



# U.S.-Japan Energy & Climate Resilience: Priorities & Prospects

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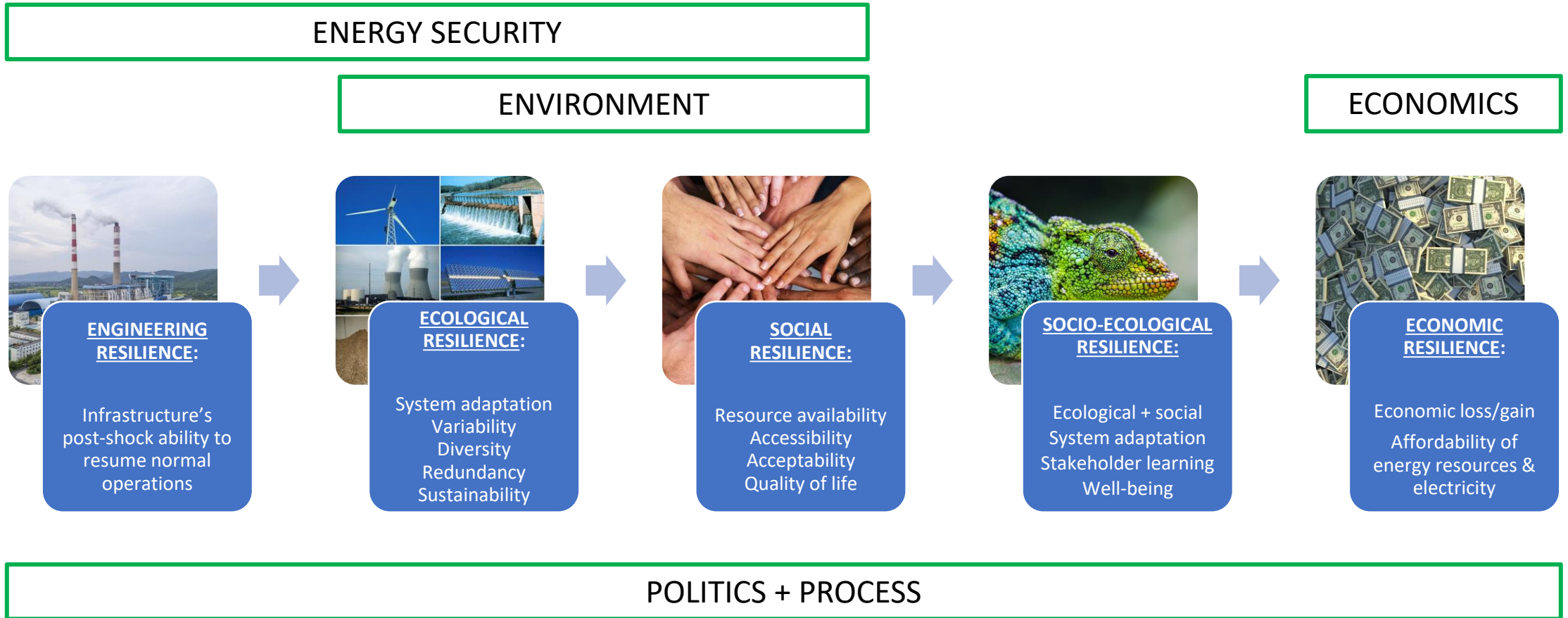
Reischauer Center– JEF Conference:

Securing Energy by Responding to Climate Change

October 21, 2024



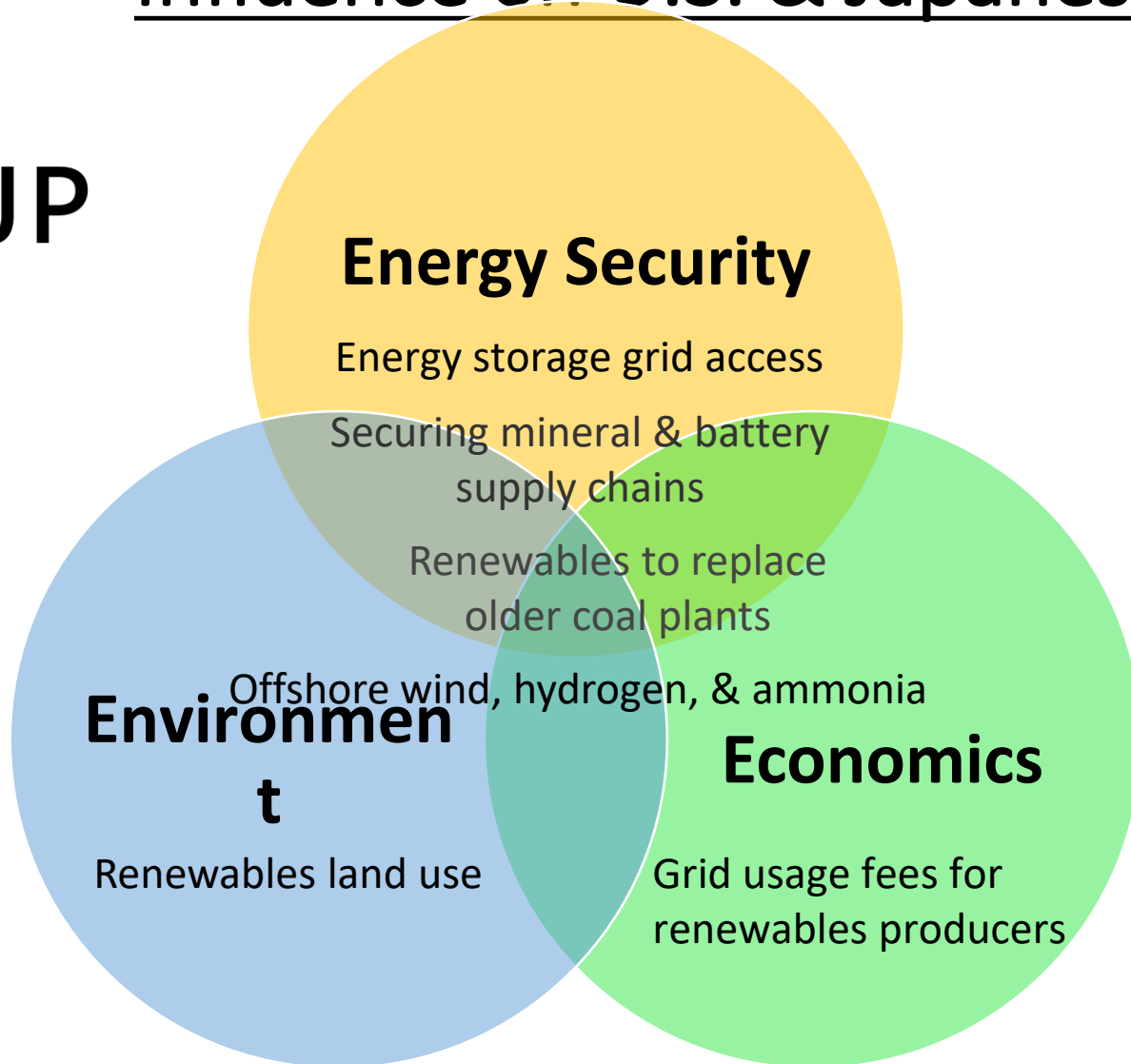
# Resilience Priorities: Influence on U.S. & Japanese Energy & Climate Strategies



