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Powering East Malaysia's Energy Transition: Opportunities for OGSE Companies

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INTRODUCTION

East Malaysia is emerging as an important growth area for Malaysia's clean-energy build-out, with Sarawak and Sabah pursuing ambitious but distinct pathways shaped by their resources, energy needs and development priorities. Together the two states offer a widening range of opportunities across renewable generation, grid and interconnection infrastructure, and emerging segments such as energy storage, hydrogen and ocean energy, where OGSE companies can not only to transfer their existing oil and gas capabilities into the clean-energy sector but also to expand and build new capabilities within it.

Sarawak is positioning itself to become the “Battery of ASEAN”, building on its substantial hydropower resources while expanding into solar and hydrogen. These efforts support the state’s target of reaching 10 GW of generation capacity by 2030 and 15 GW by 2035, while maintaining at least 60% of its generation mix from renewable sources.[1] While hydropower remains the backbone of Sarawak’s renewable generation, with large hydropower capacity expected to reach 4,843 MW following the completion of the 1,285 MW Baleh Hydroelectric Project, solar is also becoming an increasingly important component of the mix, with the state targeting 1,500 MW of solar generation capacity[2] by 2030 and 3,500MW by 2035, through floating solar and rooftop solar[3] under the Net Energy Metering (NEM) programme regulated by administrated by Sarawak Energy and regulated by the Electrical Inspectorate Unit (EIU) under the Ministry of Utility and Telecommunication (MUT) Sarawak. Beyond domestic generation, Sarawak is also positioning its renewable resources for regional export, both as clean electricity to neighbours such as Singapore and as green hydrogen and its derivatives, laying the foundation for a wider regional clean-energy and export economy.

Sabah, on the other hand, is entering a significant clean-energy build-out as it seeks to diversify its historically gas-dependent power system and strengthen energy security. Under the Sabah Energy Roadmap and Master Plan 2040 (SE-RAMP 2040), the state is pursuing a broader mix of solar, bioenergy and battery storage, supported by grid reinforcement and interconnection.[4] Sabah’s current ambitions include reaching around 1,200 MW of renewable energy capacity by 2030, including 450 MW of large-scale solar, 200 MW of BESS and 100 MW of wind.[5] Significant potential also remains in bioenergy, estimated at 749 MW, while emerging technologies such as Ocean Thermal Energy Conversion (OTEC) are beginning to attract attention. For OGSE companies, this evolving energy landscape presents an opportunity to transfer established capabilities in engineering, marine works, construction, logistics, electrical systems and asset maintenance into the infrastructure supporting Sabah’s energy transition.

READING THE PROJECT PIPELINE

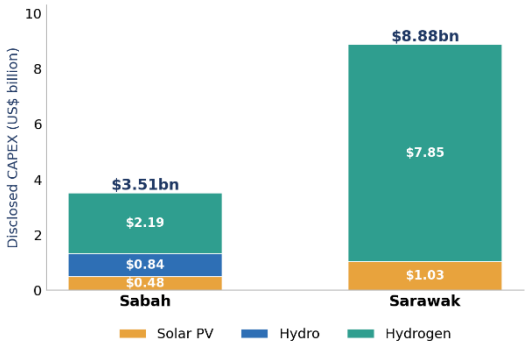
The scale of the opportunity becomes clearer when the pipeline is examined. Analysis of GlobalData's project databases shows approximately US$12.5 billion in disclosed CAPEX across Sabah and Sarawak for projects still in development, spanning large scale solar, hydropower and hydrogen. This figure captures only projects with published investment values rather than the total addressable market, since many announced projects have yet to attach public capex figures. Sarawak accounts for around US$8.9 billion of this project pipeline and Sabah around US$3.5 billion.

In Sarawak, hydrogen makes up roughly 88% of the disclosed value, reflecting the scale of its proposed developments, but these opportunities warrant caution, as several flagship projects have been scaled back amid challenges around project economics, offtake and transport costs. Much of this investment therefore represents potential rather than committed capital. Sabah's project pipeline is more balanced, spread across a large hydrogen proposal, the Upper Padas hydro development and a set of smaller solar projects, with battery storage emerging as a further element.

Project maturity matters as much as headline value. Of that US$12.5 billion project pipeline, only around US$1.5 billion sits at the permitting or construction stage today, with the remaining US$11 billion still merely announced or planned. In Sabah, roughly US$849 million is tied to projects under construction, almost entirely the Upper Padas hydro development, offering near-term work in construction, installation, commissioning and logistics, while a further US$2.6 billion of announced projects rewards early engagement with developers ahead of procurement.

