

# MARKET SPOTLIGHT: JAPAN



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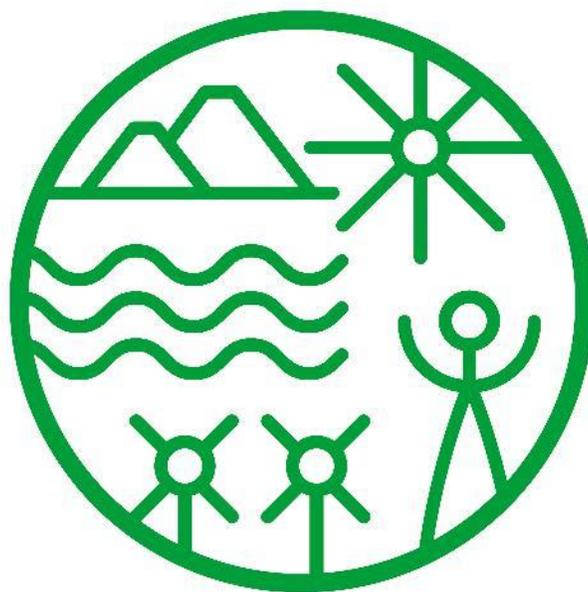


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Wednesday, 30 April 11:30 AM-12:00 PM



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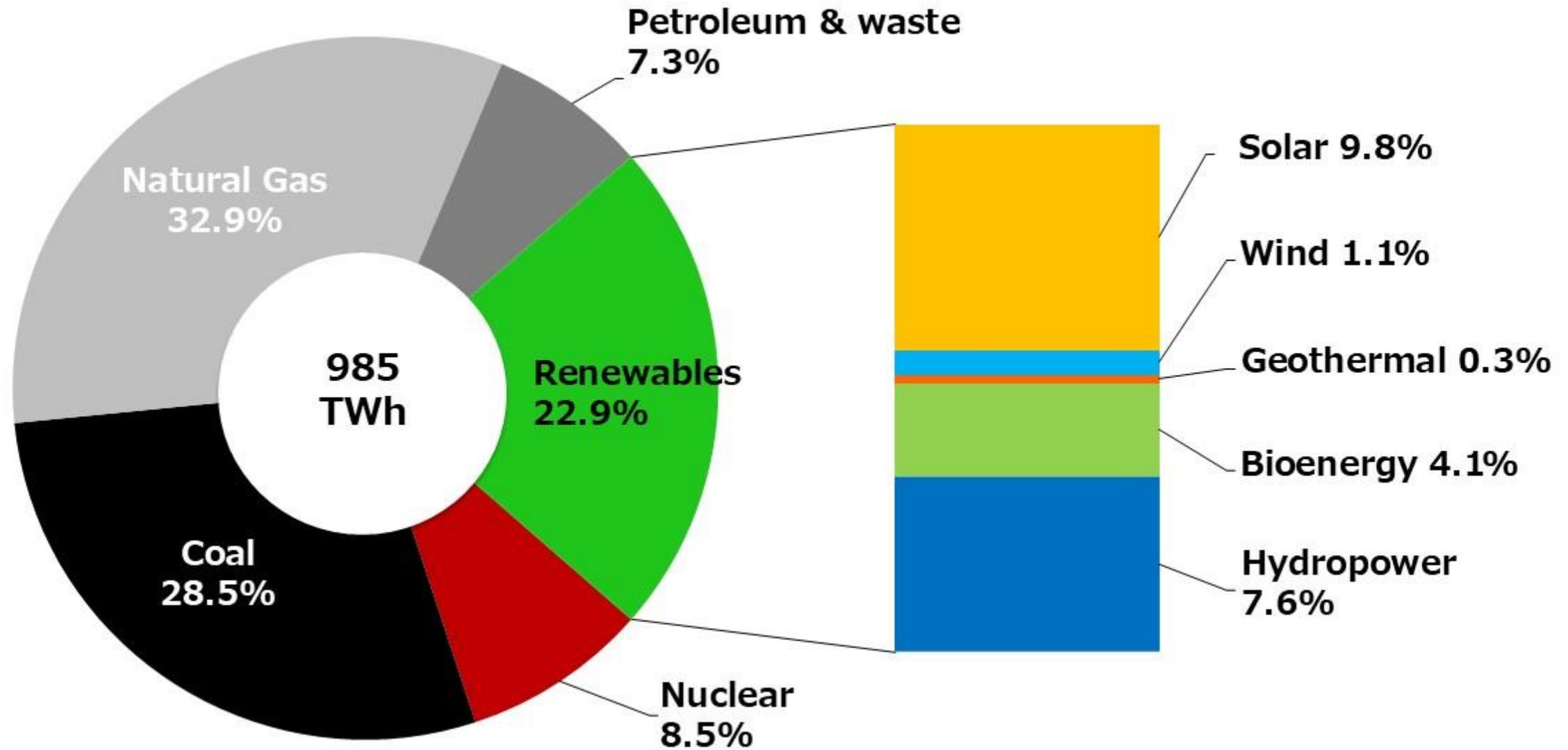
# Japan Update

