ScienceX

Battery Storage Market Notes, November 2026 issue

Science X Inc. Published November 23, 2026

"Grid-scale batteries" are large batteries connected to the power grid that store electricity and release it. They earn money by selling the "capability" to fix surpluses and shortages of electricity. They also use the difference in electricity prices across the day. These notes use published figures and our records to show, in figures and tables, how the market moved in October 2026. From this issue, each issue is named after the month it is published. This issue covers market figures for October 2026 (together with the previous issue, the October 2026 issue, it covers the October market; in the previous issue, only the balancing market used September figures). This issue is built from the latest data published on the day we prepared it. Section 3 shows November 2026 so far, and section 4 shows which source each figure comes from and up to which day.

1. Three income sources for a battery storage site (how to read these notes)

A battery storage site (grid-scale battery) earns income from three markets. ① The balancing market (EPRX) is where the "capability" to fix surpluses and shortages of electricity is sold to grid operators. ② Wholesale electricity (JEPX) is the market where electricity is bought and stored when it is cheap and sold when it is expensive. ③ The capacity market (OCCTO) is where the country buys future electricity supply capacity in advance. These notes present the figures in the order of these three markets. The ①②③ at the start of each section title shows which market it covers.

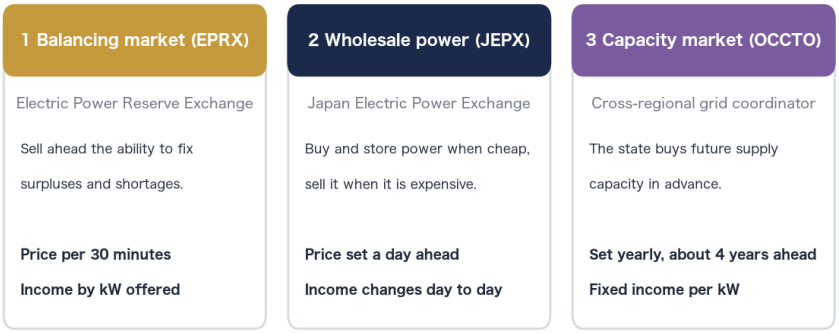


Figure 1 Three income sources for a battery storage site

Source: Rules of the Japan Electric Power Exchange (JEPX), the Electric Power Reserve Exchange (EPRX) and the Organization for Cross-regional Coordination of Transmission Operators (OCCTO).

2. Three trends this month

We picked three trends for October 2026 from the figures of the three markets.

- In the balancing market (EPRX), Primary reserve (online) went from September 2026 (final) to October 2026 (preliminary) as follows: the bid ratio went from 124.3% to 145.9%, and the average winning price went from 3.42 yen to 3.22 yen (yen/kW per 30 min).
- In the balancing market (EPRX), the average winning price for Primary reserve (offline) went from 5.80 yen in September 2026 (final) to 2.69 yen in October 2026 (preliminary) (yen/kW per 30 min).
- In wholesale electricity (JEPX), the gap between the average of the most expensive 4 hours and the average of the cheapest 4 hours (monthly average) in October 2026 was 17.14 yen/kWh in Tokyo and 19.30 yen/kWh in Kyushu.

The October 2026 figures for wholesale electricity (JEPX) and for our records (new listings on Chikudensho Market and grid connection studies) are the same as in the previous issue (the October 2026 issue). For the capacity market, this issue adds the results of the additional auction (they were not in the previous issue). Figures for part of November 2026 are in the next section. The bid ratio is the volume bid ÷ the volume grid operators asked for. Above 100% means more bids came in than were requested.

3. November 2026 so far (preliminary: balancing market to the 23rd, wholesale electricity to the 24th)

The figures in this section are preliminary figures for part of November 2026. They are not figures for the whole of November 2026. They will change once the month ends. We set them next to the full-month figures for October 2026.

- The bid ratio for Primary reserve (online) was 145.9% for October 2026 (all days), against 131.1% in the preliminary figures for November 1–23, 2026. The average winning price went from 3.22 yen to 2.91 yen/kW per 30 min.
- The average winning price for Primary reserve (offline) was 2.69 yen for October 2026, against 2.66 yen/kW per 30 min in the preliminary figures for November 1–23, 2026 (bid ratios of 92.4% and 96.5%).
- The average winning price for Tertiary reserve 2 was 2.22 yen for October 2026, against 3.70 yen/kW per 30 min in the preliminary figures for November 1–23, 2026.
- The average wholesale electricity system price for System (nationwide) was 22.51 yen/kWh for October 2026 (all days), against 28.41 yen/kWh for November 1–24, 2026 (delivery days). The 4-hour price gap (average of the daily gaps) went from 17.14 yen to 17.92 yen in Tokyo, and from 19.30 yen to 23.98 yen/kWh in Kyushu.

Balancing market (EPRX, nationwide): preliminary figures for delivery on November 1–23, 2026 (23 days) compared with preliminary figures for October 2026 (31 days)

Product	October 2026 bid ratio (all days, preliminary)	November 1–23, 2026 bid ratio (preliminary)	October 2026 average winning price (yen/kW per 30 min)	November 1–23, 2026 average winning price (preliminary, yen/kW per 30 min)
Primary reserve (online)	145.9%	131.1%	3.22	2.91
Primary reserve (offline)	92.4%	96.5%	2.69	2.66
Secondary reserve 1	180.1%	156.5%	3.29	3.17
Secondary reserve 2	329.0%	302.9%	2.86	2.71
Tertiary reserve 1	188.4%	165.1%	2.60	2.48
Tertiary reserve 2	417.6%	377.5%	2.22	3.70
Composite product	165.1%	153.5%	2.65	2.48

November 2026 figures are preliminary figures from partway through the month and will change once the month ends. The bid ratio is bid volume ÷ requested volume. The average winning price is an average weighted by winning volume.

Source: Trading results (preliminary figures) published by the Electric Power Reserve Exchange (EPRX). Compiled by us.

Wholesale electricity (JEPX spot market): delivery on November 1–24, 2026 (24 days) compared with October 2026 (31 days) (yen/kWh)

Area	October 2026 average (all days)	November 1–24, 2026 average (partial)	October 2026 4-hour price gap (average of daily gaps)	November 1–24, 2026 4-hour price gap (partial)
System (nationwide)	22.51	28.41	20.42	22.72
Hokkaido	20.49	26.64	29.02	23.31
Tokyo	27.02	32.10	17.14	17.92
Kansai	19.50	25.91	18.71	21.41
Kyushu	15.07	21.67	19.30	23.98

The average is the simple average of 30-minute slots. The 4-hour price gap is the daily average of the gap between the average of the day's 8 most expensive slots and the average of its 8 cheapest slots (the same as in the wholesale electricity sections). November 2026 figures are from partway through the month, not for the whole month.

Source: Spot market trading results published by the Japan Electric Power Exchange (JEPX). Compiled by us.

4. Data dates in this issue

This table lists the source of each figure in this issue and the last day each data set covers. Figures for the balancing market (EPRX), wholesale electricity (JEPX) and the capacity market (OCCTO) were taken again from the latest data published on the day we prepared the issue. Our records are tallies as of the dates shown in the table.