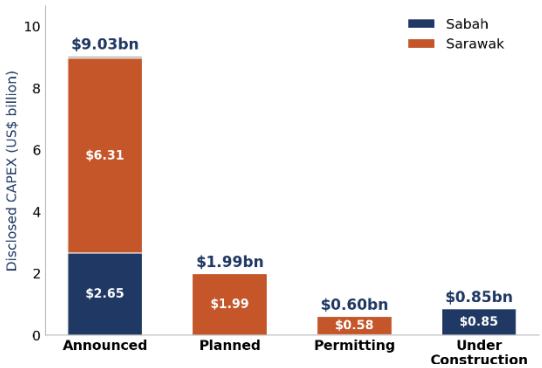
Sarawak's forward pipeline is larger but far earlier in maturity, with some US$8.3 billion still at the announced or planned stage and heavily concentrated in hydrogen. Globally, utility-scale solar typically moves from announcement to operation within roughly two to three years, whereas large hydropower and hydrogen developments commonly take five years or more to progress from announcement through final investment decision and into construction. For Sarawak's hydrogen-heavy pipeline this longer lead time offers more runway to build partnerships and certifications, this gives a longer runway to build partnerships and certifications, but calls for selectivity linked to projects showing clear progress toward offtake, financing and final investment decision.

Figure 1: Project Pipeline by Project Type



Source: GlobalData; MPRC analysis. Large Scale Solar PV, hydropower and hydrogen only. Figures represent disclosed CAPEX and not total addressable market. Dormant projects have also been removed.

Figure 2: Project Pipeline by Development Stage



Source: GlobalData; MPRC analysis. Large Scale Solar PV, hydropower and hydrogen only. Figures represent disclosed CAPEX and not total addressable market. Dormant projects have also been removed.

GRID INTERCONNECTION: THE EMERGING BACKBONE

One of the most OGSE-relevant dimensions of the build-out is the expansion of grid interconnection, both within Borneo and across borders. As both states scale up variable renewable capacity, the ability to move power between systems, balance intermittency and monetise surplus depends on a growing network of high-voltage lines, substations and submarine cables. This is infrastructure-intensive work that draws directly on the engineering, marine installation, offshore and heavy-construction capabilities the sector already holds.

The most immediate milestone is the Sarawak-Sabah Power Grid Interconnection, energised in December 2025 and officially inaugurated in January 2026.[6,8] It connects the two state grids via the 275 kV Lawas-Mengalong transmission line and forms part of a wider 326 km grid expansion comprising 881 towers and the new Lawas 275 kV substation.[7] Initial transfer capacity is around 50 MW, with scope to increase as system readiness improves, and the completion of the Bunut-Medamit-Limbang lines in mid-2026 fully integrating northern Sarawak into the state grid.[7,8] Projects of this type generate demand across substation construction, tower fabrication and erection, cabling, testing and commissioning, and the logistics and civil works needed to build in remote terrain.

The most substantial opportunities for OGSE players though, lie in proposed submarine interconnections. Sarawak has committed to supplying up to 1 GW of renewable power to Singapore through an HVDC submarine cable of roughly 700 km,[10] with conditional approval granted by Singapore's Energy Market Authority in October 2025 and construction targeted to begin in 2026, subject to global cable availability,[11] and commercial operation targeted around 2031, though the consortium's latest statement points to about 2035.[10,12]

A separate interconnection of at least 1 GW from Sarawak to Peninsular Malaysia is under early study by Sarawak Energy and Tenaga Nasional.[13] These projects involve subsea cable-laying, route survey, seabed preparation, cable protection and converter station construction, all of which overlap strongly with the marine survey, offshore installation and subsea capabilities Malaysian OGSE companies have built in oil and gas, making submarine interconnection one of the clearest and highest-value transferability opportunities in the transition.

BATTERY STORAGE: FIRMING THE RENEWABLE BUILD-OUT

As solar expands, battery energy storage is becoming an essential complement rather than an optional add-on, providing the firming, frequency support and load-shifting needed to integrate intermittent generation into grids.

Sabah has made storage an explicit pillar of its transition, targeting around 200 MW of BESS by 2030 under SE-RAMP 2040. The flagship project is the 100 MW/400 MWh Lahad Datu BESS, valued at RM644.6 million, which will help stabilise the East Coast grid that has long depended on diesel and gas.[14] The 2026 Energy Commission Sabah (ECoS) large-scale solar and BESS tender signals that storage will increasingly be procured alongside new solar, creating integrated solar-plus-storage opportunities rather than standalone plants.[15]

For OGSE companies, storage projects generate demand across civil and structural works, power electronics and electrical balance-of-plant, containerised system installation, and grid connection. Because these assets require rigorous safety management, thermal control and lifecycle monitoring, they also let companies with inspection, integrity and asset-management backgrounds extend those disciplines into a new class of infrastructure.