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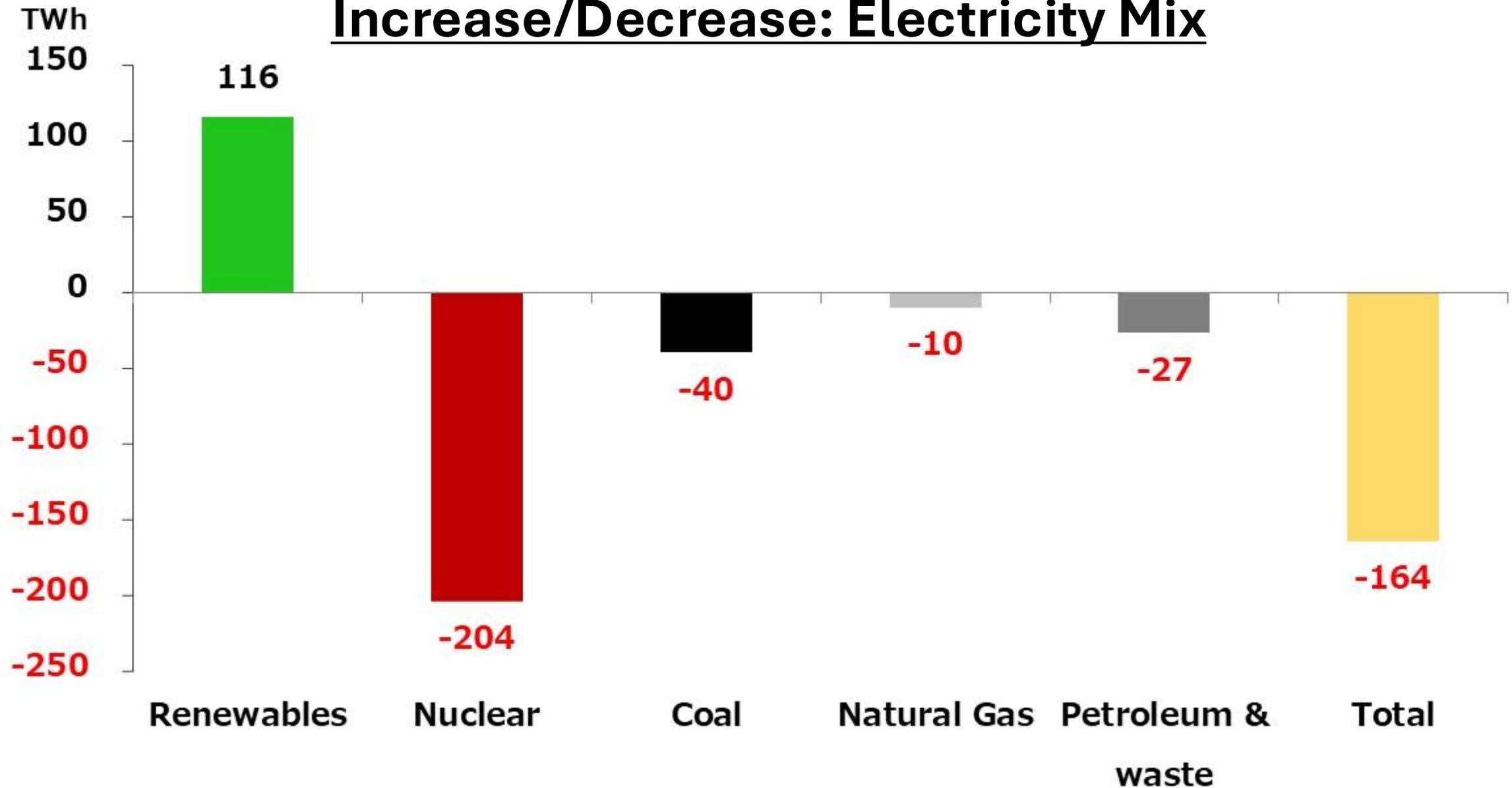
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# Electricity Mix