Source	Period covered	Type	Date taken or checked
Balancing market (EPRX), October 2026 figures	October 1–31, 2026 (31 days)	Preliminary figures (final figures not yet published)	November 23, 2026
Balancing market (EPRX), monthly trends (Figure 4, Figure 5 and others)	Final figures for April 2024 to September 2026, preliminary figures for October 2026	Final figures only for months where they are published	November 23, 2026
Balancing market (EPRX), November 2026 (partway through the month)	November 1–23, 2026 (23 days)	Preliminary figures	November 23, 2026
Wholesale electricity (JEPX), October 2026 figures	October 1–31, 2026 (31 days)	Trading results (confirmed cleared values)	November 23, 2026
Wholesale electricity (JEPX), November 2026 (partway through the month)	November 1–24, 2026 (24 days, delivery days)	Trading results (confirmed cleared values)	November 23, 2026
Capacity market (OCCTO)	Main auction: delivery FY2024 to FY2029 (latest is FY2029) / additional auction: delivery FY2025 to FY2027 (latest is FY2027). Results for delivery FY2030 had not been published on the date we checked	Published results	November 23, 2026
Our records, new listings on Chikudensho Market (October 2026)	October 1–31, 2026	Our records (same figures as the previous issue)	As tallied for the previous issue
Our records, tally of grid connection study responses	Response documents we had received as of October 19, 2026	Our tally	October 19, 2026

"Final figures" are the values EPRX publishes after the month ends (totals that reflect additional procurement and corrections made after clearing; the "Total (final figures)" row in the published file). "Preliminary figures" are the values published right after clearing. When the final figures come out, that month's figures may change slightly.

5. ① Balancing market (EPRX) | Seven products and prices by area

The balancing market is where grid operators buy, every 30 minutes, the "capability" to fix surpluses and shortages of electricity. Products are divided by how fast output can be changed (Primary reserve acts on frequency changes; Secondary and Tertiary reserves act on instructions from the grid operator). Primary reserve is the fastest, and Tertiary reserve 2 is the slowest. Primary reserve is a product that senses frequency changes by itself and acts. It has two categories, "online" and "offline." In online, the grid operator watches the response over a dedicated line. In offline, no dedicated line is laid, and a record of the response is submitted afterwards. The two are recruited and traded separately, so we show them separately. A Composite product is a bid that offers several products together. Prices are set in yen per 1 kW of capability per 30 min. kW is a unit for how much power can be delivered; it is different from kWh, which measures an amount of electricity. One round of the 30-minute trading is called a "30-minute slot." The figure shows the range of winning prices by area (by the area where the power source is). The thin line runs from the cheapest bid to the most expensive bid in the month. The thick band is the price range that holds 8 out of 10 slots with winning bids. The dot is the average winning price. Nationwide figures are in the table in the "Market figures" section.

Across all products and all areas, the highest average winning price by area in the balancing market (yen/kW per 30 min) was 13.64 yen for Tertiary reserve 2 in Tohoku, and the lowest was 0.38 yen for Tertiary reserve 2 in Shikoku.

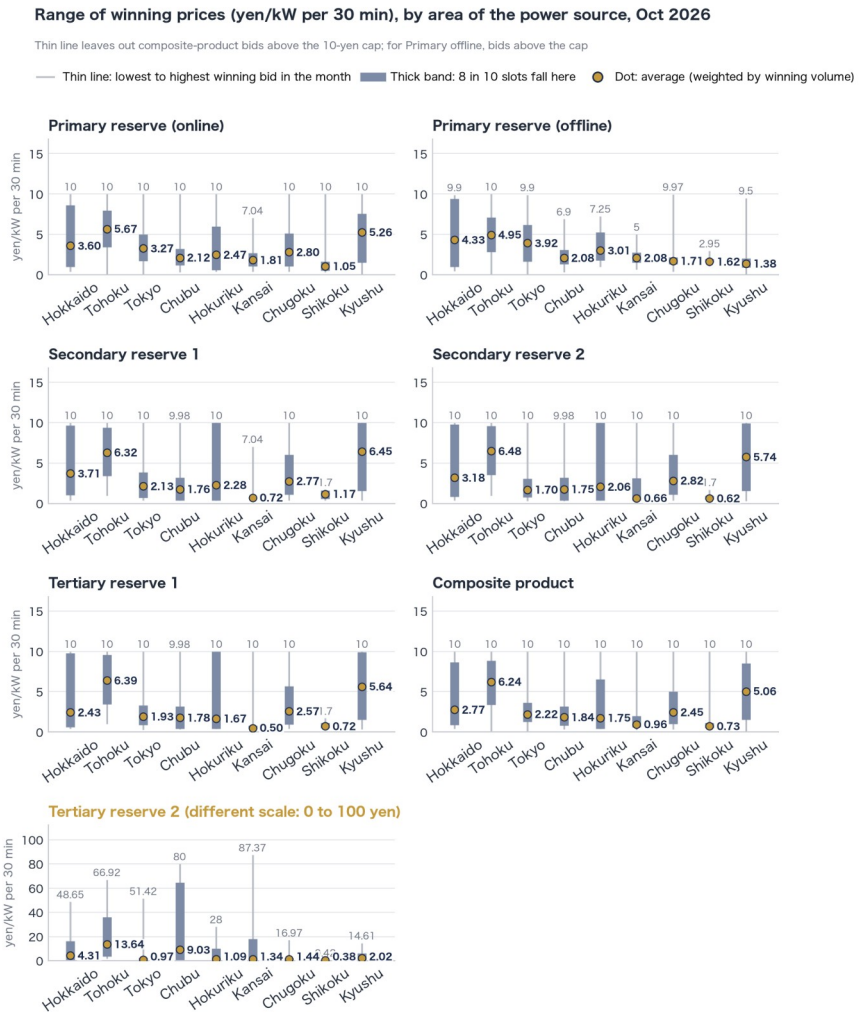


Figure 2 Range and average of winning prices by area in the balancing market (October 2026 (1–31), by area where the power source is)

Source: Trading results (preliminary figures) published by the Electric Power Reserve Exchange (EPRX). Compiled by us.

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Product	Response time	Duration
Primary reserve (online)	Within 10 seconds	5 minutes or more
Primary reserve (offline)	Within 30 seconds	No set duration
Secondary reserve 1	Within 5 minutes	30 minutes
Secondary reserve 2	Within 5 minutes	30 minutes
Tertiary reserve 1	Within 15 minutes	30 minutes
Tertiary reserve 2	Within 60 minutes	30 minutes
Composite product	Requirements of the combined products	Requirements of the combined products

6. ① Balancing market (EPRX) | Grid areas and times where bids win more easily

The clearing rate is the share of the bid volume that won. The higher it is, the more easily bids win. The figure plots the clearing rate of each product by time of day (every 30 minutes) for each grid area (the area where the power source is). Where a line breaks, there were no bids at that time.

