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APAC Energy Transition

Implications: When data center backlash meets US grid queue reform

Social tensions over data center development (Hannah Lee's [report](#)) likely led to the FERC (US regulator)'s recent proposed reform on grid queueing to emphasize protection against ratepayer cost shifts. Alongside our US team's (Mark Strouse's [report](#)) callout on BTM (behind the meter) technology and transmission from the FERC reform, we highlight the importance of BTM's role in obtaining social acceptance. Within the APAC Energy Transition value chain, 1) APAC ESS; 2) APAC Electrical and Power Gen Eqp; and 3) APAC Nuclear SMR themes are related. Within these themes, we highlight the following OW stocks in APAC: **Doosan Enerbility**, **Weichai A/H**, **Yingliu**, **Hyosung Heavy**, **Sungrow**, **CATL-A** and **LGES**.

From social pushback to regulation change, FERC has moved to conduct reform aimed at easing grid queueing for large loads by announcing its Large Load Integration Order. In addition to grid queueing, it also emphasizes preventing cost shifts to ratepayers, so household power users are not effectively cross subsidizing power infrastructure investments driven by data center growth. This follows a prolonged public debate and rising social concerns about the pace and scale of data center buildout and its broader impacts on local communities and electricity bills.

The FERC reform calls for BTM and transmission. The reform outlines five key areas, with the above-mentioned cost transparency as one. Within the others, our US analyst highlights behind the meter generation technologies, along with transmission hardware and grid stabilization providers as beneficiaries. While energy storage systems may not be an obvious behind the meter winner, takeaways from our recent expert call ([link](#)) suggest that ESS is critical for more sophisticated behind the meter microgrid applications.

Concerns about utility prices may cement an even stronger case for BTM. BTM generation, if adopted as a bring your own generation approach, can reduce the burden on the public grid. This may help gain social buy-in, in our view. This adds a further layer to the existing speed to power rationale driving data centers toward BTM solutions. With regulatory developments still ongoing, this could be a long tailwind for BTM adoption and a broader paradigm shift. For reference, a bipartisan bill aims to protect ratepayers from cross subsidizing data center driven supply tightness ([link](#)).

How does this translate to the APAC value chain? Within the APAC Energy Transition value chain, 1) APAC ESS; 2) APAC Electrical & Power Gen Eqp and; 3) APAC Nuclear SMR themes are related. SMR nuclear is a mid-term story, but has the optionality on BTM deployment due to its flexibility. Within these themes, we highlight the following OW stocks: **Doosan Enerbility** (covered by Sonny Lee), **Weichai A/H** (covered by Karen Li), **Yingliu** (covered by Jenny Qiu), **Hyosung Heavy** (covered by Stephen Tsui), **Sungrow** (covered by Alan Hon), **CATL-A** (covered by Rebecca Wen) and **LGES** (covered by Parsley Ong). **Social considerations:** Our report includes analysis of the social pillar and the positive social impact of ESS, SOFC fuel cells, and SMRs, which may help build social buy-in.



APAC Utilities & Renewables | Sustainable Investing

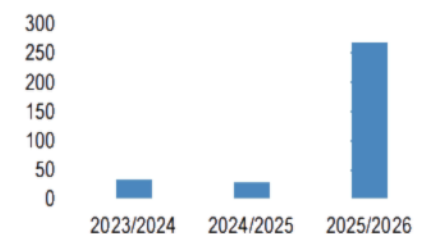
Alan Hon ^{AC}
(852) 2800-8573
alan.hon@jpmorgan.com

Daqi Jiao
(852) 2800-8595
daqi.jiao@jpmorgan.com

APAC Thematic and Sustainable Investing

Hannah L Lee ^{AC}
(852) 2800-8886
hannah.l.lee@jpmorgan.com
J.P. Morgan Securities (Asia Pacific) Limited/ J.P. Morgan Broking (Hong Kong) Limited

Table 1: PJM Capacity Auction Prices Approaching Regulatory Ceiling (RTO Region, USD/MW-day)



Source: PJM.

Key APAC Energy Transition reports

[Stress and Response: The Unfinished Business of Energy Security](#)
[Tightness and Tribulations: Ten Fresh Takes on Clean Energy Supply](#)
[APAC 2026 Nuclear Outlook: the Race to Power the Future](#)

FERC Large Load Integration also emphasizes preventing cost shifts to ratepayers

On Jun 18, the US regulator FERC issued Large Load Integration Order to all six regional grid operators, in response to DOE (Department of Energy)'s Advance Notice of Proposed Rulemaking (ANOPR). In addition to the goal of expediting the interconnection of massive electricity loads (>20MW) such as AI data centers, the order also carries clauses to justify existing tariffs or file reforms governing large load interconnection for data centers. The order identified five areas of reform:

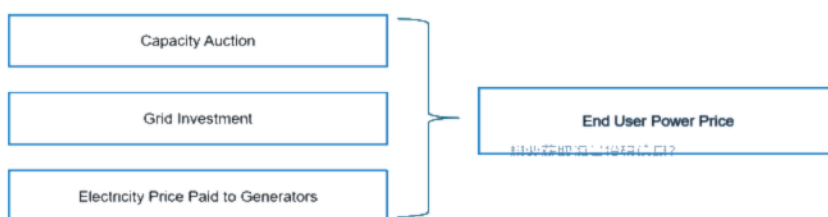
- (1) Transmission service application and study processes;
- (2) cost transparency and ratepayer cost-shift prevention,
- (3) co-location and BTM generation accommodation,
- (4) new transmission services for flexible large loads, and
- (5) study processes for generation serving electrically proximate loads. Grid operators have 60 days to respond with tariff justifications or revisions.

In addition to the reforms focused to enhance speed to power, the order also called for cost transparency and ratepayer cost-shift prevention. Indeed, there has been ongoing social concerns and debate on this subject. Please see Hannah Lee's report ([link](#)) for a detailed discussion.

Concerns on utility prices may make an even stronger case for BTM

Our US analyst Mark Strouse ([link](#)) highlighted BTM generation technologies and transmission hardware/grid stabilization providers as likely to benefit from the FERC's orders. We would also highlight that in addition to speed-to-market, BTM (in the form of data centers providing their own on-site generation) may mitigate some of the public concerns and backlash, in our view. Such an approach can remove the burden on the public grid to some extent. Note that there is currently a bipartisan Bill being discussed to protect Americans from paying for Data Center Development ([link](#)). This may become a longer-term tailwind to support the BTM solution.