## Increase/Decrease: Electricity Mix



# Key Topics

- Policy Topics

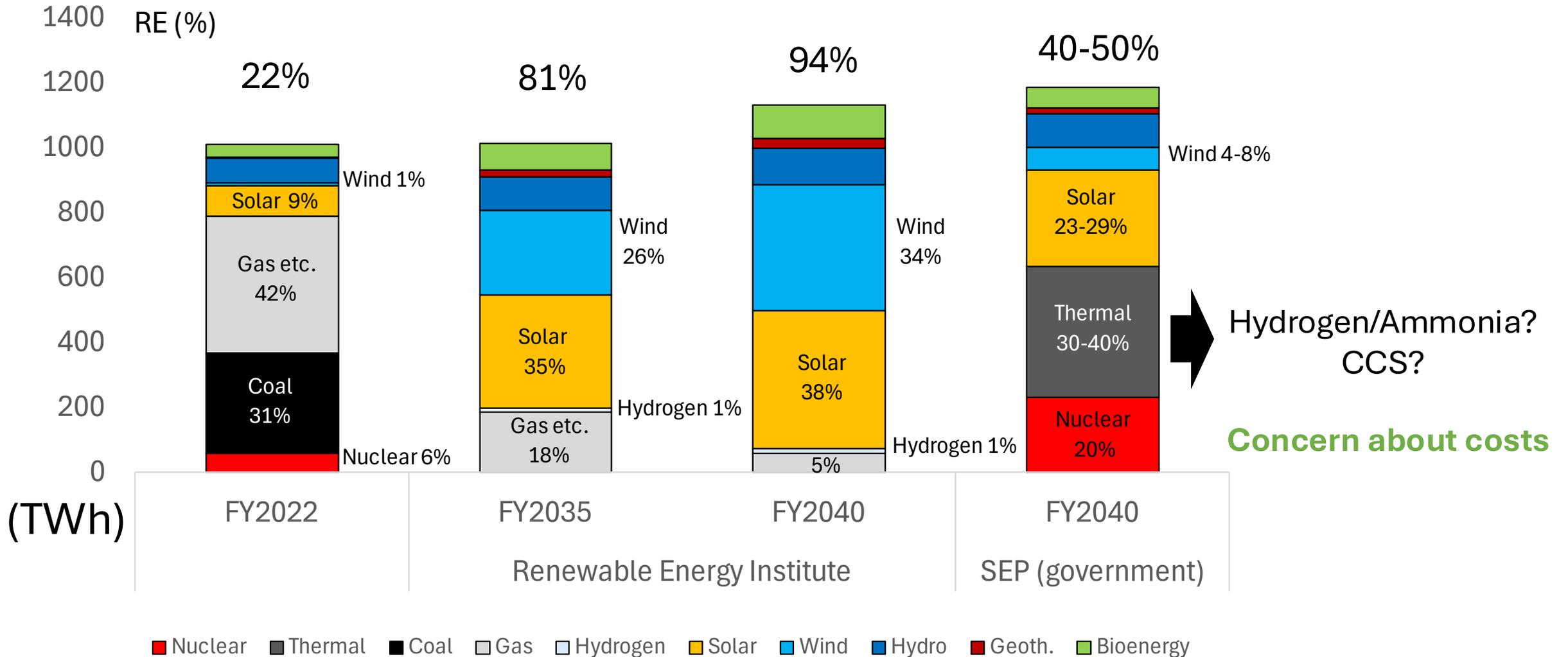
- **Strategic Energy Plan** toward 2040 approved.
  - 40-50% RE in 2040.
  - 30-40% thermal remains in 2040.
- **Mandatory Cap & Trade** to start in 2026.

- Other Topics

- Local regulation against large solar & wind projects.
  - Inclusion of, or benefit of **local stakeholders** needed.
- High expectation for **(floating) offshore wind & Building Integrated Photovoltaics (BIPV)**
- **Agrivoltaics** shows high potential, however it faces regulatory obstacles.

