



## WEEKLY

JULY 28, 2025

### ANALYSIS

#### MIRED IN BUREAUCRACY: WILL TOKAI NO.2 EVER POWER AGAIN?

- While Japan has a policy to restart nuclear power plants, Tokai No.2 struggles to pass regulatory measures and gain support from local institutions.
- Still, officials began talking about Tokai No.2, giving hope that a restart could happen in the next few years. To conclude our deep dive on the three NPPs that might return online, *Japan NRG* looks at Tokai No.2 – an important NPP left behind.

#### JAPAN DECLARES HYDROGEN POWER GENERATION READY TO STAND ON ITS OWN

- The cost of using hydrogen as a fuel remains a sore issue. Recently, state energy planners closed a study to verify the potential of applying hydrogen as a second fuel in thermal power plants, also known as co-firing.
- But the official reason given for ending funding is that the tech is already well advanced, and that commercialization can be done through private resources. *Japan NRG* reviews the situation.

### ASIA PACIFIC REVIEW

This column provides a brief overview of the region's main energy events from the past week

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- EU and Japan to form “Competitiveness Alliance”

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- Mitsubishi, ENEOS join renewable fuel venture in Hawaii

## EVENTS

- Aug 27-28 Asia-Pacific Economic Cooperation /  
Energy Ministerial Meeting @ Busan,  
South Korea
- Sept 9-12 Gastech 2025, Milan
- Sept 15-19 IAEA General Conference 2025
- Sept 16-18 APAC Wind Energy Summit @  
Melbourne, Australia
- Sept 17-19 Smart Energy Week Autumn 2025 / EV-  
HV-FCV Expo / Green Factory Expo / H2  
& FC Expo / PV Expo / Battery Japan /  
Smart Grid Expo / Wind Expo / CCUS  
Expo / Decarbonization Expo / Circular  
Economy Expo @ Makuhari Messe



## JAPAN NRG WEEKLY

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### OFTEN-USED ACRONYMS

METI	The Ministry of Economy, Trade and Industry	NRA	Nuclear Regulation Authority
MoE	Ministry of Environment	GX	Green Transformation
ANRE	Agency for Natural Resources and Energy	mmbtu	Million British Thermal Units
NEDO	New Energy and Industrial Technology Development Organization	mb/d	Million barrels per day
TEPCO	Tokyo Electric Power Company	mtoe	Million Tons of Oil Equivalent
KEPCO	Kansai Electric Power Company	kWh	Kilowatt hours (electricity generation volume)
EPCO	Electric Power Company	FIT	Feed-in Tariff
JCC	Japan Crude Cocktail	FIP	Feed-in Premium
JKM	Japan Korea Market, the Platt's LNG benchmark	SAF	Sustainable Aviation Fuel
CCUS	Carbon Capture, Utilization and Storage	NPP	Nuclear power plant
OCCTO	Organization for Cross-regional Coordination of Transmission Operators	JOGMEC	Japan Organization for Metals and Energy Security

## NEWS: GENERAL OUTLOOK AND TRENDS

### Brookfield to invest \$10 billion in real estate, data centers, and batteries

(Nikkei Asia, July 24)

- Brookfield Asset Management plans to invest over \$10 billion in Japan over five years, significantly expanding its presence beyond modest previous deals such as Tokyo's Hotel Gajoen. The Canadian-American asset manager is targeting assets in real estate, data centers, and batteries.
- CEO Bruce Flatt indicated a new strategic focus on data centers and battery storage facilities, sectors where the company has not previously been active in Japan.
- The firm sees Japan as a key market due to its low interest rates and attractive real estate prices.
- *CONTEXT: Brookfield Asset Management was founded in December 2022 as a spin-off of Brookfield Corp. It manages investments across real estate, infrastructure, renewable energy, private equity, and credit markets globally. In late 2024, the firm's managed assets reached \$1 trillion, making it one of the world's largest.*
- Brookfield also indicated openness to supporting future AI infrastructure projects internationally.
- **TAKEAWAY:** A global asset manager with \$10 billion to deploy entering the market signals growing confidence in battery storage as a viable and attractive investment. This will likely draw additional foreign investment, which will put pressure on smaller BESS developers in Japan. Existing battery companies will surely face heightened competition for attractive sites and grid access, while struggling to secure financing at the terms available to Brookfield. In short, this could help grow the size of battery projects in Japan and inject much-needed financing, as well as triggering a gradual process of sector consolidation over the next three years or so. Overall, it's a good signal for the BESS sector if only because with the additional capital inflows there will be more pressure on regulators to enhance market mechanisms, and (hopefully) increasing clarity around permitting and grid integration. A lot will also depend on the role that TSOs will get in the new money-rich BESS landscape.

### Power utilities lobby group urges action on energy supply shortages

(Various media, July 19)

- Hayashi Shingo, head of the Federation of Electric Power Companies that represents the country's large power utilities, expressed strong concern over projected electricity shortages, driven by delays in upgrading nuclear and thermal power plants.
- Hayashi pointed to the maximum power demand growth scenario in FEPC forecasts, which sees a shortage of capacity emerging of between 23 and 89 GW.
- Hayashi urged immediate state reforms, emphasizing ensuring stable power supply required across the entire supply chain that includes generation, retail, transmission, distribution, and manufacturers.
- He also said Japan needs to maintain thermal power while pursuing decarbonization, which should accelerate nuclear plant restarts and build new reactors.
- **TAKEAWAY:** As a group representing the big utilities, whose main assets are thermal power plants and nuclear stations, it's predictable that the FEPC chair will call for the above. What's curious is the timing. With the political situation in turmoil, progress in policy is unlikely. Perhaps, the EPCOs see it as an opportunity to inject more urgency into discussions around how Japan will finance grid upgrades and also what to do about aging thermal stations, for which the utilities want better compensation in order to maintain.
  - **SIDE DEVELOPMENT:**  
[ANRE discusses challenges surrounding power source investment](#)  
(Government states, July 22)

- ANRE discussed the current situation and challenges surrounding power source investment.
- The main challenge is promoting decarbonization of power sources, while trying to maintain stable electricity supply.
- Boosting decarbonized power investment requires: 1) a shared understanding of mid- to long-term power supply and demand; 2) address financing challenges for stable capital procurement; and 3) tackling supply chain and workforce issues.
- *CONTEXT: To maintain power sources critical for grid operation, efforts are needed to ensure early access to practical information by the TSOs.*
- **TAKEAWAY:** Following electricity system reform over the past decade, the predictability of the power business model has declined – opening up higher profit opportunities but also risks. With that, there's more hesitation toward new capacity financing, especially from banks, as it requires a greater degree of risk-taking over the long-term, and acceptance of greater volatility over fuel procurement and costs. ANRE is trying to find ways to promote investment in the power sector in this new environment.