Figure 1: Traditional utility business models are coming under question due to large loads



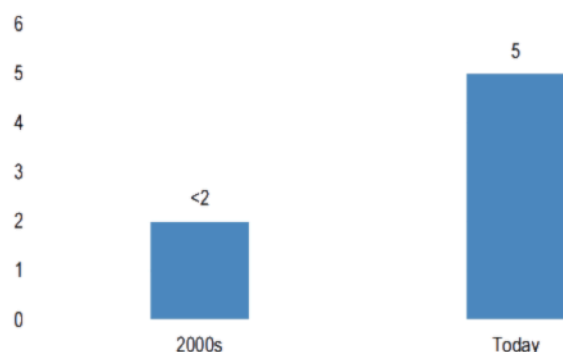
Source: J.P. Morgan.

Implications for the APAC Energy Transition Value Chain

Across APAC Energy Transition, **APAC ESS** and **APAC Electrical equipment** are related to BTM and transmissions. The **APAC Nuclear** theme, though long-term, has the flexibility for BTM application, grid. Within these themes, we highlight the following OW stocks: **Doosan** (covered by Sonny Lee), **Weichai A/H** (covered by Karen Li), **Ying** (covered by Jenny Qiu), **Hyosung Heavy** (covered by Stephen Tsui), **Sungrow** (covered by Alan Hon), **CATL-A** (covered by Rebecca Wen) and **LGES** (covered by



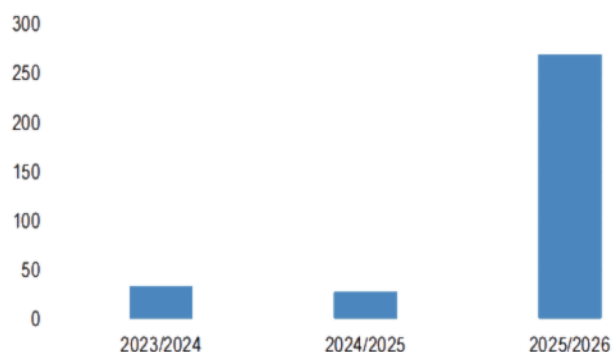
Figure 2: Interconnection queue in the US has risen significantly (years)



Source: J.P. Morgan Research <https://www.jpmm.com/research/content/GPS-5338687-0>

Figure 3: PJM Capacity Auction Clearing Prices reached regulatory ceiling

For RTO region, USD/MW-day



Source: PJM

Speed to market is another key rationale for behind the meter power solutions, particularly for data centers where delivery timelines are critical. In multiple U.S. grid regions, behind the meter setups can be brought online faster than relying solely on front of meter alternatives, giving operators greater certainty on commissioning schedules. In some cases, the faster ramp can also improve project economics, translating into a better NPV through the time value of money.

Table 2: Lead time for selected generation equipment

Technology	Lead Time (months)	Size per Unit (MW)
H-Class CCGT (Combined-cycle gas turbine)	36-60	600-1000
Aeroderivative gas turbine	18-36	30-60
Industrial gas turbine	12-36	5-50
Small CCGT	18-36	40-100
Medium speed combustion engine	15-24	7-20
High-speed combustion engine	15-24	3-5
Fuel cells	3-4	0.325

Source: SemiAnalysis and J.P. Morgan estimates. Note: initially published by Tarek Hamid (AI CAPEX 2.0, [link](#))

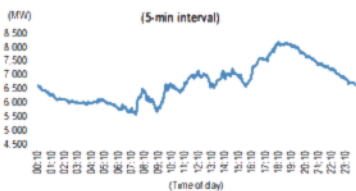
ESS: Clean, Quiet Alternative That Helps Support Stable Power Prices

Social consideration:

Power markets globally often experience significant intraday load volatility. In the U.S. New England region and Australia's New South Wales region, for example, daily peak versus trough demand can differ by roughly 50%. In developed markets, where a portion of electricity is traded on the spot market, this volatility can translate into periods of supply tightness and higher spot power prices at peak hours. Energy storage systems help as a time shifting mechanism, charging during trough periods and discharging during peak periods, which can ease tightness and, in some cases, temper spot power price increases during peaks.

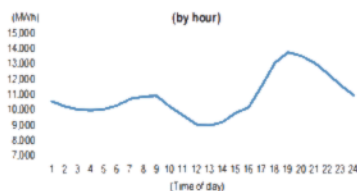
While the majority of ESS use case is on microgrid interaction, ESS has a better social profile in the traditional back-up use cases in comparison with diesel generators. ESS is carbon free and has better noise emission. There have been cases of communities raising concerns about noise pollution surrounding data centers ([link](#)).

Figure 4: NSW power load on a typical day



Source: AEMO.

Figure 5: Power load by hour in New England on a typical day



Source: ISO New England.

Figure 6: Power load fluctuations in New England and NSW

Unit: MW	ISO New England Power Load	NSW Power Load
Max	13,746	8,177
Min	8,972	5,575
Fluctuation (as a % of min)	53.2%	46.7%

Source: ISO New England, AEMO.

Sometimes overlooked, ESS is becoming the standard as part of the DC BTM power solution: We hosted a call with a US expert with experience in data center power solutions. He sees ESS becoming the standard for on-site generation from a micro-grid perspective. ESS is complementary to other alternative power sources, such as gas turbines and Solid Oxide Fuel Cell (SOFC) fuel cells, instead of being competitive with them. By integrating BESS with these technologies, especially in micro-grid setups, operators can coordinate power generation to run fossil fuel generators at optimal levels, improving efficiency and resilience. This also allows fully exploiting roof-top solar resources. The expert highlighted that he has seen a use case of 6-8 hours for a sophisticated micro-grid with both onsite gas turbine/ SOFC and renewables.

Such commentary well coincides with Tarek Hamid (N. America Corporate Credit - Energy)'s findings ([report](#)) that data center build-out seems to be finding whatever solution they can. Data center power solutions being deployed are using a mix of different solutions (e.g. gas turbine, reciprocate engine of different brand and size) all in the same site.

SOFC Fuel Cell: Low Emissions and Fuel Flexible Power that Can Ease Permitting

Social considerations: Solid oxide fuel cell systems stand out from other alternative power solutions due to their feedstock flexibility. Once green hydrogen becomes commercially available at scale, SOFC can run on it as a carbon-free power source. SOFC also generate electricity through an electrochemical process rather than combustion, which means that even when using fossil fuels such as natural gas, emissions are typically lower and NOx and SOx emissions are near zero. These environmental attributes can support a smoother permitting pathway and, in turn, enable faster time to power.