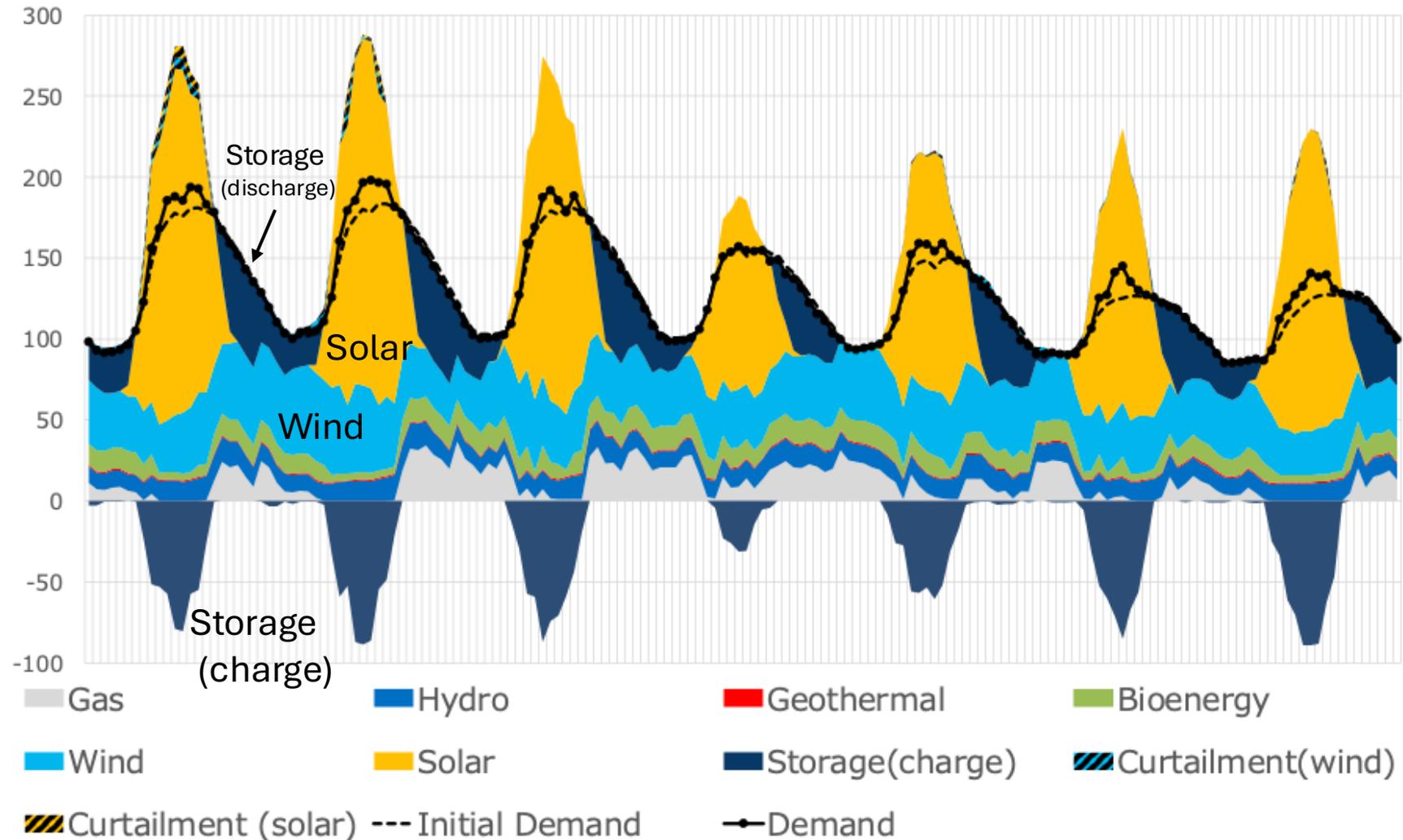
# SEP (Strategic Energy Plan) toward 2040: Electricity

- High thermal in SEP. REI showed 94% RE in 2040.



# Hourly Supply in REI 2040 Scenario

A week in summer, 2040 (8/1-)

