investment decisions, says Raksit. Having a diversified energy mix was seen as a critical solution, especially if the energy could be generated domestically, like solar and wind power.

"Yet the direction of travel is not towards renewables alone, but towards balance. What is emerging is a more pragmatic energy strategy, one that pairs the continued scale-up of solar, wind and storage with a reassessment of previously sidelined options, such as nuclear power, new hydropower

Raksit, Rystad Energy

"Although existing coal assets may stay online longer, new investment in coal capacity remains unlikely, because renewables such as solar and wind, supported by energy storage, are already more competitive options for new builds."

Jigar, Maybank Investment Banking Group

"Solar energy, supported by wind energy and battery storage, coupled with hydro and nuclear power, can be building blocks for energy security in the medium to long term."

capacity, life extensions for existing coal fleets and unconventional gas," he adds.

DIVERSIFICATION IS KEY

In the pursuit of energy security, however, there could be a reversal of earlier commitments to phase out coal-fired power plants from the energy mix in the immediate term.

South Korea, Japan, Taiwan and Thailand have signalled that they will restart or ease restrictions on coal — a cheaper alternative to natural gas — in response to the oil shock from the Iran war.

But new expansion of coal-fired power plants is unlikely, in Raksit's opinion.

"Although existing coal assets may stay online longer, new investment in coal capacity remains unlikely, because renewables such as solar and wind, supported by energy storage, are already more competitive options for new builds."

In the long term, most interviewees ESG spoke to are optimistic that the energy transition will gain momentum, especially as the energy security narrative is replacing decarbonisation as the primary driver of the energy transition.

"RE should be seen from a risk management perspective. Although the capital expenditure for fossil fuel generation is lower, like for coal and gas, you are more exposed to fuel supply shocks," says Pieter E Stek, senior lecturer and faculty director of the Centre for Technology, Strategy and Sustainability at the Asia School of Business.

"RE has a higher upfront cost but you are insulated from fuel price fluctuations. The sun will shine, the wind will blow, the rivers will still flow, regardless of foreign conflicts." In the meantime, the oil crisis has made the already declining costs of RE production even more competitive.

"Any sustained disruption to oil and gas production or to critical shipping routes such as the Strait of Hormuz will lead to serious energy concerns. Solar energy, supported by wind energy and battery storage, coupled with hydro and nuclear power, can be building blocks for energy security in the medium to long term," says Jigar Shah, head of sustainability research at Maybank Investment Banking Group.

"Hence, we believe energy decarbonisation will gain momentum in the coming months and years. RE is now less than 10% of energy supply in Asia, with the exception of China. The current energy price volatility and supply concerns are likely to accelerate

the shift towards low-carbon transport, such as hybrid and electric vehicles."

Like Raksit, Jigar foresees governments exploring a broad range of alternatives to fossil fuels to gain energy security.

More electrification, powered by RE, is likely to occur in the construction, transport and manufacturing industries. Meanwhile, hard-to-abate sectors like steel and shipping could explore green hydrogen, green methanol, bioenergy and nuclear power.

"The countries will look at how to use the various green energy production methods to support round-the-clock energy requirements at the lowest possible cost, thereby driving energy security and economic development," says Jigar.

Other RE options include small modular nuclear reactors and bioenergy, although the latter may be constrained by feedstock shortages and high fertiliser costs — another consequence of the oil crisis, according to BMI's Energy Transition and Power & Renewables team.

SHOULD MALAYSIA ACCELERATE ITS ENERGY TRANSITION?

Malaysians have so far been largely shielded from the impact of rising oil prices due to the government's subsidy. However, with the war still progressing, it is becoming a growing burden for the country and will impact the economy and the nation. As at March, the fuel subsidy bill had ballooned more than four times to RM3.2 billion from RM700 million.

Malaysia currently imports the majority of its transport fuels, including petrol, diesel and jet fuel, according to Rystad Energy. For electricity generation, close to half is powered by coal, followed closely by natural gas. The country imports all of its coal and around 20% of natural gas, according to the Energy Commission.

Malaysia is also an exporter of oil and gas. However, it exports less crude oil than it imports. The crude oil produced in the country is of premium quality and is exported at higher prices.

This means Malaysia is still vulnerable to oil shocks triggered by geopolitical conflicts, with the impact especially hard on the transport sector.

"For Malaysia, the dual identity as both an importer and exporter of oil and gas creates a unique fiscal 'tug of war' that the

Stek, Asia School of Business

"RE should be seen from a risk management perspective. Although the capital expenditure for fossil fuel generation is lower, like for coal and gas, you are more exposed to fuel supply shocks."

2026 Iran conflict has significantly intensified ... While Malaysia remains a world-class exporter of liquefied natural gas (LNG), it has transitioned into a net importer of crude oil and refined petroleum products to meet its domestic transport and industrial needs," says Mohd Redza Rahman, director of research at BIMB Securities.