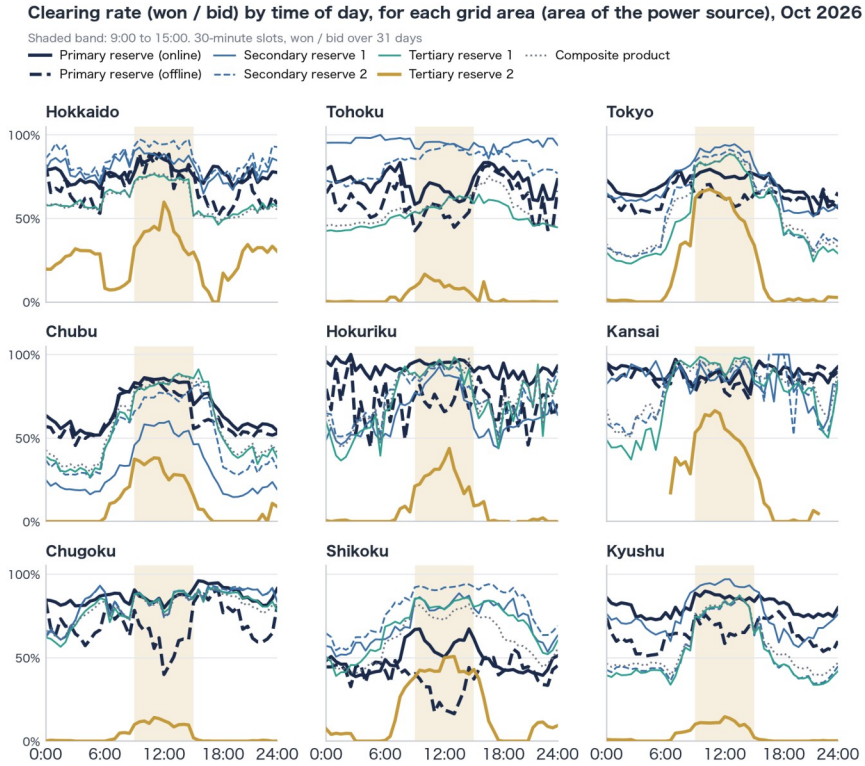


Figure 3 Clearing rate in the balancing market (grid area (area where the power source is) × time of day, October 2026 (1–31))

Source: Trading results (preliminary figures) published by the Electric Power Reserve Exchange (EPRX). Compiled by us.

7. ① Balancing market (EPRX) | Primary reserve (online) became a contest for places

Primary reserve is the fastest product. It acts on frequency changes and changes output within 10 seconds (online) or within 30 seconds (offline). Batteries are often used for it. The left side shows the online category and the right side shows the offline category. The bars are the bid ratio (volume bid ÷ volume grid operators asked for). Above 100% means more bids came in than were requested. Even below 100%, some bids do not win (see the clearing rate in the "Market figures" table). The bars rise when bids increase and also when the requested volume falls. The line is the average winning price. These are monthly figures from April 2024. The source figures are final figures for April 2024 to September 2026 and preliminary figures for October 2026. Final figures are published after the month ends and differ slightly from preliminary figures.

In June 2026, the bid ratio for Primary reserve (online) in the balancing market went over 100% for the first time since April 2024, at 108.6%. In October 2026 it was 145.9%, with an average winning price of 3.22 yen/kW per 30 min. The requested volume went from 3,354.0 MW in April 2024 to 1,095.5 MW in October 2026. Primary reserve (offline) in the balancing market had a bid ratio of 92.4% and an average winning price of 2.69 yen/kW per 30 min in October 2026. Its requested volume went from 943.0 MW in April 2024 to 501.5 MW in October 2026.



Figure 4 Bid ratio (bars) and average winning price (line) for Primary reserve (monthly; online on the left, offline on the right; gold bars are months when bids exceeded the requested volume)

Source: Trading results published by the Electric Power Reserve Exchange (EPRX) (final figures for months where they have been published, preliminary figures for later months). Compiled by us.

8. ① Balancing market (EPRX) | How prices have moved by product

This shows the average winning price by product since April 2024 (monthly average weighted by winning volume). Trading changed from every 3 hours to every 30 minutes on March 14, 2025 for Tertiary reserve 2, and on March 14, 2026 for Primary reserve to Tertiary reserve 1 and the Composite product. The source figures are final figures for April 2024 to September 2026 and preliminary figures for October 2026. Final figures are published after the month ends and differ slightly from preliminary figures.

The average winning price for Primary reserve (online) in the balancing market went from 2.19 yen in April 2024 to 3.22 yen in October 2026. The highest month was May 2026, at 4.83 yen (yen/kW per 30 min). The average winning price for Tertiary reserve 2 in the balancing market went from 4.70 yen in April 2024 to 2.22 yen in October 2026. The highest month was May 2024, at 6.03 yen (yen/kW per 30 min).

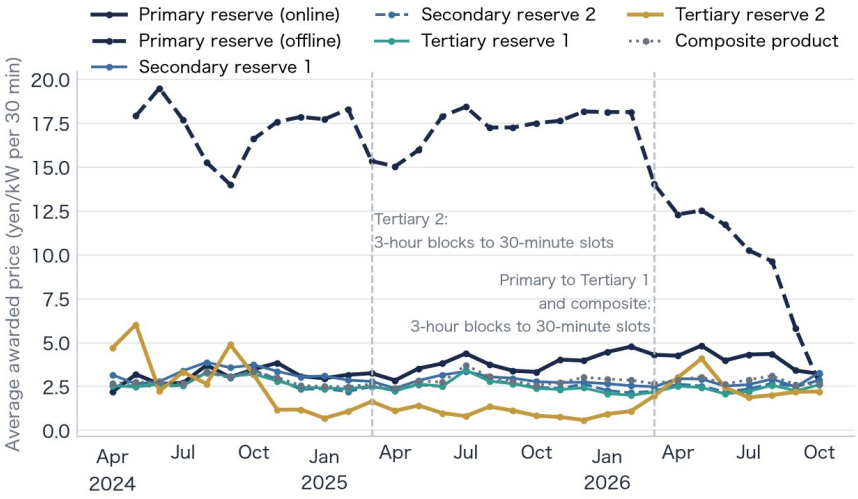


Figure 5 Average winning price by product in the balancing market (yen/kW per 30 min, monthly)

Source: Trading results published by the Electric Power Reserve Exchange (EPRX) (final figures for months where they have been published, preliminary figures for later months). Compiled by us.

9. ① Balancing market (EPRX) | Which hours of the day are expensive

This shows the average winning price by hour for each product in October 2026 (1–31).

For Primary reserve (online) in the balancing market, the October 2026 average winning price was highest in the 17:00 hour at 4.01 yen and lowest in the 8:00 hour at 2.78 yen (yen/kW per 30 min). For Tertiary reserve 2 in the balancing market, it was highest in the 19:00 hour at 9.03 yen and lowest in the 17:00 hour at 0.38 yen (yen/kW per 30 min).