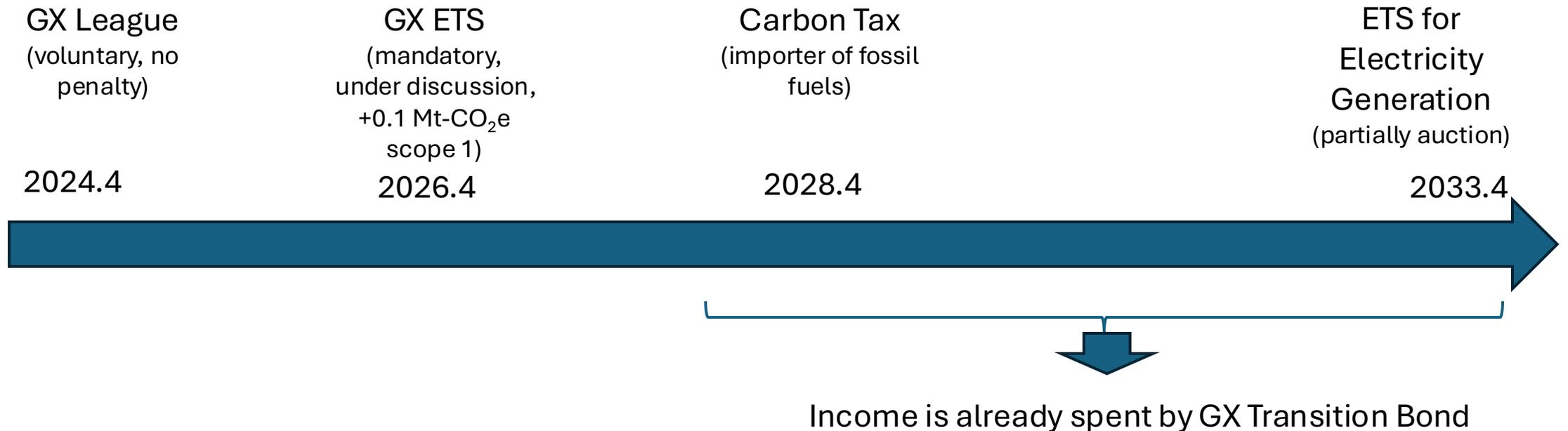


## What is important to achieve +90% RE in 2040?

- Enhance **interconnection** far above planned level.
- Scheme for smoother grid connection needed.
  - ➔ The complete separation of grid operators from generators and retailers is of paramount importance.
- **Dynamic pricing**, and/or **24/7 carbon accounting** need to be introduced.
  - High solar curtailment ratio compared to the current deployment level.
- Consideration and/or inclusion of **local economy** is necessary for developers.
- **Carbon pricing** at the meaningful level is important to drive coal phaseout, and RE deployment.

# Plan for Carbon Pricing

- Simulated by CBAM, Japan decided to introduce Cap & Trade for large companies starting from April 2026.



## Low price NFCs discouraging PPAs

- Many companies, including Toyota, Sony, and Panasonic, have set SBTs, creating strong momentum for RE procurement.
- However, the low price of NFCs issued for FIT-supported RE discourages new projects.
- Discussion in GHGP for Standard Supply clarifying that supported RE cannot be exclusively claimed by specific entity above average % might improve the situation.

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# Introduction to Sumitomo Corporation Group/PSE

| Entity  |  |
|---|--|
|   |  |
|    | Trading & Marketing<br>(USA)  |
| <b>Summit Energy Corporation</b>  | Power Retail<br>(Japan)      |
|    | IT Services<br>(Japan)      |

| Activities in Japanese Renewables Market  |
|---|
| <ul style="list-style-type: none"> <li>• Awarded by JPX as the Best Market Maker in FY24 for <b>J-Credits</b>.</li> <li>• Development of renewable projects and providing <b>Corporate PPA</b> solutions.</li> <li>• Trading and marketing of EACs globally including <b>FIT NFCs</b>.</li> <li>• Providing retail green power menus to end-consumers with various certificates including <b>Non-FIT NFCs</b>.</li> <li>• Development of <b>I-REC</b> platform(EneTrack) in Japan.</li> </ul> |

# Solutions for Renewables in Japan

- In Japan, there are multiple solutions to claim the usage of renewables power.
- While these solutions exist individually, they are also interconnected through competing generation sources or transition in government programs.