Case study on how AIDC lifts adoption for SOFC fuel cell

We placed hydrogen fuel cells on our transition technology radar in our inaugural AP Energy Transition report in August 2025. The pace of adoption has exceeded our expectations. The ongoing pursuit of behind-the-meter (BTM) power solutions has positioned SOFC fuel cells as a prominent use case for supplying direct current (DC) electricity, highlighting their growing significance in decentralized energy applications. For reference, global fuel cell demand for vehicle use was ~1GW in 2024. Weichai (one of the companies producing fuel cells for DC) alone is targeting a 1GW capacity by 2030. There is also a pronounced impact on technology. PEM fuel cell is preferred for vehicle application but now, SOFC is preferred for DC application.

A revival in the adoption cycle

Prior to the emergence of DC's use case, global fuel cell electric vehicle (FCEV) sales trends were mixed, largely due to hydrogen's ongoing struggle to achieve economic viability. According to the IEA World Energy Outlook 2025, the installed base of FCEVs is expected to surpass 100,000 units; SNE Research data ([link](#)) indicates approximately 98,000 cumulative FCEV sales from 2017 to 2024, with 12,900 units registered in 2024, down 20% year-on-year. Hyundai and Toyota remain leaders in the FCEV market, though Toyota primarily deploys PEM fuel cells. Assuming an average vehicle fuel cell capacity of 70 kW, the estimated demand in 2024 was around 1 GW. At the FY25 briefing, Weichai raised its 2026 AIDC diesel engine sales target to 3,500–4,000 units (up from 2,600–2,800), confirmed robust momentum across diesel and gas engines, and reiterated its commitment to scaling SOFC production and commercialization, with SOFC capacity targets set at 30 MW for FY26E and 200 MW for FY27E. These developments clearly demonstrate an accelerating trend in adoption.

Figure 7: Weichai Power's SOFC capacity targets vs. vehicle fuel cell demand base in 2024

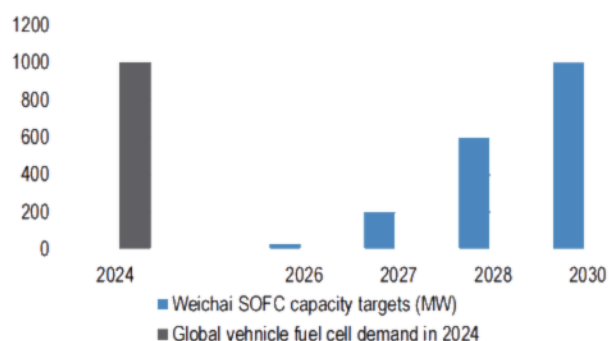
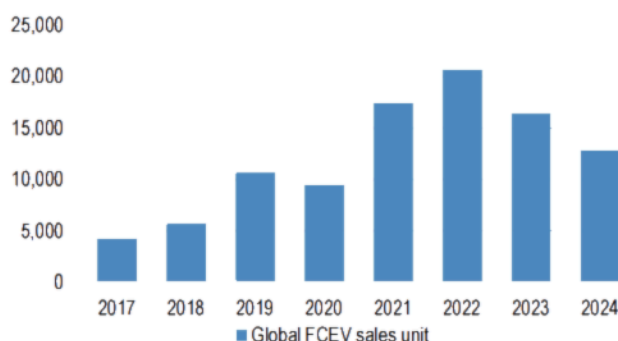


Figure 8: Global FCEV sales trends



Source: Global FCEV Monthly Tracker, Weichai Power, expert view, J.P. Morgan estimates.

Source: Global FCEV Monthly Tracker – Jan 2025, SNE Research.

DC gives rise to SOFC technology

There has been notable disruption in the technology choice for fuel cell applications, particularly in vehicles, where PEM fuel cells are considered superior. PEM technology is favored for automotive use because it offers fast start and restart capabilities, operates at lower temperatures, and delivers higher practical power density. However, for data center applications, SOFC fuel cells are better suited due to their higher efficiency during steady-state operation. Many advantages of PEM, such as rapid cycling and lower temperature, are less relevant in the data center context, making SOFC a more appropriate option for this use case.

Key research by JPM Asia Industrial team (led by Karen Li)

Weichai Power- H/A: Raising FY27+ profit forecasts by >10%, driven mainly by better margin/mix as Power & Energy gains weight. The team lifted the AIDC engine volume assumption to 3,500 units in FY26E (low end of the company's 3,500–4,000 target range), citing clearer deliverability milestones and a faster pathway into overseas prime power (gas). We remain OW with an updated DCF which implies c.25x 1Y forward P/E, viewed as undemanding versus global peers (Caterpillar c.35x; Cummins c.30x). While consensus is moving up, our earnings remain ~8% ahead, leaving room for further revisions as the power mix becomes more visible. For details, please refer to our report ([link](#)).

Expert feedback is directionally consistent. In our expert call on AIDC onsite power solutions, the expert expects Weichai's AIDC engine shipments to reach 3,500–4,000 units in 2026, skewed to 2H, alongside scaling domestic and export capacity. On SOFC, the expert highlighted an aggressive capacity roadmap (30MW in 2026; 200MW in 2027; 600MW in 2028; 1GW by 2030), supported by supply-chain readiness, cost management, and technical capabilities spanning gas engines and SOFC. The expert also pointed to customer traction for Weichai's integrated onsite offering (gas engines + SOFC + storage). For details, please refer to our report ([link](#)).

Nuclear SMR: Enhanced Safety Features and Flexible Mid-Term BTM Optionality

Social considerations: Relative to a typical Gen III pressurized water reactor, some small modular reactor designs that use advanced fuels can offer a higher safety threshold. One example is the high temperature gas cooled reactor SMR design, which uses TRISO (TRi-structural ISotropic particles) fuel particles. In simple terms, TRISO fuel is built with a ceramic enclosure around the fuel kernel. According to energy.gov, these particles can retain radioactive fission products at temperatures as hot as molten lava, which supports enhanced safety performance and a lower risk of radioactive fallout. In addition, SMR has the nimbleness and flexibility similar to the BTM solution in the mid-term.