"Consequently, while surges in Brent crude towards the US\$130 per barrel mark provide a windfall in petroleum income tax and Petrolium Nasional Bhd (PETRONAS) dividends, these gains are increasingly offset by a rising import bill and the massive fiscal burden of domestic fuel subsidies."

Hastening the pace of the energy transition is therefore necessary in Malaysia, especially as the levelised cost of electricity for solar power in Malaysia is now stable and lower than that for fossil fuel generation, based on current oil prices, he adds.

Nevertheless, Malaysia remains vulnerable to such crises in the long term due to its continued reliance on fossil fuels.

According to the NETR, the total primary energy supply (TPES) by 2050 is expected to be 56% natural gas and 21% crude oil, petroleum products and others, followed by 17% RE, which includes bioenergy, solar, hydro-power and hydrogen. TPES represents the total energy demand of a country across all sectors.

The NETR acknowledges the need to focus on ensuring energy security because of the anticipated reliance on natural gas and crude oil by 2050, and cited the scaling up of RE capacity and exploration of non-carbon energy sources as solutions.

"Although Malaysia is currently a net exporter of natural gas, it is projected to become a net importer before 2050. This means Malaysia will face the same supply risks that other Asian countries are facing today," says Stek.

ROOM FOR MORE RE AND EVS

There is potential for Malaysia to increase its RE penetration, although challenges such as the intermittent nature of solar power generation have to be addressed.

Under the NETR, the projected installed capacity of solar is 58% by 2050, but its contribution to the generation mix is significantly lower than that of fossil fuel owing to its low-capacity factor. Solar energy is limited by weather and lack of sunlight on cloudy days and at night.

Again, the NETR notes Malaysia's vast solar potential of 269GW in total. With just over 9GW installed in 2023, more than 95% remains untapped.

This highlights the need for more battery storage, pricing mechanisms and upgrades to the grid to accommodate higher RE penetration. Malaysia is also exploring nuclear energy to provide a steady baseload power. Of course, all these reforms require investment.

"The government recently launched the Malaysia Battery Energy Storage Technology programme, aiming for 400MW/1,600MWh of utility-scale battery storage by 2026. But the upfront costs of these batteries remain



20 APR, 2026

IRAN WAR A WAKE-UP CALL FOR ENERGY TRANSITION

The Edge, Malaysia



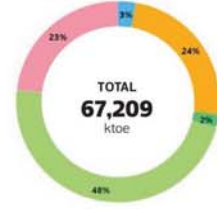
MALAYSIA'S ENERGY MIX AND USE IN 2023 (latest available official data)

Total primary energy supply in kilotonne of oil equivalent (ktoe) (%)



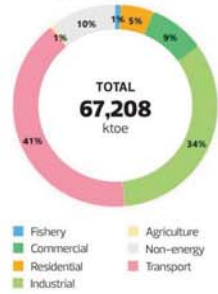
According to the latest available data by the Energy Commission (2023), Malaysia's total primary energy supply mostly comprises natural gas (41%) and crude oil, petroleum products and others (31%)

Final energy consumption by fuel in ktoe (%)

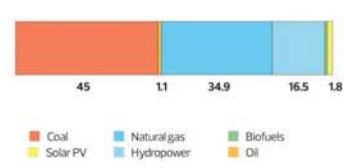


From the available energy supply, most are petroleum products (48%) for transport, followed by natural gas (24%) for industrial manufacturing, and electricity (23%)

Final energy consumption by sector in ktoe (%)



Electricity generation, Malaysia, 2023 (%)



Most of the electricity in 2023 was generated from coal (45%) followed by natural gas (34.9%)



"While Malaysia remains a world-class exporter of liquefied natural gas (LNG), it has transitioned into a net importer of crude oil and refined petroleum products to meet its domestic transport and industrial needs."

Mohd Redza, RIMB Securities

high, often adding 20% to 30% to the total cost of the solar project," says Mohd Redza.

"Malaysia should treat natural gas as a sophisticated 'bridge' rather than a destination, while simultaneously scaling up battery energy storage systems and exploring green hydrogen and nuclear to eventually take over the baseload role."

In the transport sector, EVs are viewed as a key lever in the energy transition, helping to cut Malaysia's reliance on imported fuels. Newly registered EVs surged 104.1% in 2025 from 2024, according to Road Transport Department (JPJ) data.

However, in the short term, the war may not result in a massive shift to EVs as the manufacturing capacity and charging infrastructure are not yet available, observes Vicky Janita, senior analyst for global energy systems at Rystad Energy.

But things could change in the longer term. "Historically, oil shocks have a track record of permanently reshaping how consumers think about energy. After the 1970s embargo, Americans switched to fuel-efficient Japanese cars and Detroit never recovered its dominant market share," says Vicky.

From the decarbonisation perspective, however, the answer is not as simple.