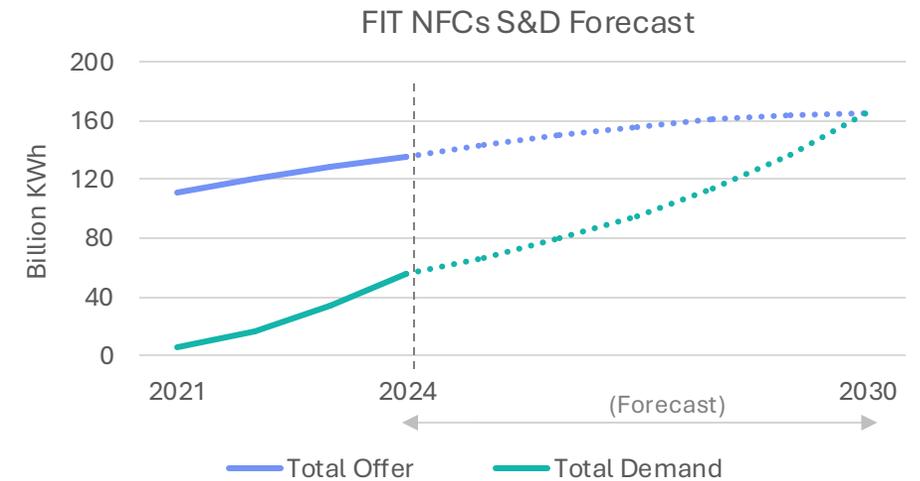
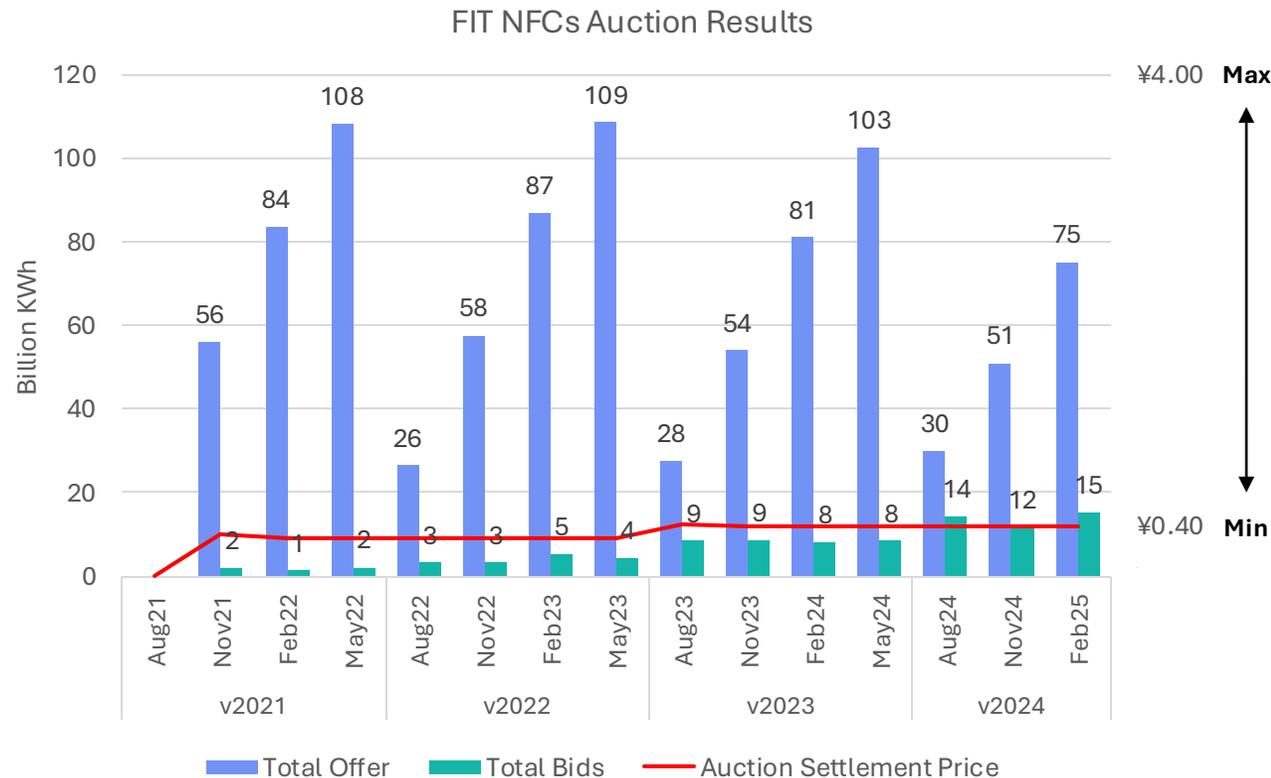
| Solution      | Generation Source  | Attribute Ownership         | Market                                 | Topics   |
|---------------|--|-----------------------------|--|--|
| ① FIT NFC     | FIT <sup>(*1)</sup><br>(Wind, Solar, Small Hydro, Geothermal, Biomass) | Government                  | JEPX                                   | <b>Topic 1</b><br>Future supply uncertainties for FIT NFCs   |
| ② Non-FIT NFC | FIP <sup>(*2)</sup><br>Large Hydro, EX-FIT                             | Asset Owner                 | Corporate PPA<br>Retail Power Provider | <b>Topic 2</b><br>Increasing Momentum Towards Corporate PPAs |
| ③ I-REC       | ※Same as ②④  | Asset Owner                 | Bilateral<br>EneTrack                  | <b>Topic 3</b><br>Recent Developments to Enhance Liquidity   |
| ④ J-Credit    | Off-grid<br>(RTS, Biomass)   | Asset Owner /<br>Government | Bilateral<br>JPX                       |  |

\*1 Feed-in Tariff (2012~) – government assures long-term offtakes at fixed price.

\*2 Feed-in Premium (2022~) – government provides certain premium on top of the market power price.

# Topic (1): Long Term Supply Uncertainty for FIT NFCs

- Currently the most accessible and cost-effective solution in Japan would be the use of FIT NFCs.
- The market has been oversupplied with 100% of the bids awarded at the floor price which is currently set at JPY0.4/KWh.
- However, there has been growing concerns regarding long-term supply availability and the potential price increase towards FY2030.



### Supply

- Less increase - 1) new and existing assets transitioning from FIT to FIP, 2) existing assets expiring from FIT eligibility period.