EMERGING OPPORTUNITIES: WIND AND OCEAN ENERGY

Beyond solar and storage, Sabah is exploring emerging technologies such as wind and marine technologies that, while earlier in maturity, align closely with the skillsets of the local OGSE sector. On wind, the state is targeting around 100 MW of capacity by 2030, with Kudat identified as the pioneering site. A comprehensive feasibility study has been conducted to assess wind resource availability, site suitability, technical design parameters and overall project viability. The findings support the potential for large-scale wind power generation at the identified location, particularly with the application of modern wind turbine technologies designed to perform efficiently under low wind speed conditions. Sabah Energy Corporation is advancing the Kudat development and has secured an Initial Letter of Notification from the Energy Commission of Sabah, an early regulatory milestone that positions wind as a genuine, albeit, addition to the mix.[16] Wind brings requirements in foundations, towers, electrical works, marine logistics and installation (for offshore wind), drawing on capabilities OGSE marine and offshore players already hold.

More distinctive is Sabah's move into ocean thermal energy conversion, which harnesses the temperature difference between warm surface water and cold deep-sea water to generate baseload power. The state's deep coastal waters, particularly around the Sabah Trough and its deep-sea islands, give it one of the region's more promising OTEC resources, studied by the UTM Ocean Thermal Energy Centre for over a decade.[17] Sabah has put a regulatory framework in place through the OTEC Enactment 2024 and amendments empowering the Energy Commission of Sabah to regulate ocean thermal projects, with development expected to be privately funded by technology developers.[18] OTEC remains largely pre-commercial and is a longer-horizon prospect, yet its core engineering challenges, including cold-water risers, deep-water moorings, floating platforms and subsea systems, sit squarely within the deep-water offshore expertise Malaysian OGSE companies have built in oil and gas, making it a prospect worth monitoring closely.

LOCAL PRESENCE IS BECOMING PART OF MARKET ACCESS

For companies eyeing East Malaysia, technical capability alone will not be sufficient, as local presence and partnerships increasingly shape how projects are accessed. Sabah is explicit about this, setting a 60% contract-ownership target for local OGSE vendors, with active contracts secured by Sabah-based vendors rising from 133 in 2021 to 499 in 2026, and an ambition for local companies to move beyond low-margin subcontracting to become main contractors, licence holders and technology adopters.[19] The 2026 ECoS LSS and BESS tender reinforces this, requiring participating Sabah state entities to maintain at least 30% Sabah equity when partnering.[15]

Sarawak takes a related approach through vendor development and procurement channels: Sarawak Energy reported local vendor participation rising more than 70% in 2024, with most contracts going to Sarawak-based businesses, supported by its Vendor Development Programme and financing arrangements with PUNB and UOB,[20] while its SEPRO platform is the primary channel for vendor registration and procurement access.[21] For an OGSE firm based outside the two states, entering through a local partner is pivotal to pursue projects independently, while local firms can use their knowledge and relationships as a competitive advantage alongside larger technology owners and EPCs.

MATCHING CAPABILITIES TO THE VALUE CHAIN

The task is to match specific transferable capabilities to real procurement structures. Companies with marine and offshore capabilities can look toward floating solar, subsea and interconnection infrastructure, and marine logistics and installation. Those with engineering, fabrication and construction strengths can target renewable balance-of-plant, substations, transmission infrastructure, hydro construction and hydrogen-enabling infrastructure. Companies with inspection, integrity and asset-management expertise can position for operations, maintenance, inspection and lifecycle services across increasingly complex renewable assets, and those with project-management and advisory capabilities can support developers through feasibility, permitting, environmental assessment, procurement and execution.

Capturing this opportunity will require OGSE companies to move beyond identifying opportunities and start building the capabilities and partnerships needed to participate. Companies should assess where their oil and gas capabilities transfer, identify gaps in technology, certification and market access, and engage early with developers, EPC contractors and technology providers to position themselves in upcoming supply chains. This is where MPRC's Growth Beyond OGSE (GBO) Programme can support the pivot. The GBO Grant is designed to help Malaysian OGSE companies build the capabilities needed to enter new growth sectors, including through tender-enabling advisory, technology or IP acquisition, modelling tools and market intelligence. By using the programme to address specific capability and market-entry gaps, companies can move from exploring clean-energy opportunities to building a credible pathway to securing work.

If you'd like to explore how the GBO Programme and grant could support your move into these sectors or simply talk through any of the opportunities discussed here, we'd be glad to hear from you at gbo@mprc.gov.my .

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