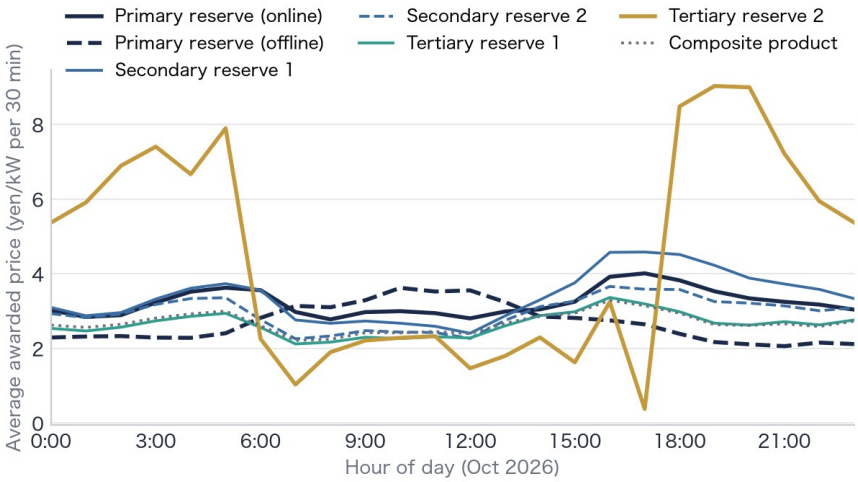


Figure 6 Average winning price by time of day in the balancing market (October 2026 (1–31), yen/kW per 30 min)

Source: Trading results (preliminary figures) published by the Electric Power Reserve Exchange (EPRX). Compiled by us.

10. ① Balancing market (EPRX) | Which products batteries are used for

The figure shows the share of the winning volume taken by batteries. The table compares the average winning price of the volume batteries won with the average winning price of the whole product.

For Primary reserve (online) in the balancing market, the battery share in October 2026 was 35.3%, and the average winning price of the volume batteries won was 2.93 yen (3.22 yen overall, yen/kW per 30 min).

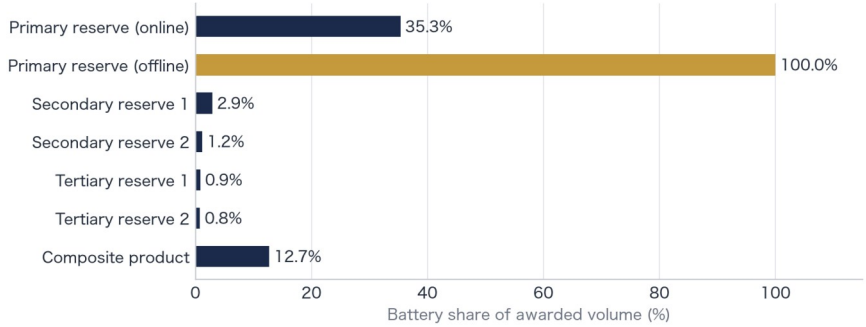


Figure 7 Share of batteries in the balancing market (%)

Source: Trading results (preliminary figures) by power source type published by the Electric Power Reserve Exchange (EPRX). Compiled by us.

Product	Volume won by batteries (yen/kW per 30 min)	Whole product (yen/kW per 30 min)
Primary reserve (online)	2.93	3.22
Primary reserve (offline)	2.69	2.69
Secondary reserve 1	6.08	3.29
Secondary reserve 2	5.10	2.86
Tertiary reserve 1	5.08	2.60
Tertiary reserve 2	64.71	2.22
Composite product	2.96	2.65

Both are averages weighted by winning volume (October 2026, preliminary figures, nationwide). Batteries account for only 0.8% of the winning volume in Tertiary reserve 2. The nationwide average winning price of the slots where batteries won, weighted by the batteries' winning volume, is 9.35 yen/kW per 30 min. The high average for batteries cannot be explained only by their concentration in high-priced slots. It is because the battery bids themselves are priced high (each winning bid is settled at its own bid price).

11. ① Balancing market (EPRX) | Revenue gathers in a small number of slots

We ranked the month's 30-minute slots with winning bids by revenue (average winning price × winning volume, nationwide), from highest to lowest. For each product, we plotted what share of the month's revenue the top slots hold. The more the curve bulges above the dotted line, the more the revenue gathers in a small number of slots. Tertiary reserve 2 is a product that covers errors in forecasting weather-dependent renewable output. Its price is low in most slots and high in a small number of slots.

In the balancing market in October 2026, the top 10% of slots held 59.8% of the month's revenue for Tertiary reserve 2 and 14.8% for Primary reserve (online).

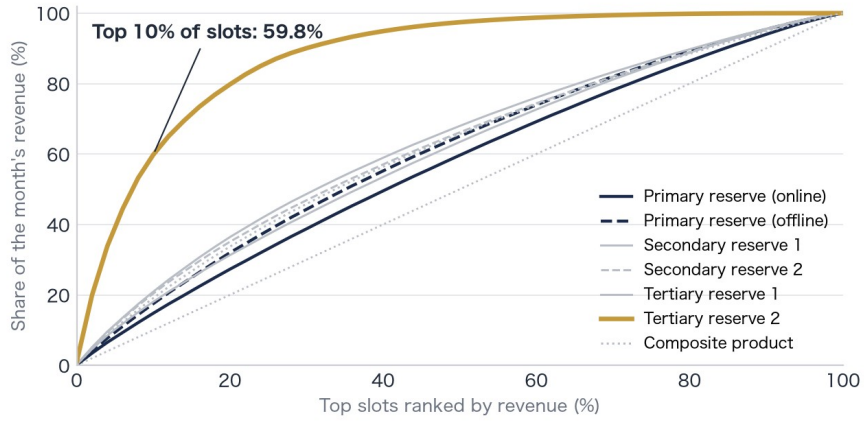


Figure 8 Share of balancing market revenue that gathers in the top slots (October 2026 (1–31), nationwide)

Source: Trading results (preliminary figures) published by the Electric Power Reserve Exchange (EPRX). Compiled by us.

In October 2026, out of 1,207 slots with winning bids, the top 1% of slots by revenue (average winning price × winning volume) held 10.7% of the month's revenue. There were 92 slots with a nationwide average winning price of 10 yen/kW per 30 min or more, and 281 slots with no winning bids.

Slots with the highest top winning price (by area where the power source is). The top winning price is the price of the single highest winning bid. The average winning price for the same slot and area is shown on the right:

Day	Time	Area	Top winning price (yen/kW per 30 min)	Average winning price for the same slot and area (yen/kW per 30 min)
October 8	12:30	Kansai	87.37	15.17
October 8	13:30	Kansai	82.33	12.25
October 13	13:30	Kansai	82.33	22.17
October 13	14:00	Kansai	82.33	22.69
October 1	14:00	Chubu	80.00	34.10

Source: Tertiary reserve 2 trading results (preliminary figures) published by the Electric Power Reserve Exchange (EPRX). Compiled by us.

12. ② Wholesale electricity (JEPX) | Average price

Wholesale electricity is the electricity that power companies and retail electricity companies buy and sell. Its price is set on the "spot market" of the Japan Electric Power Exchange (JEPX), where electricity for the next day is traded the day before. "System (nationwide)" is the price when all of Japan is treated as one market (the system price). When transmission lines between regions are congested, prices split by area, from Hokkaido to Kyushu (area prices).

The monthly average wholesale electricity (JEPX) price for System (nationwide) was 22.51 yen/kWh in October 2026, against 11.67 yen/kWh in the same month last year.