### Demand

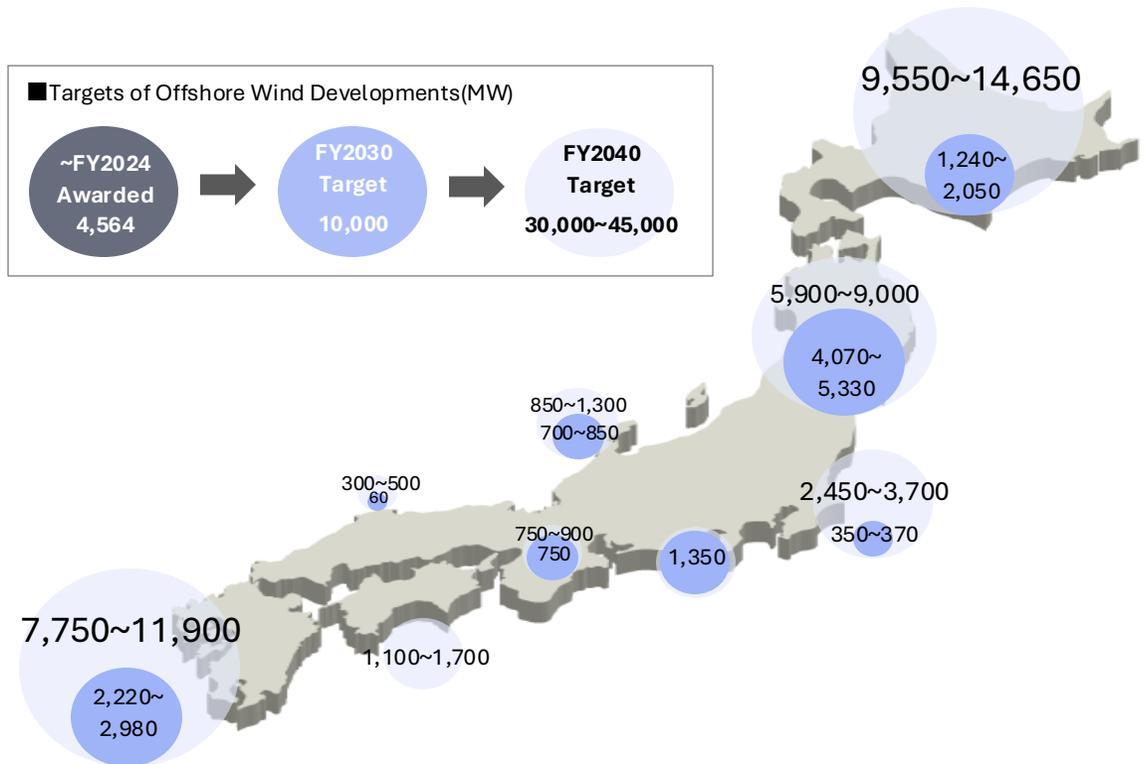
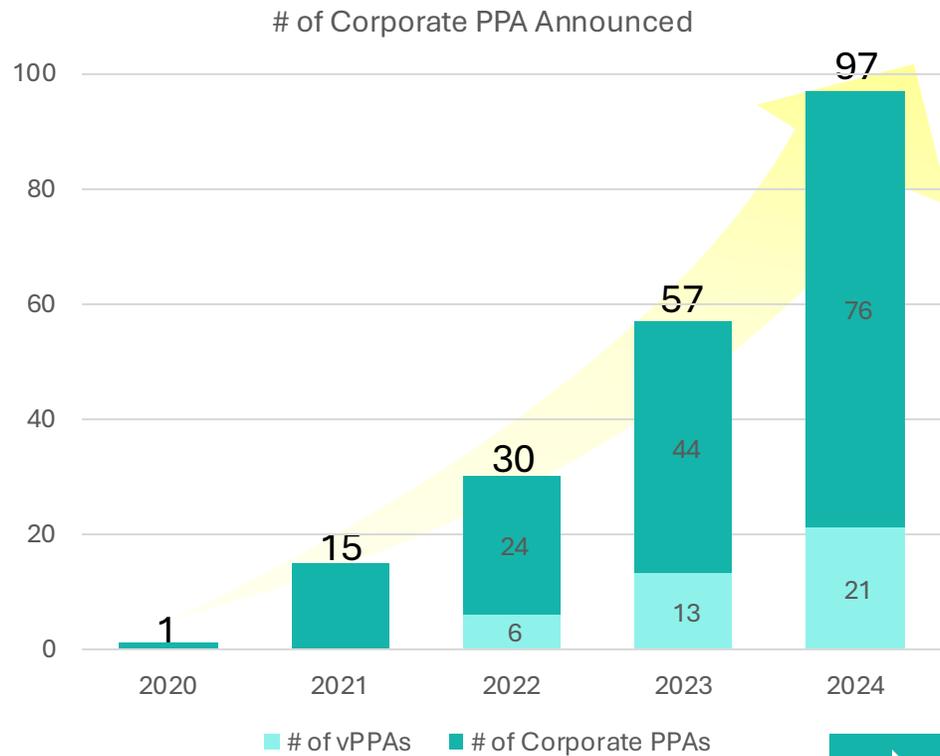
- Increasing demand - new corporates are participating in the market to achieve their sustainability goals towards 2030.