Case study on how AIDC development accelerates R&D on SMR nuclear

The AI revolution is reshaping global energy demand as hyperscale data centers require clean, reliable, and uninterrupted power to support energy-intensive workloads while meeting net zero commitments. This is accelerating interest in nuclear power, especially Small Modular Reactors (SMRs), as a longer-term source of firm, dispatchable power amid grid constraints and rising volatility in AI data center electricity demand. Momentum is building into 2026, supported by hyperscaler-backed R&D, 23GW of nuclear project deals since October 2024, and a more supportive U.S. policy backdrop following the increase in 2050 nuclear capacity targets from 300GW to 400GW. This shift creates opportunities for APAC nuclear players, particularly Korean EPC and equipment firms, with **Doosan Enerbility** standing out for its expanding order book and exposure to large-scale nuclear, SMRs, and gas turbines. Meanwhile, China's Linglong One, a 300MW SMR, could disrupt the global nuclear supply chain if modular construction, shorter build times, and scale benefits help lower costs, especially for localized, island, and emerging-market applications.

Hyperscalers turn to SMRs to fuel the next generation of AI data centers

The AI revolution is rewriting the energy playbook as AI and hyperscale data centers have become the driving force behind demand for clean, reliable power. Tech titans, led by their net zero commitments and the need for uninterrupted energy, are increasingly turning to nuclear—especially Small Modular Reactors (SMRs)—to power the next wave of digital infrastructure.

Going into 2026, SMR development is accelerating globally - please see table below for details. Hyperscalers (i.e. Meta) are supporting the R&D progress of SMRs; this is partly due to the power constraints of AI data centers (AIDCs), while SMRs are being actively explored by hyperscalers as a longer-term option to provide firm, dispatchable power for next-generation data centers, especially as traditional grid connections and gas generators struggle to keep up with extreme power swings from AI workloads.

Figure 9: Recent developments with respect to SMR and its ties with data centers

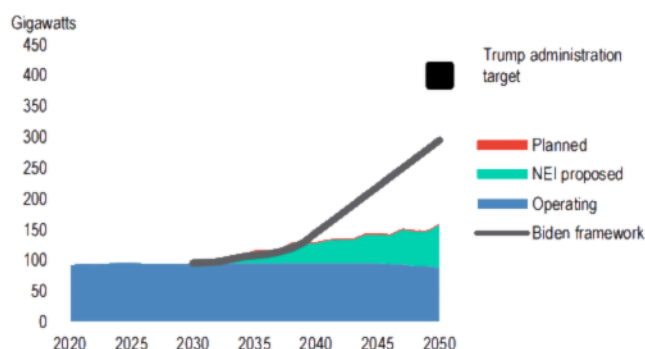
Date	Event	Tie with Data Centers
6/19/2026	Korea-US Strategic Investment Corporation launched to manage \$350bn US investment, with focus on energy (including nuclear) and shipbuilding. Japan's 3rd US investment tranche (\$25bn) expected for NuScale SMR projects.	NA
6/19/2026	Sweden selected Rolls-Royce SMR for ~1.5GW new capacity. Estonia passed nuclear law for Fermi Energia's 600MWe SMR (Samsung C&T as potential EPC); US NRC environmental review for Holtec's SMR-300 at Palisades; TerraPower's Sodium in UK GDA.	NA
6/19/2026	Antares Nuclear's Mark-0 microreactor achieved first criticality at Idaho National Lab; Holtec's SMR-300 environmental review at Palisades; NY launches Nuclear Reliability Backbone, evaluating 5GW advanced nuclear (including SMRs).	NY's policy paper references advanced nuclear for grid reliability, which can support data center loads.
6/19/2026	TerraPower's Sodium reactor: Meta selected TerraPower after RFP; reactor can ramp from 345MW to 500MW+ in 10 minutes; strategic partnerships with KHNP, SK, Hyundai; NOAK LCOE could reach sub \$90/MWh, \$60/MWh with ITCs.	Direct tie: Meta selected TerraPower for its data center power needs.
5/22/2026	US NRC completed environmental assessment (FONSI) for Dow/X-energy's Xe-100 SMR in Texas; DOE awarded \$94mn+ to expedite SMR deployment; HDEC named EPC for Holtec's SMR-300 in Rwanda; MOU with TerraPower for Sodium deployment.	Dow/X-energy project is for industrial site, not data centers; TerraPower's Sodium has data center relevance.
5/8/2026	EIA projects US nuclear share to rise to 17.5% in 2027, then decline; SMRs seen as attractive for rapid scalability and cost optimization, especially for commercial/industrial demand (including data centers).	Explicit mention: SMRs seen as attractive for data centers due to modularity and scalability.
4/29/2026	Doosan Enerbility: SMR partnerships progressing, dedicated SMR plant to break ground in 3Q26; highest exposure to global SMR market among Korean EPCs.	NA
4/24/2026	TerraPower began construction of 345MWe Sodium plant in Wyoming (completion by 2030); Meta to fund up to 8 Sodium units (2.8GW) by 2035.	Direct tie: Meta funding Sodium units for data center power.
3/27/2026	Japan's \$40bn investment in GE Vernova-Hitachi SMRs in US; Doosan Enerbility has highest exposure to global SMR market; Korea-Japan collaboration opportunities in SMR deployment.	NA
1/23/2026	Meta announced agreements to support/expand US nuclear projects (up to 6.6GW) to meet AI/data center demand, partnerships with TerraPower and Oklo for next-gen reactors.	Direct tie: Meta's nuclear projects are to power data centers and AI workloads.

Source: Company announcements, J.P. Morgan Research.

In the past two years, hyperscalers have inked a flurry of nuclear deals (23GW of nuclear projects since Oct 2024), leveraging their emission-free profile to meet soaring

electricity demand without compromising their carbon footprint. The lifting of US nuclear capacity targets by President Trump in 2025 from 300GW to 400GW by 2050 has also provided a tailwind and suggests investment of ~US\$600bn.

Figure 10: US operational and planned nuclear capacity vs industry forecast and gov't target



Source: IAEA, BNEF, BEI, Biden White House, Trump White House.

Figure 11: Announced US nuclear capacity tied to data centers and AI since 4Q23

Nuclear company	Data center company	Announcement date	Capacity (MW)
NuScale	Standard Power	10/6/2023	1,848
Talen Energy	Amazon	3/4/2024	960
Oklo	Equinix	4/15/2024	500
Oklo	Prometheus Hyperscale	5/23/2024	100
Constellation Energy	Microsoft	9/1/2024	835
Undisclosed	Oracle	9/10/2024	1,000
Kairos Power	Google	10/14/2024	500
X-energy	Amazon	10/16/2024	5,000
Dominion Energy	Amazon	10/16/2024	300
Oklo	Unspecified	11/13/2024	750
Oklo	Switch	12/18/2024	12,000
Deep Fission	Endeavour Energy	1/7/2025	2,000
Oklo	Rpower	1/17/2025	75
TerraPower	Sabey Data Centers	1/21/2025	345
Constellation Energy	Meta	6/3/2025	1,121
Talen Energy	Amazon	6/11/2025	1,920
Commonwealth Fusion	Google	6/30/2025	200
Rolls-Royce SMR	Equinix	8/14/2025	250
Stellaria	Equinix	8/14/2025	500
Radiant	Equinix	8/14/2025	20
Kairos Power	TVR	8/18/2025	50
X-energy	Amazon	8/25/2025	5,000
TerraPower	Meta	1/9/2026	690
Oklo	Meta	1/9/2026	1,200

Source: BloombergNEF, press releases, CNBC.