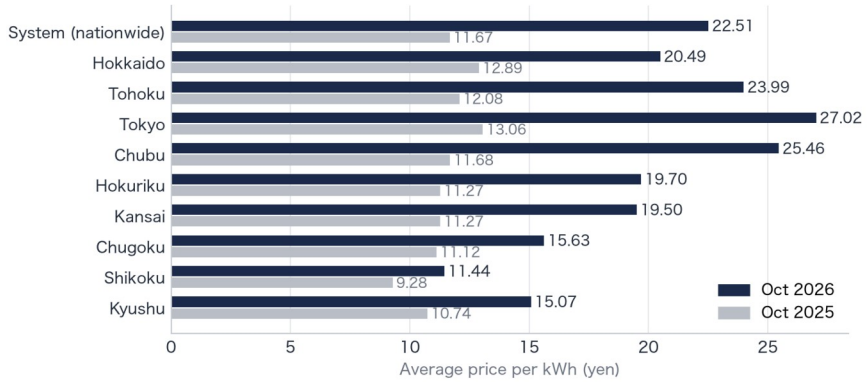


Figure 9 Average wholesale electricity price (yen/kWh). Navy is October 2026, grey is the same month last year

Source: Spot market trading results published by the Japan Electric Power Exchange (JEPX). Simple average of 30-minute prices. Compiled by us.

13. ② Wholesale electricity (JEPX) | How the price moves through the day

The wholesale electricity price changes every 30 minutes. The figure shows the shape of one day, made by averaging the prices at the same time across the month. If a battery stores electricity when it is cheap and releases it when it is expensive, the difference becomes the battery's income.

Through the day, the average wholesale electricity price ranged from 19.03 yen around 12:00 to 37.11 yen around 16:30 in Tokyo, and from 4.94 yen around 12:00 to 24.74 yen around 17:30 in Kyushu (yen/kWh).

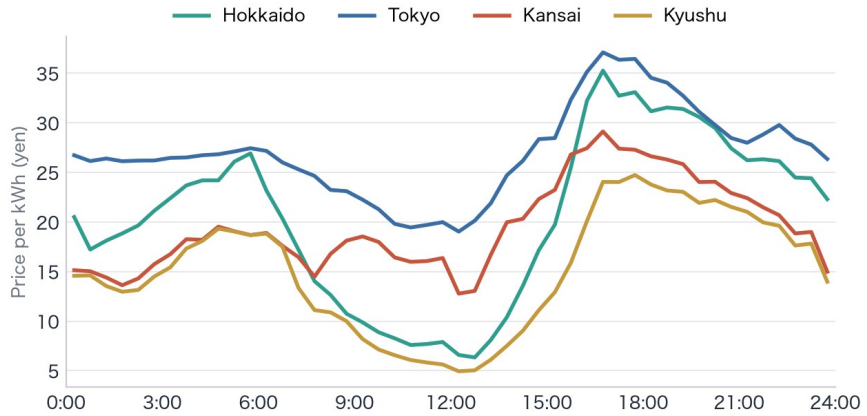


Figure 10 Peaks and troughs of the wholesale electricity price through the day (October 2026 average, yen/kWh)

Source: JEPX spot market. Compiled by us.

14. ② Wholesale electricity (JEPX) | How large the price gap is per kWh

For each area, we took the average price of the day's most expensive 4 hours minus the average price of its cheapest 4 hours, and show the monthly average. This equals the difference per kWh when 1 kWh is bought in the cheapest 4 hours and sold in the most expensive 4 hours. It is a simple gap. Electricity lost in charging and discharging and fees are not subtracted, and the order of the cheap and expensive hours is not considered.

The gap between the average of the most expensive 4 hours and the average of the cheapest 4 hours in wholesale electricity (monthly average) was largest in Hokkaido at 29.02 yen/kWh and smallest in Tokyo at 17.14 yen/kWh.

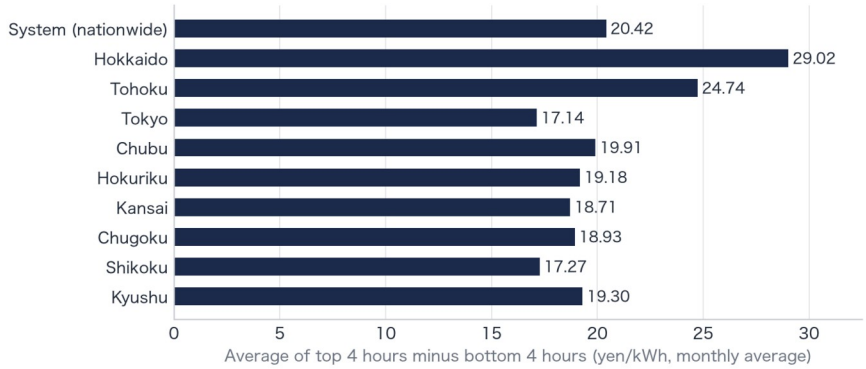


Figure 11 Wholesale electricity price gap: average of the most expensive 4 hours − average of the cheapest 4 hours (October 2026, yen/kWh, monthly average)

Source: JEPX spot market. Compiled by us.

Area	2-hour price gap (yen/kWh)	4-hour price gap (yen/kWh)	Days with a 4-hour price gap of 10 yen or more
System (nationwide)	22.95	20.42	29
Hokkaido	32.56	29.02	31
Tohoku	27.09	24.74	30
Tokyo	19.62	17.14	29
Chubu	22.37	19.91	29
Hokuriku	21.71	19.18	31
Kansai	21.22	18.71	31
Chugoku	20.90	18.93	31
Shikoku	19.40	17.27	28
Kyushu	21.19	19.30	31

The price gap is the monthly average of the daily gaps. October 2026 has 31 days of data.

15. ② Wholesale electricity (JEPX) | There is a price gap every day

We show the same 4-hour price gap day by day. The bigger the gap on a day, the more room a battery has to earn from the price gap.

Out of 31 days, the 4-hour wholesale electricity price gap was 10 yen or more on 31 days in Hokkaido, Hokuriku, Kansai, Chugoku and Kyushu, 30 days in Tohoku, 29 days in System (nationwide), Tokyo and Chubu, and 28 days in Shikoku.

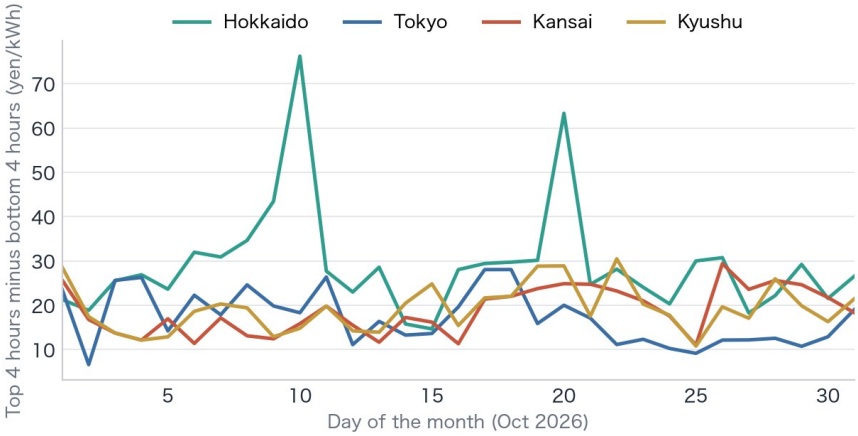


Figure 12 Daily wholesale electricity price gap (average of the day's most expensive 4 hours − average of its cheapest 4 hours, yen/kWh)

Source: JEPX spot market. Compiled by us.