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## EU and Japan to form “Competitiveness Alliance”

(Nikkei, July 23)

- During her visit to Japan, EU head von der Leyen proposed a “Competitiveness Alliance” with Japan to strengthen supply chains in critical areas like rare earths, EV batteries, and semiconductors.
- The goal is to mine rare earths, which are essential for clean tech and electronics. Japan and EU firms together are building Europe's first rare earth processing facility in France.
- The EU seeks to mine rare earths not only in Continental Europe but also in Greenland and Africa; and cooperation with the EU opens new regions for Japan.
- The two sides also aim to shape global trade and technology rules, and to push WTO reform amid growing trade nationalism.

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## Proterial develops magnets free of rare-earths for EV motors

(Company statement, Nikkei, July 22)

- Japanese metal maker Proterial developed neodymium magnets for use in EV motors and that do not require heavy rare-earth metals. This breakthrough could help ease supply chain worries amid China's export restrictions and costs.
- These magnets can be produced using existing manufacturing lines, and fit current motor designs, allowing for large-scale adoption.
- *CONTEXT: Neodymium magnets, key in EV motors, require dysprosium and terbium to maintain performance under high heat. These are costly and mostly sourced from China; Japan is the major buyer and importer. In April, China introduced export controls on seven rare-earth elements, including dysprosium and terbium, sparking global supply concerns.*

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## MoE offers ZEB subsidy for commercial buildings

(Government statement, July 22)

- MoE launched a subsidy program to promote installation of systems and equipment that promote ZEB (zero energy building) adoption in both new and existing buildings.

## NEWS: ELECTRICITY MARKETS

### Solar forecast errors drive volatility in Japan's balancing market

(Denki Shimbun, July 24)

- Record heat in June, with Japan experiencing its highest average temperature for the month since records began in 1898, significantly impacted electricity markets due to higher demand and increased solar generation variability.
- Errors in solar radiation forecasts, especially during unstable weather conditions such as typhoons or sudden thunderstorms, have reportedly amplified volatility in the balancing market (especially in the Tertiary (2) Ancillary Services section), leading to price increases when forecast uncertainty rises.
- **CONTEXT:** *The Japan Weather Association provides balancing market price prediction data, which considers the impact of weather forecast accuracy. Uncertainty in forecasts can directly influence bidding volumes and market prices.*
- **TAKEAWAY:** Improved forecasting technologies, including AI-driven prediction models, are expected to reduce uncertainty, as well as optimize market bidding volumes. A number of firms seek to provide the technologies that improve forecasting, for both weather conditions and impact on energy facilities. But, the development process is said to take considerable time given the complexities of both weather patterns and local asset performance.

### Increase in matches in Digital Grid's PPA auction on RE Bridge

(Company statement, July 11)

- Digital Grid held its fifth auction from May to June on RE Bridge – its dedicated virtual PPA platform – which resulted in 31 matches with a total capacity of 107 MW.
- This is a significant change from the fourth auction held last year, which produced 15 matches with a total capacity of 37 MW.
- Asking prices for PPAs have fluctuated between auctions over the last year:

	Average price for producers	Average price for consumers
Round Five (May - June 2025)	¥18.1/ kWh	¥17.8/ kWh
Round Four (Nov - Dec 2024)	¥19/ kWh	¥19/ kWh
Round Three (July - Aug 2024)	¥14.9/ kWh	¥14.4/ kWh

- **CONTEXT:** *Digital Grid is a blockchain-based electricity market provider. It uses software-defined multiple inverters (Digital Grid Router) and AI edge computers (Digital Grid Controller). Digital Grid claims it 'can accept high penetrations of renewable power, prevent cascading outages, accommodate identifiable tagged electricity flows, track those transactions, and trade electricity'.*
- **TAKEAWAY:** Auction results – the first since the change allowing former FIT to transition to the FIP, as well as since Digital Grid's IPO in mid April – highlight both growing demand for virtual PPAs and recent spike in interest in the firm.

## Gunvor trading firm enters Japan power market, marking first trade

(Bloomberg, July 25)

- Commodity trader Gunvor Group made its entrance to the Japan power market, holding its first trade in late June.
- Gunvor intends to trade in the physical and derivative markets.
- The trading house will open a Tokyo office, following up on its expansion into Australia's electricity trading sector in 2024.
- *CONTEXT: Japan's power derivatives market has seen stellar growth in the past five years. The European Energy Exchange now ranks Japan among its top 10 power markets globally by volume.*

## ANRE starts discussion on system design of simultaneous market

(Government statement, July 22)

- ANRE is moving forward on discussions on the system design of the simultaneous market. Various challenges in electricity trading have emerged and are expected to intensify with the large-scale introduction of variable renewables.
- Introducing a simultaneous market is seen as a key solution.
- While the simultaneous market differs from previous ones by using both retail bids and TSO forecasts to calculate supply arrangements considering grid constraints, it does not change the roles of generators, retailers, or TSOs.
- *CONTEXT: The simultaneous market is intended to optimize supply-demand operations close to actual demand and supply conditions, and will serve as a replacement for the current spot market and balancing market.*
- **SIDE DEVELOPMENT:**

### [ANRE deliberates on draft supply-demand curve for capacity market](#)

(Government statement, July 22)

- ANRE met to deliberate on the draft supply-demand curve in the capacity market.
- At the OCCTO meeting on the capacity market, a draft demand curve for the main auction that will deliver capacity in FY2029 was set.
  - Target procurement volume for the FY2025 main auction is 190 GW.
  - The reference price (Net CONE) is ¥10,075/ kW.
- Since all agreed with the draft, it moves forward to decision-making and public announcement by OCCTO.
- *CONTEXT: The demand curve used in the capacity market affects both the target procurement volume and price. The main auction is used to compensation power capacity four years from the time of the tender.*

## MoE submits opinion on Chiba Sodegaura power plant's environmental review

(Government statement, July 25)

- MoE submitted an opinion on the Chiba Sodegaura LNG power plant's Environmental Impact Assessment. The proposed plant, (1.95 GW, 3 units × 650 MW), will be built by Chiba Sodegaura Power.
- MoE said the project must align with Japan's 1.5°C climate target. Tokyo Gas Group (the operator's parent company) must show a pathway to reduce Scope 1 emissions. If not, it should consider scaling down or shutting operations by 2035, 2040, or 2050.
- The company must set and put in place GHG reduction targets in line with national climate goals. It must adopt decarbonization technologies early, such as hydrogen co-firing and CCUS.