Korean Nuclear Firms Gain Global Momentum Through EPC and SMR Partnerships

As the US raises its nuclear ambitions and the industry pivots toward Small Modular Reactors, APAC's established expertise and robust supply chains are set to play a pivotal role. Russia, China, Korea, France, and the US all offer GW-scale nuclear designs with export potential, although client preferences on partnerships typically depend on security considerations and strategic priorities.

Korean corporates appear increasingly embedded in these global buildouts through EPC and supply-chain participation. Examples include Samsung C&T being cited as a potential EPC contractor in Estonia, and HDEC's visible engagement in Europe (including co-hosting a supplier symposium with Westinghouse in Amsterdam tied to the Netherlands' two planned new reactors). In parallel, Korean firms are positioning for SMR-related order flow via partnerships and MOUs (e.g., HDEC with Holtec and TerraPower; Doosan's role on key nuclear island components for Rolls-Royce SMR).

Korean equipment providers in particular stand out for their expertise, cost-competitive exports and track record in project delivery and could benefit from the renewed momentum in developed markets and the growing demand for SMR equipment. We maintain a constructive view on Korea's nuclear EPC sector. Our top pick is Doosan, led by its rapidly expanding order book and well-balanced portfolio across large-scale nuclear plants, SMRs, and gas turbine projects.

Case study of China's SMR Linglong One

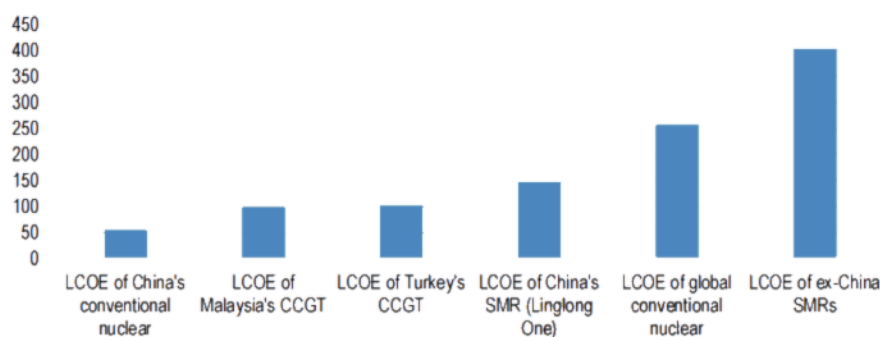
Per our discussion with a nuclear expert from Shanghai Electric during our China Energy Evolution Tour, Linglong One is described as a 300MW small pressurized water reactor (SMR) that is among the most advanced domestic small-reactor designs in terms of progress, with modularization as a key advantage. Compared to large commercial nuclear units (often cited as having ~10-year build cycles), it is expected to have a shorter construction timeline and simpler installation and plant construction due to smaller equipment, potentially reducing some equipment and raw-material requirements. Its current levelized cost of electricity (LCOE) is viewed as high for the Hainan Changjiang demonstration project (>RMB 1/kWh) because many development and first-of-a-kind costs are concentrated in the pilot unit; the expectation is that costs could decline as deployment scales and costs are amortized. Importantly, such LCOE is indeed quite competitive on a global comparison.

The expert saw Linglong One as more flexible for localized power supply—including areas beyond the main-grid reach—and potentially suitable for island applications; it is suggested it is unlikely to be sited inland. Finally, it is seen as potentially attractive to some Southeast Asian countries with smaller territories, though no orders have been reported yet, and discussions/exchanges (including with Türkiye) have taken place.

We believe that it's possible that China may disrupt the current nuclear power supply chain, through exporting the SMR (i.e. Linglong One) to the emerging markets, considering a potential decline of the LCOE of the SMR in the mid term.

Figure 12: LCOE comparison among different types of nuclear reactors and CCGT in a few emerging markets

Unit: Usd/MWh



Note: CCGT refers to combined-cycle gas turbines.

Source: Expert view, BloombergNEF.

Table 3: Linglong One SMR project

Developer	CNNC
Module output (MW)	125
Technology	Integrated pressurized water reactor
Fuel	LEU
Status	First unit under construction in Hainan
Target for 1st concrete	Demonstration project in 2026

Source: J.P. Morgan Research.

Figure 13: Screening for Chinese nuclear-related companies with exposure to Linglong One's value chain

	Ticker	JPM rating	Share price (LC)	Mkt Cap (USDm)	Daily liquidity (USDm)	P/E (x)		P/BV (x)		Dividend yield (%)		ROE (%)		EV/EBITDA (x)	
						2026E	2027E	2026E	2027E	2026E	2027E	2026E	2027E	2026E	2027E
Nuclear power operators/EPCs															
China National Nuclear Power	601985 CH	NC	8.9	26,833	197.5	19.6	17.6	1.5	1.4	1.9	2.2	7.4	8.1	14.6	13.3
China Nuclear Engineering & Construction	601611 CH	NC	10.5	4,637	83.0	16.1	14.6	0.9	0.8	0.7	0.8	5.0	5.1	13.2	12.5
	Ticker	JPM rating	Share price (LC)	Mkt Cap (USDm)	Daily liquidity (USDm)	P/E (x)		P/BV (x)		Dividend yield (%)		ROE (%)		EV/EBITDA (x)	
						2026E	2027E	2026E	2027E	2026E	2027E	2026E	2027E	2026E	2027E
Nuclear island and other equipment makers															
China First Heavy Industries	601106 CH	NC	3.3	3,338	43.5	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Shanghai Electric	2727 HK	NC	3.5	14,384	24.6	32.9	25.0	0.9	0.8	0.8	0.8	2.6	3.3	17.1	17.0
Harbin Electric	1133 HK	NC	15.8	4,515	25.1	8.8	7.3	1.6	1.4	4.0	4.9	17.8	18.9	4.3	3.5
Dongfang Electric	1072 HK	NC	22.9	14,735	60.2	14.4	11.8	1.4	1.3	3.3	4.0	10.3	11.4	14.3	11.9
Harbin Electric Jiamusi Electric Machine	000922 CH	NC	14.5	1,774	36.4	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Zhefu Holding	002266 CH	NC	4.9	3,731	71.8	18.2	16.9	2.0	1.8	n.a.	n.a.	10.5	10.1	14.7	13.5
Sufa Technology Industry	000777 CH	NC	17.1	965	33.3	38.7	29.5	2.6	2.4	0.4	0.6	6.9	8.3	30.5	25.2
Jiangsu Shentong Valve	002438 CH	NC	15.3	1,141	26.5	20.3	16.5	2.0	1.9	n.a.	n.a.	8.8	9.6	20.5	17.8
Sinomach Heavy Equipment	601399 CH	NC	3.5	3,660	56.7	39.0	31.9	1.6	1.5	n.a.	n.a.	4.3	4.9	18.1	15.4
Advanced Technology & Materials	000969 CH	NC	25.4	3,927	139.1	71.6	66.1	4.4	4.3	n.a.	n.a.	6.0	6.0	n.a.	n.a.
	Ticker	JPM rating	Share price (LC)	Mkt Cap (USDm)	Daily liquidity (USDm)	P/E (x)		P/BV (x)		Dividend yield (%)		ROE (%)		EV/EBITDA (x)	
						2026E	2027E	2026E	2027E	2026E	2027E	2026E	2027E	2026E	2027E
Construction machinery manufacturers															
Zoomlion Heavy Industry	000157 CH	NC	7.3	9,088	104.3	10.7	8.9	1.0	1.0	6.1	7.4	9.6	11.2	11.2	9.5
Taiyuan Heavy Industry	600169 CH	NC	2.0	989	5.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