In places like Peninsular Malaysia where the grid is mostly powered by fossil fuel, the lifecycle emissions — including production emissions — of EVs is slightly higher than those of internal combustion engine (ICE) vehicles, according to an analysis by Rimbawatch in January, which recommended better public transport systems instead. EVs, however, win on efficiency — consuming at least three times less energy than ICE vehicles.

As grids are decarbonised, the benefits of using EVs will likely improve and make it a more attractive alternative from both the economical and sustainability perspectives.

COULD SKY HIGH JET FUEL PRICES DRIVE MORE DEMAND FOR SUSTAINABLE AVIATION FUEL?

Following the outbreak of the Iran war, jet kerosene prices rose more than 140% to above US\$200 (RM795) per barrel by early April, resulting in airlines cancelling flights to conserve fuel.

The alternative to jet fuel for the aviation sector is sustainable aviation fuel (SAF), mostly made from used cooking oil (UCO), animal fats and agricultural waste. The narrative is similar: SAF is a strategy to diversify fuel sources and achieve more energy security.

However, this transition has been slow, despite mandates in markets like the EU and the UK, to blend SAF with conventional jet fuel. In 2025, SAF only represented 0.6% of total jet fuel consumption and production growth fell short of expectations, according to the International Air Transport Association (IATA).

The cost of SAF is also higher. It is at least two to five times more costly than fossil-based jet fuel, according to IATA, with the higher range occurring in markets with SAF blend mandates. Even with the elevated jet fuel prices, SAF is still comparatively pricey, according to data by S&P Global.

But cost should not be the only consideration, says Philip See, group chief sustainability officer at Malaysia Aviation Group (MAG), which trialled use of the first locally blended SAF sent via pipeline by Petrolim Nasional Bhd (PETRONAS) in 2025.

A key point that See and others bring up is that SAF can be produced from a diverse source of feedstocks produced across different geographies. "As SAF scales, this begins to decouple part of aviation's energy supply from crude oil extraction and refinery constraints, which are highly sensitive to geopolitical dynamics," he says.

"For MAG, SAF adoption is therefore not about replacing jet fuel overnight, but about progressively diversifying energy pathways. Through partnerships with key industries, MAG is supporting the development of a more localised and resilient SAF supply chain."

The Malaysian government is said to be preparing a 1% SAF blend mandate for all international flights from the Kuala Lumpur International Airport by January 2027. The

country is also positioning itself as a hub for SAF production in the region.

EcoCeres, which opened its manufacturing facility in Johor last October, is one of the major players. The company produces SAF from waste-based feedstock, such as UCO, palm oil mill effluent and some other waste oils and residues.

"Even with the recent oil price increases, SAF still carries a substantial premium, and airlines are not adopting it to save on fuel costs. Rather, SAF is being used to meet airlines' decarbonisation commitments, complying with emerging SAF mandates, and manage long-term transition and reputational risks," says Dennis Poon, executive vice-president of operations and feedstock at EcoCeres.

The main bottleneck now is limited production capacity. The key focus should be to scale up SAF production and improve cost efficiency, he adds.

However, the cost will be influenced by how efficiently the feedstock can be collected, aggregated and certified, "as well as the pace at which new production pathways, such as alcohol-to-jet (ATJ) and synthetic e-SAF are commercialised", says Poon.

ATJ converts biomass waste into ethanol or another alcohol, which is then turned into SAF. e-SAF is made from captured carbon dioxide and hydrogen, produced by splitting the water molecule using renewable energy. It is potentially 12 times more expensive



"The more diversified the feedstock basket, the more stable the SAF industry becomes. Relying too heavily on any single feedstock creates bottlenecks."

Vinesh, FatHopes Energy

than conventional jet fuel, according to IATA. Most of the facilities are in Europe and there are no commercial-scale facilities yet, as at February.

"Over time, the evolution from today's waste oils and fats to a broader portfolio of advanced feedstock is expected to further enhance supply security and help stabilise costs," says Poon.

This is one of the critical levers to increasing the supply of SAF. Most SAF is now produced via the Hydroprocessed Esters and Fatty Acids (HEFA) pathway, using feedstocks such as UCO and animal fats. The challenge with these feedstocks is the limited supply and that they require strong traceability efforts, says Vinesh Sinha, founder and CEO of FatHopes Energy, a Malaysian company that has been collecting UCO to produce SAF.

POME and other agricultural waste can also be used, but the commercial contribution depends on conversion technology, collection system and certification framework.

"The more diversified the feedstock basket, the more stable the SAF industry becomes. Relying too heavily on any single feedstock creates bottlenecks. Building a broader portfolio improves resilience, scalability and affordability over time," says Vinesh.

"My broader point would be this: when fossil fuel prices rise, the world is reminded that dependence has a cost. SAF should not be viewed only as a climate solution. It is also an industrial strategy, an energy security strategy and, if scaled correctly, a competitiveness strategy for aviation nations."



"As SAF scales, this begins to decouple part of aviation's energy supply from crude oil extraction and refinery constraints, which are highly sensitive to geopolitical dynamics."

See, MAG