- **CONTEXT:** *When the plant was proposed in 2015 it was based on using coal as the main fuel, but that was later revised to deploying LNG and air-cooling. The EIA process has involved many rounds of revisions, public feedback, and reviews by local and national bodies.*
- **TAKEAWAY:** The MoE is less powerful than METI, but it is holding firm on this project to ensure that new gas-fired power plants in Japan are built with the idea that they will transition to lower emissions footprints via carbon capture or co-firing with low carbon fuels. METI still has to accept MoE's opinions. However, this is turning into an interesting standoff that could have an impact on how thermal power plants in Japan are developed from now on.
- **SIDE DEVELOPMENT:**  
**MoE submits opinion on ENEOS' Ogimachi Power Plant**  
 (Government statement, July 25)
  - MoE submitted its opinion on ENEOS Power's proposed Ogimachi Natural Gas Power Plant – a 750 MW LNG-fired plant planned for Kawasaki City.
  - MoE requires the project to show a clear CO2 reduction plan consistent with the 1.5°C target for 2035, 2040, and 2050. If not, the operator should consider options limiting operations or closing the plant.
  - The operator is exhorted to use fuels with lower CO2 emissions, as well as technologies like hydrogen co-firing and CCUS.
  - **CONTEXT:** *Thermal plants over 150 MW are obliged by law to make an environmental review.*

## Tokyo Steel begins new Upward DR with Chugoku Electric

(Company statement, July 13)

- Tokyo Steel will soon launch Upward Demand Response (Upward DR) at its Okayama power plant, in collaboration with Chugoku Electric.
- The plant increases power use during times of surplus renewable energy, mainly spring and autumn daytime, to help reduce curtailment of solar and wind power.
- This scheme certifies that the extra electricity used is renewable, enabling CO2-free steel production and supporting Tokyo Steel's low-carbon brand "Hobo Zero".
- **CONTEXT:** *In the Chugoku area, solar output is increasing, with curtailment expected to reach 2.82% in FY2025 and up to 16% by FY2034. The electric arc furnace's flexible power use in steel production makes it well-suited to absorb excess renewable energy. In Japanese, "hobo" means "nearly".*
- **TAKEAWAY:** DR usually means reducing demand, called "Downward DR", when power supply-demand is tight. But it is called "Upward DR" when there is surplus electricity, such as during peak times for renewables output. Recently, due to large-scale solar introduction, more regions, such as Kyushu and Chugoku, are experiencing frequent output curtailments. While deployment of grid-scale storage batteries is a solution, it can take several years to connect them to the grid. Therefore, Upward DR is increasingly important.

## Okinawa Electric may exit rate regulation as KDDI affiliate enters market

(Denki Shimbun, July 24)

- Okinawa Cellular, a KDDI Group company, will start retail electricity operations in Okinawa in October, shifting about 77,000 customers from agency sales under Okinawa Electric to direct contracts.
- OC will raise its monthly electricity rates by ¥330 to manage rising costs and drive customers toward direct retail contracts.

- The new entrant, along with Okinawa Gas New Power (6.7% market share), could fulfill the requirement of having at least two independent competitors each with over 5% market share, paving the way to remove transitional rate regulations.
- *CONTEXT: The Okinawa area seems to have met the criteria to move away transitional rates – regulated electricity tariffs were allowed to remain in place temporarily after the 2016 market liberalization so as to protect consumers during a shift to competitive pricing. They are supposed to be removed once there is sufficient local competition, ensuring customers have multiple sizable alternatives.*

## NEWS: HYDROGEN

### Tokyo begins operation of hydrogen-fired boilers for district heating

(Government statement, July 18)

- Tokyo Govt began operating a hydrogen co-firing boiler for district heating at Aomi Minami Plant of Tokyo Rinkai Heat Supply.
- The fuel is sourced as green hydrogen from Komekurayama in Yamanashi Pref.
- A hydrogen co-firing boiler and a metal hydride hydrogen storage tank will be placed in other local heating plants.

## NEWS: SOLAR AND BATTERIES

### Japan to expand funding for tandem perovskite cells

(Government statement, July 23)

- Japan will boost funding for tandem perovskite solar cells (PSCs) via the Green Innovation Fund, to set up production by 2030, with greater efficiency and less cost.
- Funding will start as early as this fiscal year.
- These next-gen cells combine perovskite layers with solar panels to increase power output from the same area beyond what either material can achieve on its own.
- Tandem cells layer two or more PV materials, most commonly PSCs and silicon. Perovskites degrade faster than silicon in heat.
- METI's goals include:
  - Conversion efficiency over 30%
  - Durability of 20 years, equal to traditional panels
  - Cost under ¥12/ kWh for residential use, lower than current panels.
- Japan plans to mandate rooftop solar installations on buildings starting FY2026 and boost solar energy's national share to 23–29% by 2040.
- *CONTEXT: Given Japan's geographic limitations for large-scale solar farms, tandem PSCs offer new deployment possibilities, for instance, on vertical surfaces, factory rooftops, schools, and energy-efficient homes (ZEH). By capturing more of the solar spectrum, tandem cells can produce far more energy per square meter, with some estimates suggesting up to double the output of standard panels.*
- **SIDE DEVELOPMENT:**  
[Fuji Keizai forecasts PSC market to reach ¥4 trillion](#)  
 (Nikkei, July 24)



- Research firm Fuji Keizai forecasts the global market for perovskite solar cells will grow to about ¥4 trillion by FY2040, roughly 67 times greater than in FY2024.
- The FY2025 global market is expected to reach ¥148 billion, with Japan's domestic market at ¥80 million, expanding to ¥34 billion by FY2040.
- There are three types: film-type, glass-type, and tandem-type (which stacks cells for higher efficiency). Tandem are expected to drive market growth starting FY2030.
- **SIDE DEVELOPMENT:**  
[Kaneka shares hit year-high on perovskite news](#)  
 (Nikkei, July 23)
  - Kaneka rose 2.89% to ¥4,197 on July 23, marking a new year-to-date high, after reports that Japan will expand support for tandem PSCs.
  - A key player in perovskite, Kaneka should benefit from the initiative.

## Kanagawa Pref selects next-gen solar pilot projects

(Government statement, July 18)

- Kanagawa Pref selected five pilot projects from companies like Nissan, Kanachu Bus, and Macnica to install flexible, lightweight PSCs at locations ranging from public transit and disaster centers to commercial roofs.
- Kanagawa also launched a consortium of 40 entities that include battery developers, financial institutions, universities, and local govts to promote early adoption and wide-scale installation of next-gen solar cells.

- **SIDE DEVELOPMENT:**  
[Tokyo begins pilot of perovskite-based solar windows](#)  
 (Government statement, July 18)

- Tokyo Metropolitan Govt, Toshiba Energy Systems, YKK AP, and Kandenko will begin testing Building Integrated Photovoltaic inner windows using film-based PSCs at the Telecom Center in Odaiba.
- The project will evaluate power generation performance, practicality behind heat-reflective glass, and system integration in existing buildings.