Note: Prices as of 24 June 2026.

Source: Bloomberg Finance L.P.

Potential Technology Disruption Ahead

Nuclear fusion	AIDC is moving into nuclear fusion, underscored by Microsoft signing a power purchase agreement with Helion Energy, a Sam Altman-backed fusion startup. We see fusion's competitive landscape as a two-horse race between the US and China, with divergent playbooks and risk-reward profiles. The US leads in facilities and private sector activity across multiple technical approaches, while China's state-led model is catching up through accelerating technology investment. China's R&D focus may expand beyond tokamaks into high temperature superconductors and field reversed configuration.
Space solar for AI	As AI's bottleneck shifts from compute to power, developers are exploring space-based solar power as a speed to power solution for AI deployments. Meta's partnership with Overview Energy is a key example, targeting delivery of up to 1GW of space-sourced solar energy to Earth by 2030, with an orbital demonstration in 2028. The concept uses satellites in geosynchronous orbit transmitting energy via low intensity infrared light to existing terrestrial solar infrastructure, improving dispatchability and potentially expanding SBSP's addressable market (link).
Sodium-ion battery	According to our EV Battery analyst Rebecca Wen, emerging battery technologies could be relevant for AIDC energy storage, where power, rapid response, redundancy, and high frequency micro-cycling matter more than long duration. She highlights sodium ion batteries as a potential fit given strong high C rate performance for fast load swings, wide temperature tolerance, and favorable safety characteristics. She also notes the potentially attractive cycle life and recyclability, with cost economics improving as the pricing gap versus LFP continues to narrow.

APAC Energy Transition Dashboard

What happened in 1H26?

In our inaugural report ([link](#)), we identified five APAC energy transition value chains as seeing supply tightness (or emerging as such). Some of these have seen strong market interest and hypothetical performance in 1H26, with one (APAC Submarine Cable / Inter-Grid Connection theme) seeing hypothetical outperformance of the MXAP Index by ~40% and one (APAC Electrical & Power Gen Equipment theme) seeing largely in-par performance with the MXAP Index.

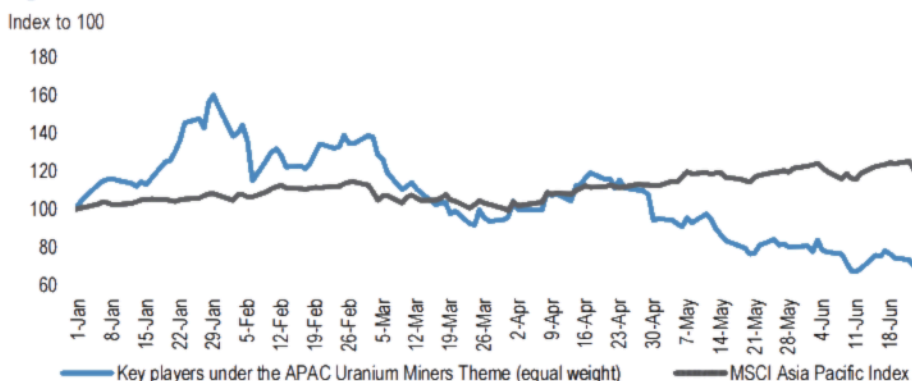
- Key players in the **APAC Nuclear SMR Export** theme (+11% vs. MXAP's +21% from end 2025 to 24 June 2026): Korean nuclear stocks under our coverage have underperformed the benchmark in the past month (KEPCO -3%, Hyundai E&C -8%, Doosan Enerbility -8%, and KEPCO E&C -11% vs. KOSPI +24% m/m), as expectations have moderated amid muted news flow on new large-scale nuclear EPC order wins ([link](#)).
- Key players in the **APAC Electrical & Power Gen Equipment** theme (+20% vs. MXAP's +21% from end 2025 to 24 June 2026), driven by protracted supply tightness in electrical & power gen equipment (up ~50% from end 2025 to early May 2026), while offset by a broader rotation out of AI power infrastructure plays lately (down ~20% from early May to 24 June 2026).
- Key players in the **APAC ESS** theme (-8% vs. MXAP's +21% from end 2025 to 24 June 2026). Despite the strong ESS demand outlook, elevated lithium carbonate prices may hurt the margin profile for downstream ESS plays. In 4Q25, discussion of AIDC use cases has resulted in market hype but orders have yet to follow through in 1H26.
- Key players in the **APAC Submarine cable / inter-grid connection** theme (+60% vs. MXAP's +21% from end 2025 to 24 June 2026): On the offshore wind side, China targeted cumulative offshore wind grid-connected capacity to reach 100GW. Meanwhile, a few players in the basket have seen meaningful share price pickup due to exposure to optical cable, while optical cable prices are elevated due to supply constraints and strong demand, particularly from data centers and defense ([link](#)).