16. ③ Capacity market (OCCTO) | A market that buys future supply capacity

The capacity market buys electricity supply capacity 4 years ahead through an auction held once a year. The price is set in yen per kW per year. The left figure shows the clearing prices of past main auctions. The right figure shows the battery and pumped hydro capacity cleared in the Long-Term Decarbonization Power Source Auction (a separate auction that promises capacity income, in principle for 20 years, for things such as new decarbonized power sources). These are published once a year, so they do not change every month. The latest main auction is for delivery FY2029 (published January 2026), and the latest additional auction is for delivery FY2027 (published August 2026). The clearing prices of the additional auction (an auction that buys, in the year before delivery, the supply capacity the main auction did not secure) are in the "Market figures" table.

The capacity market main auction clearing price for Tokyo from delivery FY2024 to FY2029 was 14,137 yen → 3,495 yen → 5,834 yen → 9,555 yen → 14,812 yen → 15,111 yen (yen/kW). In the capacity market's Long-Term Decarbonization Power Source Auction, the battery and pumped hydro capacity cleared in the FY2025 round was 819 MW for lithium-ion batteries and pumped hydro (excluding new builds), and 886 MW for non-lithium-ion batteries, pumped hydro (new builds) and LDES. Both are once-a-year values, so they are the latest published figures and do not change every month.

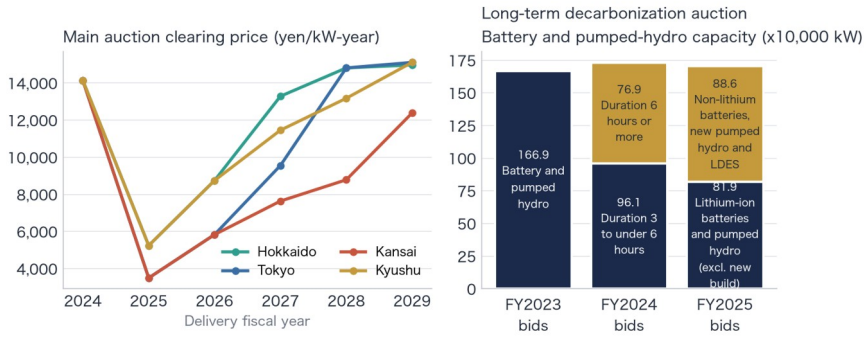


Figure 13 Capacity market clearing prices (left, yen/kW) and battery and pumped hydro capacity cleared in the Long-Term Decarbonization Power Source Auction (right, in units of 10,000 kW)

Source: Results and capacity securing contract materials published by the Organization for Cross-regional Coordination of Transmission Operators (OCCTO) (sources are listed in the "Assumptions and terms" section). As published.

17. Our records | Where battery storage projects are increasing

We counted the projects newly listed in October 2026 on our Chikudensho Market (our marketplace for grid-scale battery sites), by grid operator area. These are figures for projects we handled, not the number for the whole market. Transfer of rights hands over the rights to the land and power. Completed-build handover hands over the facility once it is built.

New listings on our Chikudensho Market in October 2026 were 77 projects, 309.1 MW. By grid area, Tokyo had 33 projects, 99.8 MW; Tohoku had 8 projects, 73.4 MW; and Chubu had 11 projects, 69.9 MW.

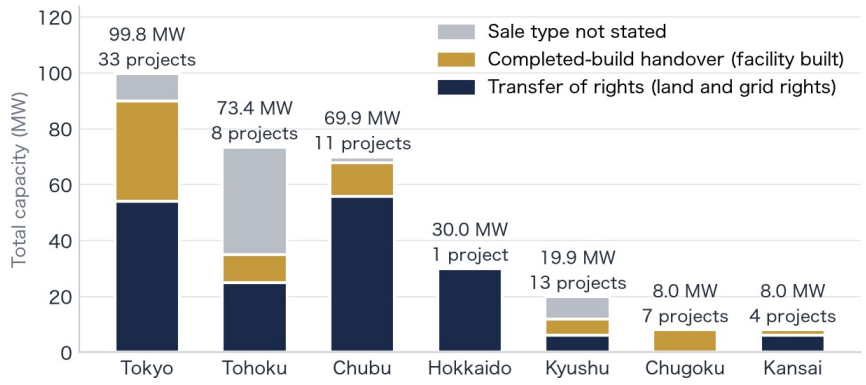


Figure 14 Output (MW) of projects newly listed on Chikudensho Market in October 2026

Source: Our Chikudensho Market records (project locations are given only down to the grid area; prices and parties are not shown).

18. Our records | How many months and how much it takes to connect to the grid

A grid connection study is a procedure where the grid operator checks "whether you can connect at this location, and how much the work will cost." The grid connection cost contribution is the part of the connection work cost that the applicant pays. Of the response documents we received, we tallied only high-voltage cases (connecting to 6,600 V distribution lines), by grid area. Extra-high voltage is not included. Grid areas with fewer than 5 cases are not shown.

For grid connection study responses (high voltage only, as of October 19, 2026), the median construction period was 8.0 months in Tokyo, 12.0 months in Chubu, 12.0 months in Kansai, 12.5 months in Kyushu and 17.0 months in Tohoku (5 cases). The median grid connection cost contribution was ¥3.02 million in Tokyo, ¥3.70 million in Chubu, ¥12.34 million in Kansai, ¥12.50 million in Kyushu and ¥32.35 million in Tohoku (8 cases).

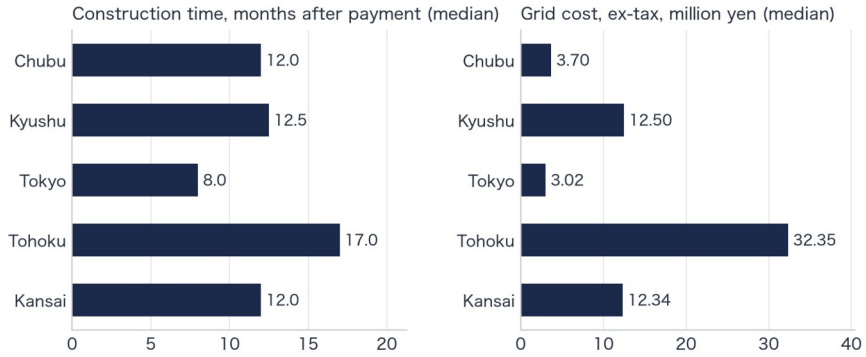


Figure 15 Medians of grid connection study responses (high voltage) by grid area (left: months of construction work, right: grid connection cost contribution, excluding tax)

Source: Tally of the high-voltage cases among the grid connection study responses we received from general transmission and distribution operators (as of October 19, 2026).

19. Market figures (tables you can use as they are)

We put the figures behind the charts into tables so you can use them in your materials: ① nationwide figures by product for the balancing market (bid ratio, clearing rate, price, battery share), ② figures by area and trading volume for wholesale electricity (JEPX), and ③ capacity market clearing prices.