## Kansai Electric's BESS gets first GX tax incentive certification

(Company statement, July 23)

- Kansai Electric, Sparx Group, and JA Mitsui Lease plan a 100 MW, 351 MWh BESS storage facility in Sapporo, set to open in 2028, as the city's first project under the GX Promotion Tax Scheme.
- **CONTEXT:** *Sapporo is designated as Japan's "GX Financial and Asset Management Zone"; the goal is to attract clean energy and finance to the region.*
- **TAKEAWAY:** *Projects recognized under Sapporo City's GX initiative become eligible for favorable tax treatment related to local taxes, and are also officially recognized as significant contributors to the region's transition to a zero-carbon society which helps with procuring regulatory and community approvals. As the first BESS-related venture certified under this Sapporo GX framework, Kansai Electric's project is likely to receive priority attention and support from local government and stakeholders.*

## Marubeni Retail Power launches full-service grid battery package

(Company statement, July 24)

- Marubeni Retail Power and Sun Village launched an all-in-one grid-scale battery storage system that covers land acquisition, system design (including PCS and EMS), construction, and operation.
- The service seeks to simplify battery project development by addressing common bottlenecks like grid negotiations and aggregator selections, and aims for 100 MW in orders this year.
- SIDE DEVELOPMENT:

[Ecokaku and Kaihan partner on grid batteries](#)

(Company statement, July 15)

- Ecokawa, a subsidiary of Technologies Inc, will partner with restaurant chain operator Kaihan.
  - The firm will build grid-scale battery systems facilities and sell them via Kaihan.
  - Ecokawa has 41 active battery projects, focusing on projects under 2 MW
- SIDE DEVELOPMENT:

[EnBio Holdings and NExT-e Solutions set up energy storage JV](#)

(Company statement, July 18)

- EnBio Holdings and NExT-e Solutions will set up a JV to develop, build, and manage energy storage systems, including co-located solar and battery projects.
  - EnBio, which holds 73 MW of operating solar assets, owns a 90% stake in the new entity, with NExT-e the remaining 10%.

## Eneres and Fluence to optimize battery storage

(Company statement, July 22)

- Eneres and Fluence, a Siemens and AES subsidiary, inked an MoU for use of Fluence's advanced Mosaic software to optimize battery storage performance.

## NEWS: WIND POWER AND OTHER RENEWABLES

### METI updates offshore wind strategy with new benchmarks, revised structure

(Government statement, July 23)

- METI revised its strategy document for offshore wind power, introducing updated benchmarks, clarified stakeholder roles, and adjusted structures aligned with recent policy shifts and technological progress.
- The total national budget allocated for offshore wind, including direct incentives and demonstration projects, is capped at ¥123.5 billion. The document outlines specific fund allocations for initial planning, R&D, construction, and operation phases.
- The baseline policy, initial metrics and framework were released in February.
- In the updated text, METI maintains ambitious cost-reduction targets, aiming to lower bottom-fixed offshore wind generation costs to ¥8–9/ kWh by 2030, and to commercialize floating offshore wind technology at globally competitive rates.
- The document also confirms that floating offshore demonstration projects will run up to 8 years, but introduces a new category that splits floating demos into two:
  - 'Regular' projects that can be tested between FY2023 through FY2030, or shorter as needed, to advance towards floating wind tech commercialization; and

- Floating demo projects ‘in harsh marine environments’ (e.g., strong winds, waves, and currents), which can also run for as long as 8 years, but for which the starting year is FY2025 and the end point is FY2032.
- The updated policy document emphasizes tech innovation, including advanced wind turbine systems, improved grid integration, and environmental impact mitigation measures.
- *CONTEXT: METI is shifting evaluation criteria for offshore wind projects to give greater weight to operators that can demonstrate the positive local economic impact and environmental sustainability of their projects, as well as effective community engagement.*

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## ERE report for onshore wind farm in Akita

(Company statement, July 17)

- ENEOS Renewable Energy revealed its EIA preliminary report for its planned 55 MW wind farm in Mitane Town, Akita Pref.
- The firm plans to use 13 wind turbines, each 4.2 MW. Construction is scheduled to begin in May 2027, operations expected to begin in March 2031.
- *CONTEXT: The wind farm will be built near an existing one owned by Eurys Energy.*

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## Kyuden Mirai Energy to double renewable power sales with hydro

(Nikkei, July 24)

- Starting FY2026, Kyuden Mirai Energy will start selling hydropower-generated electricity, aiming to double renewable power sales to 2,300 GWh.
- KME will sell to retail electricity providers, factories and banks.
- In addition to hydropower, KME will also boost sales of geothermal energy, responding to demand for weather-stable electricity.
- *CONTEXT: KME is a wholly-owned subsidiary of Kyushu Electric. Once hydropower plant ownership is transferred from Kyushu Electric, KME's renewable generation capacity will be among Japan's largest.*

# NEWS: NUCLEAR ENERGY

## Three drones breach airspace at Kyushu Electric's Genkai nuclear plant

(Kyodo News, July 26)

- The NRA reported three drones illegally entered airspace above Kyushu Electric's Genkai nuclear power plant in Saga Prefecture, prompting a rare nuclear security alert.
- No abnormalities were reported at the facility, and radiation levels remained normal; however, local police are urgently investigating to identify the operators, flight paths, and intentions.
- Flying drones over nuclear plants is legally prohibited in Japan; authorities described the incident as "extremely unusual."
- Reactors 3 and 4 remain in operation, while units 1 and 2 are undergoing decommissioning.
- **TAKEAWAY:** This incident may look minor, but it could spark a major investigation that will surely add cost to NPP management, and in some cases delay restarts. Part of the new safety measures that all Japanese NPPs have to install are defenses against the fall of a jumbo jet on top of the reactor building. Air defense is a particularly sensitive area for NPP operators but in the past the potential objects of intrusion were considered large ones like

an airplane. The advances in drone technology and its application in wars in recent years is changing the calculus. If drones were able to infiltrate nuclear station perimeters, there will be voices that point out the possibility of military-grade drones, equipment with explosives or similar, attacking NPP grounds to commit a terrorist act. In this case, it's not just one drone but three – opening up the possibility of coordinated action by a group. In 2024, a Chinese national managed to fly a drone over a Japanese naval base in Yokosuka and take aerial footage close to the deck of a destroyer. The footage was later uploaded to a Chinese video-sharing site. The incident was allegedly a prank, but it raised massive security concerns, and similar action may follow after the Genkai NPP flyby.

- **SIDE DEVELOPMENT:**

- [Kyushu Electric regular inspection at Genkai NPP](#)

- (Company statement, July 25)

- On July 27, Kyushu Electric began a regular inspection of Unit 4 at Genkai NPP, with plans to resume normal operations on Oct 28.
      - *CONTEXT: A valve leak was found during a recent inspection of Unit 3, caused by a foreign object lodged between valve components.*

## KEPCO's chief comments on plan for new NPP at Mihama site

(Nikkei, July 22)

- KEPCO President Mori Nozomu spoke about plans for a new NPP at its Mihama site.
- He emphasized that nuclear power is essential for resource-scarce Japan and KEPCO must move toward the replacement of aging units.
- Surveys for construction will proceed only with local understanding. KEPCO has already explained the plans to Fukui officials and Mihama's mayor.
- President Mori avoided giving a timeline but wants early operation. He added there are no specific survey plans for other KEPCO plants like Takahama or Oi.
- New reactor construction requires investments of about ¥1 trillion. KEPCO plans to fund the project through a mix of self-financing, loans, and proceeds from its recent large capital increase.
- **TAKEAWAY:** [The decision to resume surveys for a new reactor at Mihama signals the first step toward new nuclear facilities construction since 2011. The move aligns with the govt's push to maximize nuclear use. Half of Japan's operable reactors will exceed 50 years of age by 2040. So, the initiative underscores the urgency of modernizing infrastructure. The need for nuclear power is often justified by rising electricity demand from AI and semiconductor growth.](#)

- **SIDE DEVELOPMENT:**

- [KEPCO VP meets with local officials for new NPP plans](#)

- (Denki Shimbun, July 24)

- KEPCO Vice President and head of nuclear operations, Mizuta Hitoshi, visited Mihama Town Hall in Fukui Pref and told Mayor Toshima Hideki and Assembly Chairman Kawabata Tadayuki of KEPCO's plans for a new NPP. The company will resume geological surveys in preparation for construction.
      - Toshima did not state a clear opinion on the survey but acknowledged that the plant's reconstruction aligns with the Basic Energy Plan.
      - Kawabata pointed out the uncertainties over development of the "innovative light-water reactor", and also requested that KEPCO show a clear commitment to regional development.