- Key players in the **APAC Uranium miners** theme (-28% vs. MXAP's +21% from end 2025 to 24 June 2026); There was a significant pullback in 2Q26, as the Middle East conflict may have disrupted the sulfuric acid supply, while shortage of acid supply may lead to production reduction and thus negative to uranium miners' earnings outlook, per CGN Mining (1164 HK, Not Covered).

Key catalysts and events in 2H26:

Theme	Key events and catalysts in 2H26
APAC Nuclear SMR Export theme	1) Further progress on Korea-led nuclear projects overseas, including Vietnam and the US; 2) new nuclear projects from big tech companies and governments; and 3) a revision of the Korea-US Nuclear Cooperation Agreement granting Korea greater opportunities; 4) With the Department of Energy announcing Usd17.5bn USD loan to help finance 10 large-scale commercial reactors, project and order flows may improve in the 2H.
APAC Electrical & Power Gen Equipment theme	1) Regulatory developments in the US on protecting ratepayers may have implications for different types of power solutions, a key event to watch in the 2H of the year; 2) Korea's 12 th Electricity Plan may surface towards year-end, affecting various companies within this theme.
APAC ESS theme	1) More AIDC ESS orders to follow in 2H26. Based on our expert call, the AIDC ESS order is likely back-end loaded due to the sequence of DC development. With some ESS integrators starting to get orders in the 1H, we think order flow should improve in the 2H; 2) Lithium price movement.
APAC Submarine Cable / Inter-Grid Connection theme	1) Order flow in China, following the regulator issuing the 2030 off-shore capacity for the first time; 2) price momentum for optical fiber as quite some submarine cable producers are exposed to optical fiber for data center use cases.
APAC Uranium Miners theme	1) With long-term contract prices now above spot prices, spot price momentum in the 2H is a key catalyst; 2) Disruption in sulphuric acid supply has introduced operational challenges for some. Resolution of the sulphuric acid supply following the HoS re-opening is a key event for those; 3) US DOE Section 232 uranium report.

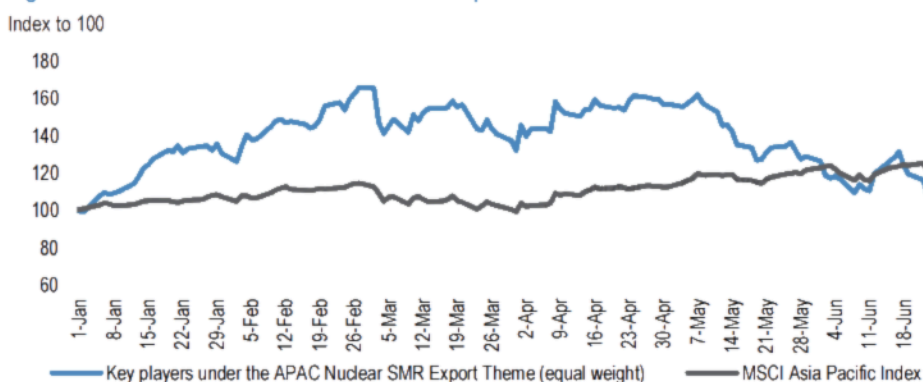
Figure 14: Performance of APAC Uranium Miners Theme vs. MSCI Asia Pacific Index



Note: Prices as of 24 June 2026.

Source: Bloomberg Finance L.P., J.P. Morgan estimates.

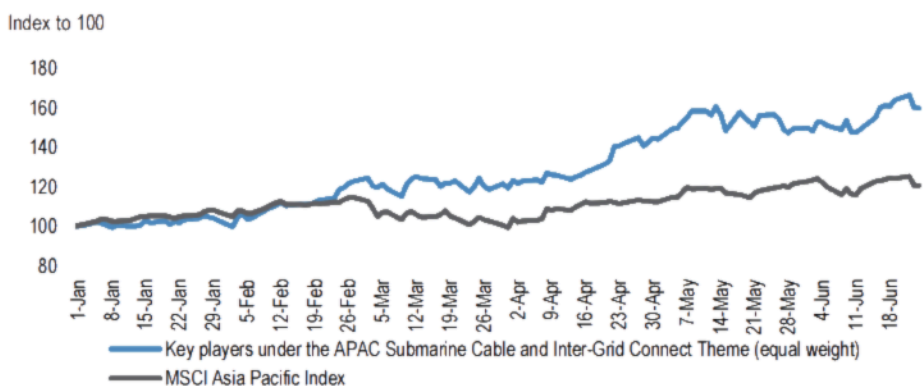
Figure 15: Performance of APAC Nuclear SMR Export Theme vs. MSCI Asia Pacific Index



Note: Prices as of 24 June 2026.

Source: Bloomberg Finance L.P., J.P. Morgan estimates.

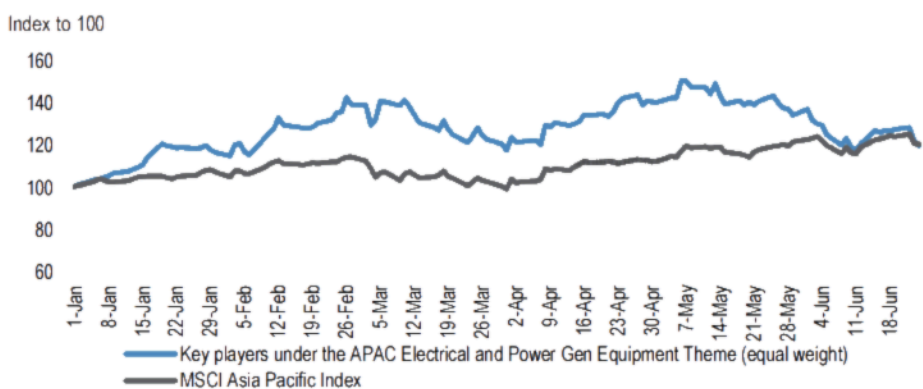
Figure 16: Performance of APAC Submarine Cable and Inter-Grid Connect Theme vs. MSCI Asia Pacific Index



Note: Prices as of 24 June 2026.

Source: Bloomberg Finance L.P., J.P. Morgan estimates.