Corporates are considering other long-term solutions to diversify procurement portfolio.

# Topic (2): Increasing Momentum Towards Corporate PPA

- One solution for securing long-term supply of renewables in Japan is Corporate PPA.
- PPA has various benefits: 1) providing additional revenue for the developers in replacement of traditional FIT subsidies, 2) providing long term supply security for corporate buyers.
- Japan has very high potential for off-shore wind developments to increase additional capacity.

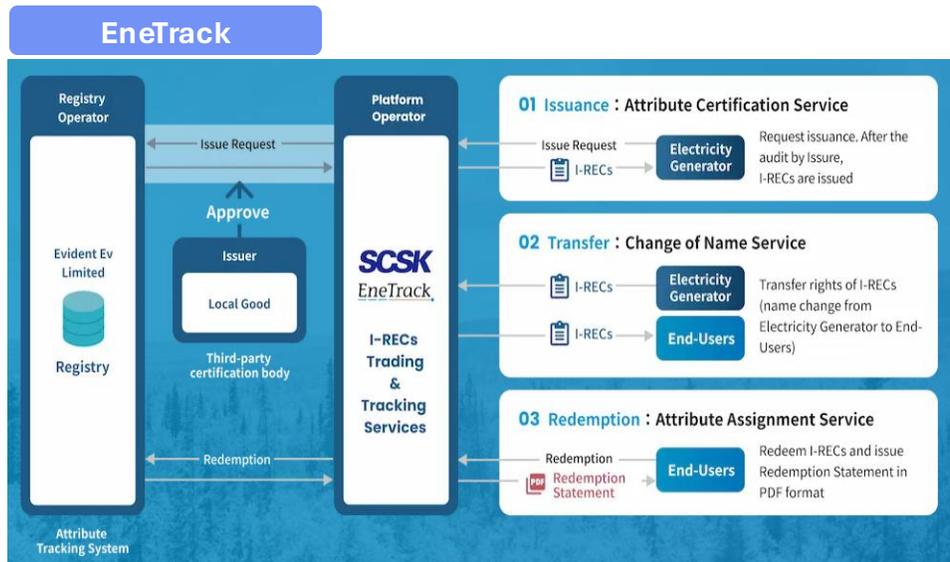


➔ Increasing prices for FIT NFCs will encourage more corporates to select Corporate PPAs.

# Topic (3): Recent Developments to Enhance Liquidity

## I-REC

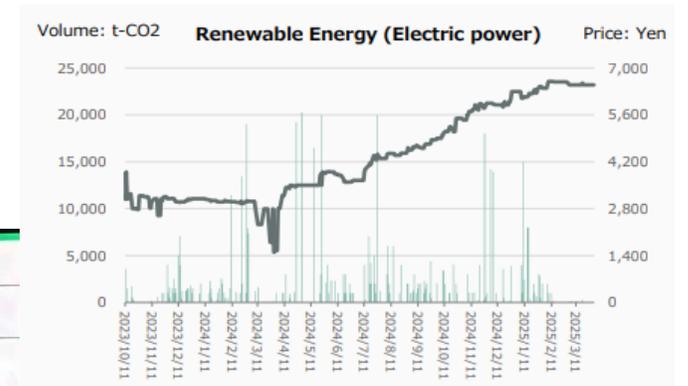
- In August 2024, an I-REC was finally retired in Japan for the first time.
- Proposals have been made by Japan Business Federation to acknowledge the use of I-RECs under the domestic reporting obligation<sup>(\*1)</sup>.
- Increasing interests from foreign corporates to manage their global portfolio.
- SCSK, as the sole domestic platform provider, has developed “EneTrack” to facilitate transactions between developers and end-users.



(\*1) The Global Warming Countermeasures Act

## J-Credit (Renewable)

- In October 2023, a carbon credit market was established in JPX and Market Maker system was introduced to enhance liquidity.
- Both the trading volume and price has been increasing since then, and Sumitomo was awarded as the Best Market Makers of FY2024.
- Although some of the demand has shifted to NFCs, demand for J-Credit (Renewable) is being driven by end-users with direct power supply.



Other solutions evolve, providing alternative solutions for end-users with specific needs.

# Conclusion

**1** **FIT NFCs** are currently cost-effective but may face long-term supply risks and price fluctuations.

**2** **Corporate PPAs** are gaining momentum, supported by change in government programs and increasing interests from corporates seeking for long-term supply security and additionality.

**3** **I-REC** and **J-Credit** markets are evolving, offering new options for renewable sourcing, especially for international portfolio management or off-grid consumption.

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