## KEPCO to postpone end of periodic inspection at Takahama NPP

(Company statement, July 23)

- KEPCO will postpone the scheduled end date of the periodic inspection for Takahama Unit 4 that began on June 18; it was planned to end in September.
- During the inspection, four heat transfer tubes in the steam generator (SG) were found to have thinning or possible cracks.
- *CONTEXT: Takahama Unit 4 is a three-loop type plant with three SGs labeled A, B, and C. Testing confirmed indications of thinning from the secondary side on two tubes in SG C. Also, signal indications suggested cracking from the primary side in tubes in SGs A and C.*

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## Hokkaido Electric submits revised NRA application for Tomari reactor

(Nikkei, July 7)

- Hokkaido Electric submitted a revised NRA application for changes to the reactor installation of Tomari Unit 3, regarding building a designated facility for counterterrorism. The company plans to invest ¥110 billion in the facility.
- These facilities will reduce pressure and cool the reactor containment vessel in the event of a terrorist attack. Such facilities must reach completion within five years of the main construction plan's approval.
- Unit 3 is still under safety review and has not yet received construction approval. Hokkaido Electric aims to restart Unit 3 by 2027.
- **TAKEAWAY:** The ¥110 billion for the anti-terrorism facility is only one part of the ¥515 billion total required to restart Tomari Unit 3. The govt considers the reactor of great importance for reducing regional fuel costs. Also, it could help in powering semiconductor and data center projects in Hokkaido. However, there is concern about the uncertain financial return on these nuclear facility investments. For more info on the matter, please see the analysis story published in *Japan NRG's* July 7 issue.

## NEWS: TRADITIONAL FUELS

### Japan and South Korea to enhance cooperation on oil supply security

(S&P Global, July 26)

- South Korea and Japan plan to enhance collaboration on oil supply security, aiming to be prepared for potential disruptions in Middle Eastern crude trade.
- Earlier this month, JOGMEC and South Korea's KNOC held their annual meeting to discuss oil reserve policies.
- These included management of reserve facilities, quality control, disaster management protocols, and other operational issues.
- South Korea holds 207 days' worth of oil reserves, combining both government and private sectors, while Japan holds a total of 199 days' worth of oil reserves.
- *CONTEXT: Both South Korea and Japan depend on imports for nearly all their crude oil needs, mostly coming from the Persian Gulf.*

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## Trump says Japan and U.S. to form JV for LNG project in Alaska

(Reuters, July 23)

- Trump said Japan and the U.S. would form a JV to develop an LNG project in Alaska. METI, however, said it was unaware of such plans.
- It's unclear if Trump was referring to the proposed \$44 billion Alaska LNG project.
- JERA and Tokyo Gas have shown cautious interest in Alaska LNG. Both say they need to assess the terms before proceeding further.
- **TAKEAWAY:** Trump's announcement signals U.S. assertiveness in pushing Japan to join the project. But, Japanese companies and officials are approaching Alaska LNG with caution. The scale, cost, and political overtones of the venture make immediate investment unlikely. Given the lack of clear financial viability and stronger govt support, Japan's private sector is unlikely to commit soon.

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## INPEX to buy stakes in oil and gas fields in Norway

(Company statement, July 23)

- INPEX agreed with Pandion Energy to buy a 10% stake each in the producing oil and gas fields Valhall and Hod, in the central North Sea.
- It will also acquire a 20% stake in both the Mistral and Slagugle oil and gas discoveries, which have not yet been developed, in the Norwegian Sea.

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## LNG stocks up from previous week, down YoY

(Government data, July 23)

- As of July 20, the LNG stocks of 10 power utilities were 1.92 Mt; up 2.7% from the previous week (1.87 Mt), and down 1% from end July 2024 (1.94 Mt), and down 10.7% from the 5-year average of 2.15 Mt.

# NEWS: CARBON CAPTURE & SYNTHETIC FUELS

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## Japanese oil refiners urge govt to consider industry realities in carbon market design

(Government statement, July 24)

- Japan's oil refining industry warned the government that including oil in its emissions trading scheme (GX-ETS) without careful design could negatively impact energy security, given oil's vital role as 40% of Japan's primary energy.
- Refiners stressed that benchmarking in the GX-ETS must recognize the complexity of their facilities, which produce multiple products simultaneously and vary significantly in scale, configuration, and fuel use compared to their peers abroad.
- Companies noted they've already achieved considerable CO2 reductions through investments and efficiency improvements, but cautioned that without breakthrough technologies, further decarbonization potential is limited due to the sector's "hard-to-abate" nature.
- Industry representatives called on the government to ensure flexible ETS mechanisms that avoid excessive burdens during the energy transition, enabling investment in cleaner technologies like SAF, synthetic fuels, hydrogen and carbon capture (CCS).



- Refiners emphasized that legally mandated maintenance shutdowns, increasingly prolonged due to labor shortages, lead to significant annual production fluctuations, limiting their ability to consistently cut emissions.
- **TAKEAWAY:** As stated many times by Japan NRG, the move to a nationwide ETS will be very tough. Each sector, like the oil refining industry, will fight tooth and nail to gain as many concessions as they can and play up its complexities, importance to the country's economy, and the risks associated with burning it with further levies or costs. The first sector to have the ETS system forced upon it is oil refining, hence this dialogue with the government via one of the METI subcommittees. We expect METI to offer some compromises but stick to the end goals. Any delays will no doubt frustrate clean energy proponents, but they are part and parcel of such negotiations.

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## Mitsubishi and ENEOS join renewable fuel venture in Hawaii

(Company statement, July 22)

- Mitsubishi Corp and ENEOS will invest ¥15 billion (36.5% equity share) in Hawaii Renewables, a JV with Par Pacific to produce and sell renewable fuels like SAF and Renewable Diesel at their Kapolei refinery.
- The refinery is being upgraded for production of sustainable fuel, with annual production targets of 150,000 kiloliters of SAF.

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## Kanadevia wins EPC for liquefied CO2 tanks

(Company statement, July 23)

- Kanadevia agreed with Taiwan's Liang Lan Industries to develop EPC (engineering, procurement, construction) of spherical liquefied CO2 storage tanks for CCS.
- Their goal is to build one to two 5,000-ton tanks annually by 2030.
- The partnership comes as the govt set a goal of 6 to 12 Mt of annual CCS capacity by 2030, and as energy utilities plan for robust investment to offset their sustained thermal power usage.