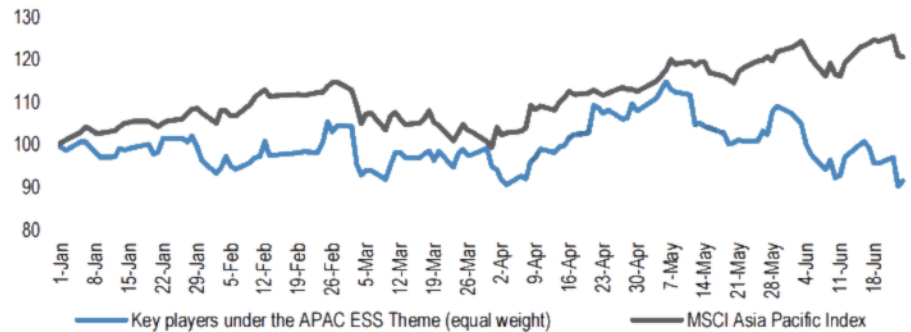
Figure 17: Performance of APAC Electrical & Power Gen Equipment Theme vs. MSCI Asia Pacific Index



Note: Prices as of 24 June 2026.

Source: Bloomberg Finance L.P., J.P. Morgan estimates.

Figure 18: Performance of APAC ESS Theme vs. MSCI Asia Pacific Index



Note: Prices as of 24 June 2026.
Source: Bloomberg Finance L.P., J.P. Morgan estimates.

Figure 19: Valuation comps table for the five APAC energy transition themes

	Ticker	JPM rating	JPM analyst	Share price (LC)	Mkt Cap (USDm)	Daily liquidity (USDm)	P/E (x)	P/BV (x)	Dividend yield (%)	ROE (%)	EV/EBITDA (x)
APAC Submarine Cable and Inter-Grid Connect											
Tenaga Nasional Berhad	TNB MK	OW	Samuel Tan	14.2	20,164	21.1	18.3	16.6	1.6	4.1	7.1
Ningbo Orient Wires and Cables	603606 CH	OW	Alan Hon	39.2	4,758	122.7	16.1	13.6	3.4	2.9	10.4
Zhongtian Technology	600522 CH	NC		68.1	34,184	1,688.7	40.2	31.0	5.5	4.8	18.3
Hengtong Optic-Electric	600487 CH	NC		123.0	44,619	2,041.0	47.4	38.0	8.3	7.1	26.8
Sumitomo Electric	5802 JT	NC		12,240.0	60,053	511.9	28.2	23.1	3.3	3.1	12.7
LS Corp	006260 KS	NC		362,500.0	7,336	103.9	20.6	16.3	2.1	1.8	9.9
APAC Nuclear SMR Export											
Dooosan Enerbility	034020 KS	OW	Sonny Lee	88,100.0	36,607	573.2	152.1	73.8	6.9	6.3	28.9
Kapco E&C	052690 KS	OW	Sonny Lee	106,200.0	2,633	41.6	62.0	49.9	6.3	6.0	33.0
Hyundai E&C	000720 KS	OW	Sonny Lee	111,800.0	8,076	217.1	23.3	12.2	1.3	1.2	8.2
Mitsubishi Heavy Industry	7011 JT	NC		3,618.0	75,429	635.0	29.6	25.0	3.7	3.3	13.7
IHI Corporation	7013 JT	NC		2,719.0	18,193	339.8	16.5	18.2	3.8	3.3	11.0
APAC Uranium Miners											
Palladin Energy	PDN AU	UW	Branko Skooc	9.7	3,020	56.4	n.a	112.0	n.a	n.a	25.4
Boss Energy	BOE AU	UW	Branko Skooc	1.1	304	13.2	n.a	12.2	1.0	1.0	4.0
Bannerman Energy	BMN AU	N	Branko Skooc	3.2	460	6.2	n.a	n.a	n.a	n.a	n.a
Lotus Resources	LOT AU	N	Branko Skooc	0.7	124	7.2	n.a	13.2	n.a	n.a	2.5
Deep Yellow	DYL AU	N	Branko Skooc	1.5	980	18.1	n.a	n.a	2.2	1.7	n.a
OGN Mining	1164 HK	NC		2.6	2,511	20.5	17.9	13.5	3.6	2.9	12.9
APAC ESS Thematic											
CATL	300750 CH	OW	Rebecca Wen	401.9	280,529	2,190.4	19.2	15.8	4.6	3.9	10.4
LG Energy Solution	373220 KS	OW	Parsley Ong	355,000.0	53,885	225.4	59.9	37.9	2.6	2.3	14.7
LG Chem	051910 KS	OW	Parsley Ong	286,000.0	13,096	115.6	19.9	10.5	0.7	0.7	5.5
Sungrow	300274 CH	OW	Alan Hon	152.7	46,550	1,749.1	20.9	16.6	5.5	4.4	13.4
Sineng	300827 CH	NC		28.8	2,358	179.9	21.6	16.8	3.2	2.7	13.3
Hyperstrong	688411 CH	NC		275.9	7,404	257.5	25.1	16.3	7.5	5.2	12.5
CALB	3931 HK	OW	Rebecca Wen	24.1	5,439	25.2	13.8	9.7	0.9	0.9	12.0
EVE Energy	300014 CH	N	Rebecca Wen	66.8	21,355	776.3	20.1	16.3	2.8	2.5	12.7
APAC Electrical and Power Gen Equipment											
HD Hyundai Electric	267260 KS	OW	Stephen Tsui	953,000.0	22,284	188.4	34.5	26.7	12.8	9.8	19.0
LS Electric	010120 KS	N	Stephen Tsui	220,500.0	21,455	400.9	65.5	48.3	13.2	10.9	29.3
Hyosung Heavy	298040 KS	OW	Stephen Tsui	3,307,000.0	20,003	201.1	39.2	27.9	10.0	7.6	20.1
Hitachi	6501 JT	OW	Junya Ayada	4,554.0	127,641	426.5	22.1	19.5	3.2	3.0	10.3
Nan Technology	600406 CH	OW	Stephen Tsui	22.8	26,969	337.8	19.0	16.7	3.3	3.0	12.8
Xuji Electric	000400 CH	OW	Stephen Tsui	22.0	3,300	105.4	14.0	12.2	1.5	1.4	7.6
Weichai Power	000338 CH	OW	Karen Li	29.0	37,868	532.9	16.1	14.1	2.5	2.3	7.6
Yingliu Electromechanical	603308 CH	OW	Jenny Qiu	64.7	6,464	228.2	66.7	42.3	7.5	6.8	34.8
Jereh Oilfield Services	002353 CH	N	Lei Mu	163.5	24,622	410.0	48.2	41.0	6.2	5.4	29.0
Dongfang Electric	1072 HK	NC		22.6	14,694	59.2	14.2	11.7	1.4	1.3	11.9
Shanghai Electric	2727 HK	NC		3.4	14,360	24.4	32.3	24.6	0.8	0.8	17.0

Note: Prices as of 24 June 2026.
Source: Bloomberg Finance L.P., J.P. Morgan estimates.