Balancing market (October 2026, preliminary figures, nationwide)

Product	Requested volume (MW)	Bid volume (MW)	Winning volume (MW)	Bid ratio (bids ÷ requested)	Clearing rate (won ÷ bids)	Average winning price (yen/kW per 30 min)	Battery share
Primary reserve (online)	1,095.5	1,598.1	1,160.7	145.9%	72.6%	3.22	35.3%
Primary reserve (offline)	501.5	463.5	299.8	92.4%	64.7%	2.69	100.0%
Secondary reserve 1	928.9	1,673.0	953.3	180.1%	57.0%	3.29	2.9%
Secondary reserve 2	943.2	3,103.1	1,867.7	329.0%	60.2%	2.86	1.2%
Tertiary reserve 1	2,563.9	4,829.1	2,700.3	188.4%	55.9%	2.60	0.9%
Tertiary reserve 2	387.2	1,617.0	369.1	417.6%	22.8%	2.22	0.8%
Composite product	3,377.5	5,575.5	3,271.5	165.1%	58.7%	2.65	12.7%

Volumes are averages per 30-minute slot. Products with a bid ratio below 100% did not get enough bids for the requested volume. The clearing rate is the share of the bid volume that won.

Source: Trading results (preliminary figures) and trading results by power source type published by the Electric Power Reserve Exchange (EPRX). Compiled by us.

Wholesale electricity, JEPX spot market (October 2026, by area, yen/kWh)

Area	Monthly average	Same month last year	Daytime (8:00–16:00)	Evening (16:00–20:00)	4-hour price gap	Highest	Slots at 30 yen or more	Slots at 0.01 yen
System (nationwide)	22.51	11.67	16.02	31.06	20.42	47.88	220	39
Hokkaido	20.49	12.89	11.31	32.25	29.02	105.00	303	67
Tohoku	23.99	12.08	15.78	34.19	24.74	50.01	437	95
Tokyo	27.02	13.06	23.12	34.69	17.14	50.01	466	16
Chubu	25.46	11.68	20.38	33.55	19.91	46.45	387	24
Hokuriku	19.70	11.27	18.29	26.92	19.18	46.45	218	24
Kansai	19.50	11.27	18.22	26.76	18.71	46.45	215	29
Chugoku	15.63	11.12	9.86	23.10	18.93	44.79	63	79
Shikoku	11.44	9.28	7.50	16.61	17.27	37.51	23	146
Kyushu	15.07	10.74	8.31	23.10	19.30	44.79	53	91

Trading volume (October 2026, total for 31 days): total cleared volume 30,319 million kWh (same month last year 22,279 million kWh), sell bid volume 45,218 million kWh, buy bid volume 38,191 million kWh.

Source: Spot market trading results published by the Japan Electric Power Exchange (JEPX). Prices are simple averages of 30-minute slots. Compiled by us.

Capacity market main auction area prices (yen/kW per year)

Delivery fiscal year	Hokkaido	Tohoku	Tokyo	Chubu	Hokuriku	Kansai	Chugoku	Shikoku	Kyushu
FY2024	14,137	14,137	14,137	14,137	14,137	14,137	14,137	14,137	14,137
FY2025	5,242	3,495	3,495	3,495	3,495	3,495	3,495	3,495	5,242
FY2026	8,749	5,833	5,834	5,832	5,832	5,832	5,832	5,832	8,748
FY2027	13,287	9,044	9,555	7,823	7,638	7,638	7,638	7,638	11,457
FY2028	14,812	14,812	14,812	10,280	8,785	8,785	8,785	8,785	13,177
FY2029	14,972	15,111	15,111	12,388	12,388	12,388	12,388	12,388	15,112

Capacity market additional auction area prices (yen/kW per year; only areas where it was held)

Delivery fiscal year of the additional auction	Hokkaido	Tohoku	Tokyo	Chubu	Hokuriku	Kansai	Chugoku	Shikoku	Kyushu
FY2025	13,761	—	3,495	—	—	—	—	—	5,029
FY2026	8,749	8,749	8,749	8,749	8,213	8,213	8,213	8,213	8,591
FY2027	10,361	10,361	10,361	10,361	10,361	10,361	10,361	10,361	10,361

The additional auction buys, in the year before delivery, the supply capacity the main auction did not secure. "—" means it was not held in that area (for delivery FY2025, it was held only in Hokkaido, Tokyo and Kyushu).

Battery and pumped hydro capacity cleared in the Long-Term Decarbonization Power Source Auction (10,000 kW)

Bidding year	Category	Cleared capacity (10,000 kW)
FY2023 round	Batteries and pumped hydro	166.9
FY2024 round	Operating duration of 3 hours or more and less than 6 hours	96.1
FY2024 round	Operating duration of 6 hours or more	76.9
FY2025 round	Lithium-ion batteries and pumped hydro (excluding new builds)	81.9
FY2025 round	Non-lithium-ion batteries, pumped hydro (new builds) and LDES	88.6

Source: Results and capacity securing contract materials published by the Organization for Cross-regional Coordination of Transmission Operators (OCCTO) (sources are listed in the "Assumptions and terms" section). As published.

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20. Upcoming dates

From this month to three months ahead (November 2026 to February 2027), we list only the events that battery operators, developers and investors act on and whose dates we checked on the source page. Items dated "around," "planned" or "targeted," and items we have not checked, are not listed. Items given only by month are listed only with a note on what needs checking. "Registration of expected capacity" in the Long-Term Decarbonization Power Source Auction is a registration step to complete before bidding (applying). "Basis data for calculating bid capacity" are the figures used to calculate the capacity to bid (both terms follow the wording of the auction guidelines).

Date	Event	Details	Who acts	Source
December 9–15, 2026	Long-Term Decarbonization Power Source Auction (bidding year 2026): registration of expected capacity	Registration of expected capacity is accepted December 9–15, and review runs December 16–25. Bidding is in January 2027.	Battery developers and owners (businesses considering bidding)	[1]
January 19–26, 2027	Long-Term Decarbonization Power Source Auction (bidding year 2026): bids accepted	Bids are accepted January 19–26. Requested capacity: 400 MW of batteries (lithium-ion) and 400 MW of non-lithium batteries. Registration of the basis data for calculating bid capacity runs January 27 to February 3.	Battery developers and owners	[1]
February 18, 2027	Completion deadline for SII (the organization that handles national subsidy administration) subsidy projects under the Reiwa 7 fiscal year supplementary budget (single-year)	The project period runs from the grant decision date to February 18, 2027. Multi-year projects run from the grant decision date up to January 19, 2029. Contracts and orders made before the grant decision are not eligible for the subsidy.	Businesses selected for the subsidy	[2]

- [1] OCCTO Long-Term Decarbonization Power Source Auction guidelines (bidding year 2026) 2026-09-02 https://www.occto.or.jp/assets/260902_boshuyoukou_long_2026.pdf
- [2] SII flyer https://sii.or.jp/chikudenchi07r/uploads/R7r_keitouyou_flyer.pdf
- Date we checked: 2026-11-22. Dates may change with announcements by organizers and government offices.

21. Number of projects on Chikudensho Market

This is the number of projects visible to buyers on Chikudensho Market (https://dealroom.scix.co.jp). It comes from the same source as our public market data (https://www.scix.co.jp/market-data), and uses the count at the end of each week. This section uses the count for the last week of October 2026. The current count is on the market data page.