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## Euglena raises stake in Malaysian biofuel JV

(Company statement, July 17)

- Euglena raised its stake to 15% in a JV with Petronas and Eni to build a biofuel plant in Malaysia, with an annual production capacity of about 725,000 KL of biofuels, including SAF and HVO.
- The plant, to start operation in 2028 on the premises of Petronas' Pengerang Complex, will be one of Asia's largest biofuel plants.

# ANALYSIS

BY FILIPPO PEDRETTI

## Mired in Bureaucracy: Will Tokai No. 2 Ever Power Again?

Japan Atomic Power Company's Tokai No.2 is slated to receive OCCTO subsidies and has been waiting to restart for a long time. Nevertheless, despite receiving an initial regulatory green light in 2018, the 1.1 GW plant sits idle and rarely makes headlines.

While the government has set a policy to restart nuclear power facilities, Tokai No.2 is struggling to implement additional safety measures and garner local support. Still, officials have recently started talking up the prospects of a working Tokai No.2, suggesting that a restart may be on the cards as soon as the next few years.

In recent issues, *Japan NRG* looked at the situation around TEPCO's Kashiwazaki-Kariwa NPP Unit 6 and Hokkaido Electric's Tomari NPP Unit 3. Like Tokai No.2, they were selected for subsidies under the LTDA scheme for decarbonized power sources, and are frequently in the spotlight for their likelihood to restart.

To conclude our deep dive into the NPPs that won LTDA funding, it's crucial to determine what to expect from Tokai No.2. Strategically, it's an important nuclear power facility, but in some ways, it seems to have been left behind.

	Kashiwazaki-Kariwa Unit 6	Kashiwazaki-Kariwa Unit 7	Tomari Unit 3	Tokai No.2
A. NRA Status	● Approved	● Approved	● Draft approval in 2025	● Approved
B. Facilities work	● Reactor operable until 2029; anti-terrorism facility work needed after	● Reactor not operable from October; anti-terrorism facility work needed	● Port construction to start after reactor restart	● Reinforcement underway
C. Local Politics	● Government undecided, risk of delay	● Government undecided	● Government undecided; waiting on consent rules	● Highly divided
D. Evacuation	● Central government approval received; waiting for local consent	● Central government approval received; waiting for local consent	● No major issues raised	● Only partial coverage
E. Technical Readiness	● Fuel loaded, testing underway	● Won't meet October 2025 deadline	● Awaiting restart work	● Fires, seawall defects
F. OCCTO	● Yes	● No	● Yes	● Yes

### Legend

●	Positive status / Completed / No major issues
●	Uncertain status / In progress / Partially resolved
●	Problematic / Significant obstacle / Delayed or blocked

### The Plant

Tokai No.2 is the only nuclear power plant in the Tokyo area, in Ibaraki Prefecture. Opened in 1978, it has provided power to both Tohoku Electric and TEPCO. The latter also has a stake of about 28% in JAPC, the NPP's operator.

During the 2011 earthquake and tsunami Tokai No. 2 avoided disaster by shutting down, in the end sustaining little damage. Nevertheless, since then the plant has been

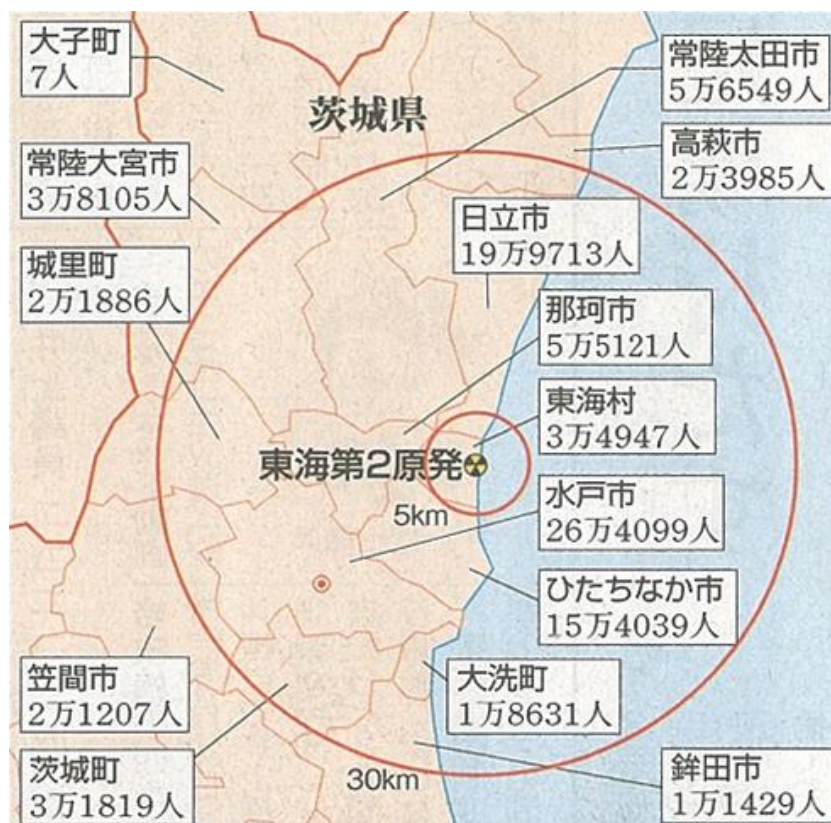
idle. In September 2018, it passed the NRA's review under new regulatory standards, and a few months later, it received a permit to extend its original 40-year operational period by 20 years.

In the past weeks, officials began mentioning a possible restart. Right after TEPCO's Kashiwazaki-Kariwa Unit 6 started loading fuel on June 10, the mayor of Tokai, Yamada Osamu, said he planned to approve the restart of his local NPP. This marked a change in his stance that was previously neutral – perhaps with an eye to the mayoral election in autumn. Yamada's term ends in September, and now he's arguing that the plant's electricity is indispensable for the city's economy.

The mayor's endorsement, however, has sparked pushback. Ibaraki Governor Oigawa Kazuhiko emphasized that the mayor simply expressed an opinion, and was not in fact giving an official green light. The governor emphasized that before such a decision can be made, a new evacuation plan for the NPP must be finalized.

### Evacuation Plans

According to NRA regulations, 14 municipalities within a 30 km radius of Tokai No.2 must prepare evacuation plans. Over 900,000 people live within that area, and Ibaraki Prefecture has said that up to 170,000 residents would need to evacuate in case of an accident. As such, JAPC still needs to secure broader approval from the prefectural assembly and from a council of six locations (Tokai, Mito, Hitachi, Hitachiota, Hitachinaka, Naka).



Location of 14 municipalities and related population within 30 km radius of Tokai No. 2.  
Source: NRA.

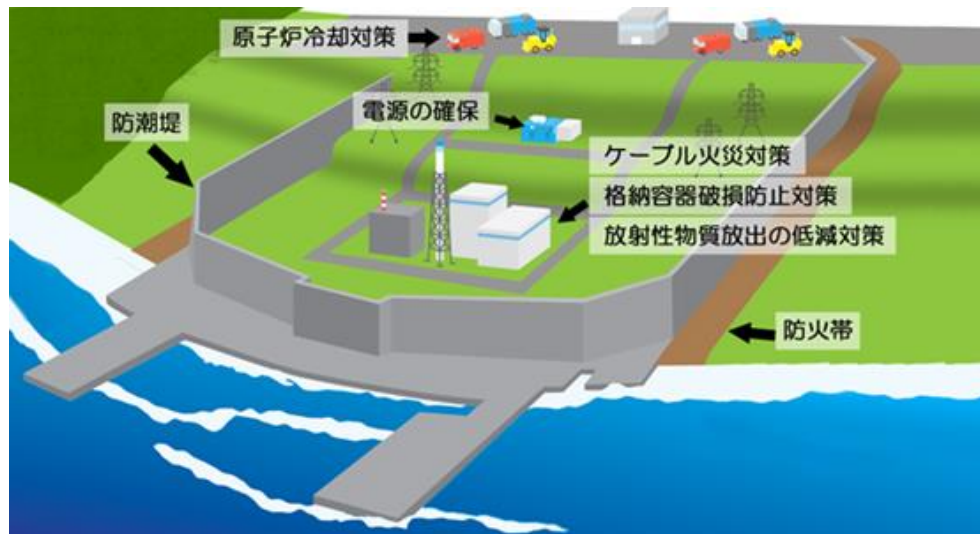
Of the 14 municipalities, Tokai Village and Hitachi City, alongside others, have completed their evacuation plans. But six, including Mito City, the prefecture capital,

have not. The delay is due to logistical difficulties in securing evacuation sites in case of emergency.

In 2021, siding with 224 plaintiffs, the Mito District Court ordered an injunction against the plant's operation over inadequate evacuation plans, a decision now under review by the Tokyo High Court.

Mito's mayor Takahashi Yasushi warned that no restart is possible without a workable large area-wide evacuation plan, as well as local community consensus. Governor Oigawa expects progress on securing such evacuation sites to be made within a few years, and that the prefecture will take the lead in securing sites outside Ibaraki.

### Construction defects and fire accidents



Overview of safety upgrade works at Tokai No.2.

Source: JAPC

Coordinating the municipalities for evacuation isn't the only problem. In 2023, concerns emerged over both structural safety and operational reliability. A construction defect was discovered in the seawall intended to protect the reactor building. Poor filling of concrete left gaps and also exposed a deformed rebar.

Before JAPC announced and reported the issue to the NRA, local Communist Party officials, who oppose the NPP's restart, held a press conference, disclosing that a former worker on the project came forward alleging falsified reporting at the construction site.

He warned that unfilled concrete in the foundation could lead to rapid corrosion and structural weakness. The poor handling of the issue by JAPC further cast doubts on the utility's reliability and integrity in the eyes of the local communities.

The NRA demanded to fully rebuild the seawall – the work to be done includes driving piles and solidifying the ground. Instead, the operator opted for reinforcement measures, aiming for completion by late 2026. Originally, JAPC aimed for a restart by September 2024.

Also, the plant had 11 incidents of fire over the past 2.5 years, including one in the central control room in February when flames ignited due to an improper fuse replacement and overheating. This worried locals and raised NRA concerns. The regulator explained that due to the large number of such incidents, they will be regarded as a problem.

Following the fire in the central control room, NRA Chairman Yamanaka Shinsuke said that given the facility's importance, the agency would conduct a thorough investigation into the incident. Also, they would examine whether aging infrastructure had been a contributing factor.

### **Tsuruga Unit 2**

JAPC's woes are compounded by the even graver situation around its other NPP – Tsuruga Unit 2. That station may never restart. Last year, Tsuruga Unit 2 received the unfortunate 'honor' of becoming the first nuclear reactor to be denied operations by the NRA, due to claims that it is located on an active fault. The K Fault is reportedly nearly 300 meters from the facility.

The NRA indicated that the K Fault could move in conjunction with nearby Urazoko fault. JAPC claims that its own on-site surveys prove otherwise, but the NRA found the company's data unconvincing.

For example, JAPC believes that in a critical scenario, even a complete loss of cooling water in the spent fuel pool wouldn't lead to fuel damage. But, NRA experts disagree, in the end sidelining the NPP as an operational asset.

JAPC can still submit a new application to the NRA for Tsuruga. And yet, with so much at stake, it has delayed formulating plans for new geological surveys, which would in any case take over two years. Currently, the utility has not shared a timeline for applying again to the NRA.

### **Conclusion**

Despite securing regulatory approval and govt support, Tokai No. 2 remains in limbo, caught between structural deficiencies, an aging facility, and fragmented local consent. It lacks evacuation plans across the municipalities, and the repeated fire incidents erode trust.

Tokai No.2's restart was one of the big talking points in the Prefecture at the time of the recent Upper House Election. Most of the parties on the right-side of the political spectrum, including the ruling LDP, support a restart. The others are either undecided or against. But, greenlighting restarts on paper is one thing. Rebuilding public confidence and overcoming logistical realities is another.

For JAPC, also entangled in the unresolved fate of Tsuruga NPP, all this bodes ill for the company's financial condition. After all, the two NPPs are almost the entirety of its business. The company clings in hope to restarts and talks about plans to conduct more research around the Tsuruga site, but there are few visible signs of any concrete progress.

In the end, Tokai No.2 risks becoming a sacrifice for past mistakes and a symbol of how infrastructure erodes with time, taking with it performance and public trust. The utility in charge needs a win – any win, really – to show that Tokai No.2 is still an operable asset.



## ANALYSIS

BY TETSUJI TOMITA

### Japan Declares Hydrogen Power Generation Ready to Stand on its Own

This summer, Japanese energy planners called curtains on one of the most prominent projects supported by the state's Green Innovation Fund. The study to verify the potential of applying hydrogen as a second fuel in a thermal power plant, also known as co-firing, will close.

While those that doubt the rationale for burning hydrogen for electricity may rejoice, the development is actually a positive one for the technology's advocates.

The official reason given for ceasing further research funding is that the tech is already well enough advanced and amply tested to suggest that, from here on, the sprint to commercialization can be done through private resources.

The cost of using hydrogen as a generation fuel, however, remains a sore issue. The debate of the need to pursue this strategy when clean hydrogen could be deployed elsewhere is also unlikely to wane anytime soon. Still, Japanese developments indicate that industry players see a path forward. *Japan NRG* reviews the ongoing projects in this space.

#### The end or the beginning?

Global macro and geopolitical factors, such as the election of President Trump, have severely dampened the emergence of clean hydrogen as a new energy source. Once seen as a market that can deliver 100+ million tons per annum (Mtpa) by 2030, green and blue hydrogen projects have seen subsidies melt away, financing held up, and customers back away or put orders on pause.