- End of the last week of October (October 26 to November 1): 177 projects.
- End of the last week of the previous month (September 28 to October 4): 129 projects, an increase of 48.
- End of the latest week at the time of publication (November 16 to November 22): 279 projects (102 more than the last week of October).
- The count is the number of projects in the public list at the end of that week. The difference from the previous month is the difference in the number listed, not the number newly listed in that month.

22. Assumptions and terms

- Figures are our tallies of the published values from the sources. We have not added up several months or converted figures to yearly values. We do not show the revenue amount for any single battery storage site.
- Months covered: the balancing market (EPRX) uses preliminary figures for October 2026 (delivery days up to the 31st), and wholesale electricity (JEPX) uses October 2026 (31 days). The September 2026 balancing market figures were preliminary figures in the previous issue (the October 2026 issue), covering delivery days up to the 29th. This issue uses final figures, which differ slightly.
- The November 2026 section shows preliminary figures from partway through the month, not figures for the whole month. The balancing market covers delivery days up to November 23, and wholesale electricity covers delivery days up to November 24. Figures will change once the month ends.
- Balancing market: nationwide preliminary figures from EPRX (the total column). Requested volume is by grid operator (TSO); bid volume, winning volume and average winning price are by area where the power source is. Volumes are averages per 30-minute slot. The average winning price is weighted by winning volume. Bid ratio = bid volume ÷ requested volume; clearing rate = winning volume ÷ bid volume. For the period of 3-hour blocks (until March 13, 2025 for Tertiary reserve 2, and until March 13, 2026 for other products), we counted each block as six 30-minute slots.
- Final figures: the values EPRX publishes after the month ends (totals that reflect additional procurement and corrections made after clearing; the "Total (final figures)" row in the published file). Monthly trends (Figure 4, Figure 5 and others) use final figures for months where they have been published, and preliminary figures for months not yet published (final figures for April 2024 to September 2026, preliminary figures for October 2026). Bid volume, winning volume and average winning price may differ slightly from the preliminary figures, so when final figures come out, that month's figures change.
- Range of winning prices: the thin line runs from the cheapest bid (lowest winning price) to the most expensive bid (highest winning price) among the month's slots with winning bids (published values by area where the power source is). The published values for Primary reserve (online), Secondary reserve 1 and 2, and Tertiary reserve 1 also include Composite product bids (one price for several products together). So bids above 10 yen that can be explained by a Composite product bid in the same slot and area were removed from the thin line. For Primary reserve (offline), bids above the price cap (10 yen this month) were removed from the thin line (the balancing market system also clears bids above the cap, and cuts them down to the cap at settlement). The thick band is the 10% to 90% range when the average winning prices of slots with winning bids are sorted from cheapest. The dot is the average weighted by winning volume.
- Clearing rate by grid area × time of day: total winning volume ÷ total bid volume for slots at the same time across the month (by area where the power source is).
- Response time and duration for balancing market products follow the FY2026 specifications (Electric Power Reserve Exchange "Product requirements," 6th edition). Primary reserve senses frequency changes by itself and acts. Online is the category where the grid operator watches the response over a dedicated line. Offline is the category where no dedicated line is laid, and a record of the response is submitted afterwards. The response time for offline is within 30 seconds, and it has no set duration.
- High-priced slots for Tertiary reserve 2: slots with a nationwide average winning price of 10 yen/kW per 30 min or more. The top 1% is the top 1% of slots sorted by revenue (average winning price × winning volume) (1% of the number of slots, rounded). The top winning price is the published value by area where the power source is, and is the price of the single highest winning bid. In the balancing market, each winning bid is settled at its own bid price (pay-as-bid (multi-price)), so the average winning price for the same slot and area is lower than this.
- Average prices are simple averages of 30-minute slots (not weighted by trading volume). Daytime covers slots from 8:00 to 16:00, and evening covers slots from 16:00 to 20:00.
- Price gap: we sort the day's 30-minute slots by price and subtract the average of the 8 cheapest slots from the average of the 8 most expensive slots (4 hours) (4 slots for 2 hours). We do not consider the order of the cheap and expensive hours, electricity lost in charging and discharging, or fees, taxes and transmission charges. This does not show actual revenue.

Sources (OCCTO, capacity market results): delivery FY2024
https://www.occto.or.jp/iinkai/youryou/kentoukai/2020/files/youryou_kentoukai_27_05.pdf / delivery FY2025
https://www.occto.or.jp/iinkai/youryou/kentoukai/2021/files/youryou_kentoukai_35_03_1.pdf / delivery FY2026
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https://www.occto.or.jp/market-board/market/oshirase/2023/files/240124_mainauction_youryouyakujokekka_kouhyou_jitsujukyu2027.pdf / delivery FY2028
https://www.occto.or.jp/market-board/market/oshirase/2024/files/250129_mainauction_youryouyakujokekka_kouhyou_jitsujukyu2028.pdf / delivery FY2029
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Sources (OCCTO, additional auction): delivery FY2025 https://www.occto.or.jp/assets/market-board/market/oshirase/2024/files/240710_tsuikaauction_youryouyakujokekka_kouhyou_jitsujukyu2025.pdf (published 2024-07-10) / delivery FY2026 https://www.occto.or.jp/assets/market-board/market/oshirase/2025/files/250728_tsuikaauction_youryouyakujokekka_kouhyou_jitsujukyu2026.pdf (published 2025-07-28) / delivery FY2027 https://www.occto.or.jp/assets/assets/news/capacity-market/260806_tsuikaauction_youryouyakujokekka_kouhyou_jitsujukyu2027.pdf (published 2026-08-06)

Sources (OCCTO, Long-Term Decarbonization Power Source Auction): FY2023 round https://www.occto.or.jp/assets/260605_auction_keiyakujyoukyou_kouhyou.pdf / FY2024 round https://www.occto.or.jp/market-board/market/jitsujukyukanren/files/longauction_keiyakukekka_2024.pdf / FY2025 round https://www.occto.or.jp/assets/various/capacity-market/jitsujukyukanren/yoryokakuhokeiyaku/longauction_keiyakukekka_2025.pdf

- Capacity market results for each delivery fiscal year are published in a different year (FY2024 in 2020, FY2029 in January 2026). We do not show the number of battery projects in the Long-Term Decarbonization Power Source Auction, because it is not in the published summary tables.

Sources: Japan Electric Power Exchange (JEPX) spot market trading results / Electric Power Reserve Exchange (EPRX) trading results (preliminary and final figures) and trading results by power source type / Organization for Cross-regional Coordination of Transmission Operators (OCCTO) capacity market main auction and additional auction results, and Long-Term Decarbonization Power Source Auction capacity securing contract materials / tally of the grid connection study responses we received / our Chikudensho Market records.

Terms: System price (System (nationwide)) = the wholesale electricity price when all of Japan is treated as one market. Area price = the price that splits by area depending on how congested the transmission lines are. The grid = the power companies' transmission network. Grid connection = connecting to the transmission network. MW = size of power (1 MW = 1,000 kW). MWh = amount of electricity that can be stored. yen/kWh = price per 1 kWh of electricity. LDES = Long Duration Energy Storage. SII = Sustainable open Innovation Initiative, a general incorporated association (the organization that handles national subsidy administration).

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