While the global hydrogen market continues to grow and approaches 100 Mtpa, about 99% of that volume is 'gray' – neither produced with renewable energy (i.e. 'green'), nor is the CO2 emitted during manufacturing captured and stored (i.e., 'blue').

Despite the mothballing of multiple green and blue hydrogen production projects across the globe, Japanese officials are confident that low-carbon hydrogen will gain a place in a future clean energy mix. The nation's power utilities continue to refine their hydrogen combustion processes with several demonstrations taking place this year, both in Japan and overseas.

Since FY2021, the NEDO-administered Green Innovation (GI) Fund has supported hydrogen development under a METI-backed initiative to build a large-scale supply chain. One core pillar was a demo program to test hydrogen co-firing in gas turbines. But in FY2024, following a stage-gate review by NEDO, some projects were discontinued – signaling that officials no longer see the need to subsidize basic proof-of-concept work.

The GI Fund sought to commercialize hydrogen gas turbine technology by 2030, which included verifying combustion stability in real-world conditions using components from earlier R&D programs. Three flagship projects received funding:

- JERA: Co-firing hydrogen (30 vol%) at a natural gas-fired GTCC plant
- Kansai Electric: Co-/mono hydrogen firing using Mitsubishi's M501J (487 MW) turbines at Himeji Power Plant
- ENEOS: Development of a 100% hydrogen-fueled power generation system



Of these, JERA's project was cancelled in FY2024 before equipment modifications began. Initially scheduled to start construction in FY2025 and begin tests by FY2028, the project was halted at the feasibility study (FS) stage. NEDO concluded that similar hydrogen co-firing demonstrations were already underway both domestically and abroad, leaving little remaining technical uncertainty to justify further government support.

Kansai Electric, by contrast, is moving forward. Since April 2025, it has been co-firing hydrogen at Himeji No. 2, using Mitsubishi's large-frame turbine. Power from this trial is partly used to supply the Osaka-Kansai Expo. A full evaluation is expected by end-FY2025.

ENEOS is targeting full hydrogen mono-firing by 2030, aiming to deliver stable, cost-competitive zero-emission power. However, concerns over hydrogen availability and infrastructure mean its FY2025 plans are now under review.

### Government R&D as the groundwork

NEDO's efforts to support hydrogen combustion technologies began as early as FY2014. Over the years, Kawasaki Heavy Industries (KHI) and Mitsubishi Heavy Industries (MHI) have developed hydrogen-exclusive (i.e. mono) and co-firing combustors through multiple state-funded programs.

KHI unveiled the world's first 1.8 MW hydrogen-fueled cogeneration system, the PUC17MMX, in September 2023. It uses a dry low-NOx combustor and operates on hydrogen alone. MHI, meanwhile, is scaling up. In November 2023, it completed a 30% hydrogen co-firing trial at its 566 MW GTCC facility in Takasago, and began R&D on combustors capable of co-firing at rates above 30%, with work continuing through FY2026.

Internationally, MHI's technology has been used in major trials. In the U.S., Mitsubishi Power successfully co-fired 20% hydrogen at Georgia Power's McDonough-Atkinson plant (233 MW) in 2022 and reached a co-firing rate of 50% in June 2025 – the highest to date using a large-frame turbine. In Utah, the Intermountain Power Project is preparing to begin commercial operations in 2025 with 30% hydrogen and aims for 100% by 2045 using MHI's 840 MW M501JAC system.

Other OEMs are also advancing. Siemens Energy supported a 38.8% co-firing test at Constellation Energy's Hillabee plant (753 MW) in May 2023, and GE achieved 40% co-firing at Linden Cogen (172 MW) in June 2023.

### What works, what doesn't

Hydrogen-fueled power generation is advancing on several fronts:

- Combustion stability: Past risks like backfire and flashback have been mitigated via improved burner design.
- NOx control: Despite hydrogen's high flame temperature, emissions remain within limits using low-NOx technologies.
- Fuel flexibility: Dual-fuel turbines offer adaptability during the energy transition.
- Mono-firing viability: Small-scale (1 MW-class) hydrogen-only combustion is now commercially demonstrated.

Yet challenges remain before utility-scale deployment:

- Scale: Moving from 1–5 MW test rigs to 100–800 MW commercial units demands more validation.
- Materials: High-temperature hydrogen combustion puts much stress on turbine alloys.

- Cost: Most hydrogen today is gray. Scaling green hydrogen means lowering both production and logistics costs.
- Infrastructure: Pipelines, tanks, and refueling systems are still lacking.
- Standards: Regulation around safety and performance is still evolving.
- System integration: Hydrogen power will need to dovetail with CCUS, renewables, and grid balancing tools.

#### End of subsidies isn't the end of the road

The decision to halt some NEDO-backed programs does not imply the end of hydrogen power development. On the contrary, it may signal a shift in focus from fundamental R&D to commercial deployment.

Japan's early investments positioned its OEMs at the forefront of global hydrogen turbine development. Going forward, policy may shift to supporting infrastructure, demand-side uptake, and cost reduction mechanisms – rather than subsidizing combustion tests.

Hydrogen-fired electricity is not yet commercially viable at scale. But the training wheels are coming off, and the industry is now expected to pedal forward under its own power.

## ASIA ENERGY REVIEW

BY JOHN VAROLI

*A brief overview of the region's main energy events from the past week*

### **Australia / Renewables**

The Energy Market Operator reports a surge in new generation and storage capacity, with 260 projects totalling 53 GW, up nearly 40% YoY.

### **China / Hydropower**

Work on the world's biggest hydropower megadam began, on the Yarlung Tsangpo river, in Tibet. The \$170 billion project could provide up to 70 GW of power.

### **China / Oil refining**

The oil refining sector proves resilient despite industrial overcapacity. Of three small refiners in Shandong that went bankrupt last year, one has resumed operations under a new owner.

### **India / Electricity**

India added a record 22 GW of renewable energy capacity in H1 of 2025 – a 57% jump from the 14.2 GW installed during the same period last year.

### **Indonesia / Refineries**

The country's sovereign wealth fund Danantara plans to sign an \$8 billion EPC contract with U.S. engineering firm KBR to build 17 modular refineries.

### **Laos/ Hydropower**

Thai energy group Gulf paid \$128 million for a 60% stake in the 770 MW Pak Lay hydropower project. The seller was Chinese state-owned Sinohydro.

### **Malaysia / Coal and Gas**

Coal power declined for the first time in 17 years. Meanwhile, in 2024, gas' share of power rose to 17.5%. LNG imports were up 51% in H1 of 2025

### **Philippines / Renewable energy**

Increasing adoption of renewable energy could push average annual spot power prices as much as 24% lower by 2029, said the country's power market operator.

### **South Korea / LNG imports**

Moscow is ready to expand LNG supplies to South Korea, said Andrei Rudenko, a Russian deputy FM. The supplies would come from Yamal LNG.

### **Taiwan / Offshore wind**

Ørsted Energy delivered first power from its 920 MW Greater Changhua 2b and 4 offshore wind farms, which are the first offshore projects built to supply renewable energy to TSMC.

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