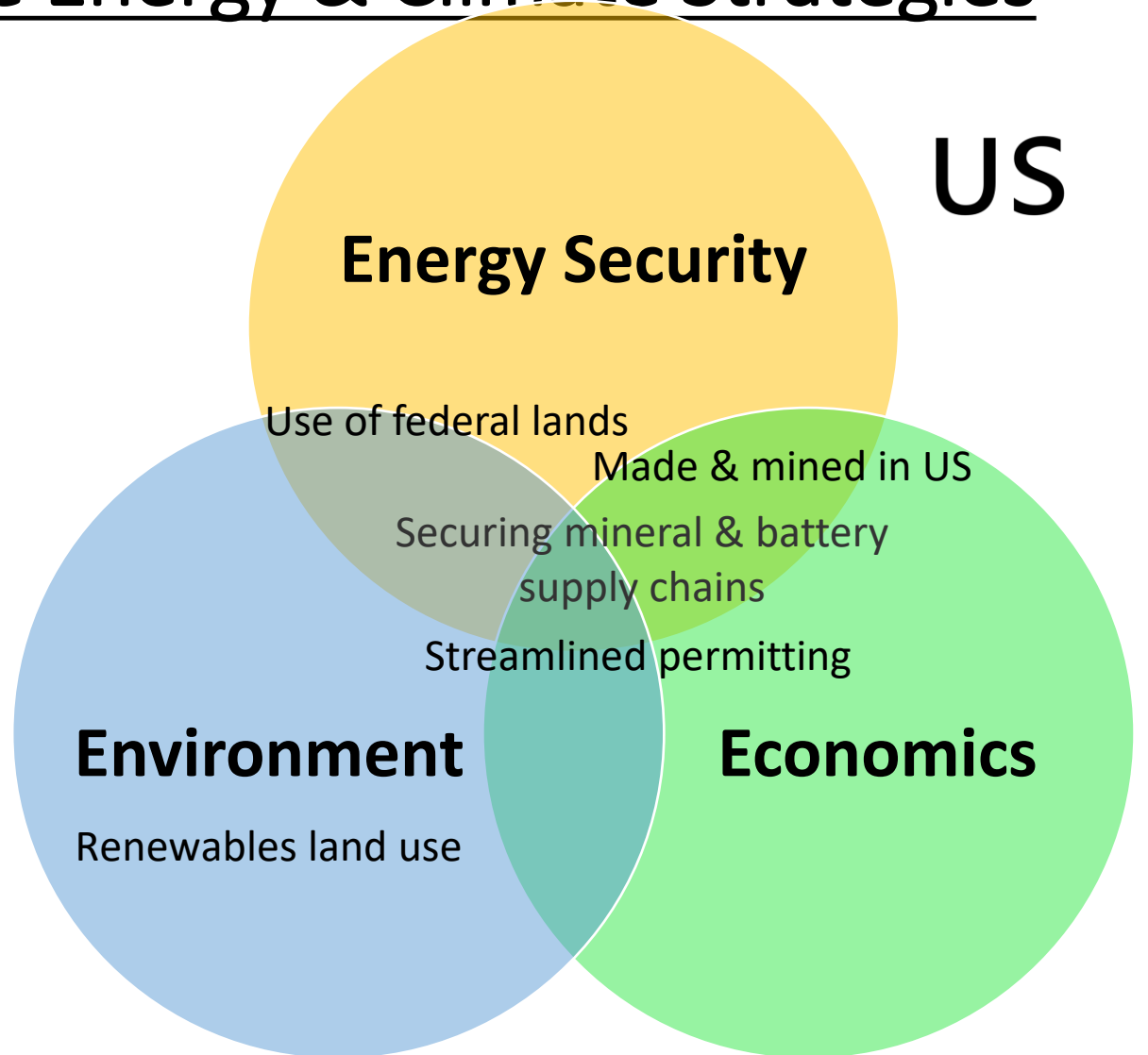
# 3Es Resilience Priorities:

## Influence on U.S. & Japanese Energy & Climate Strategies

JP



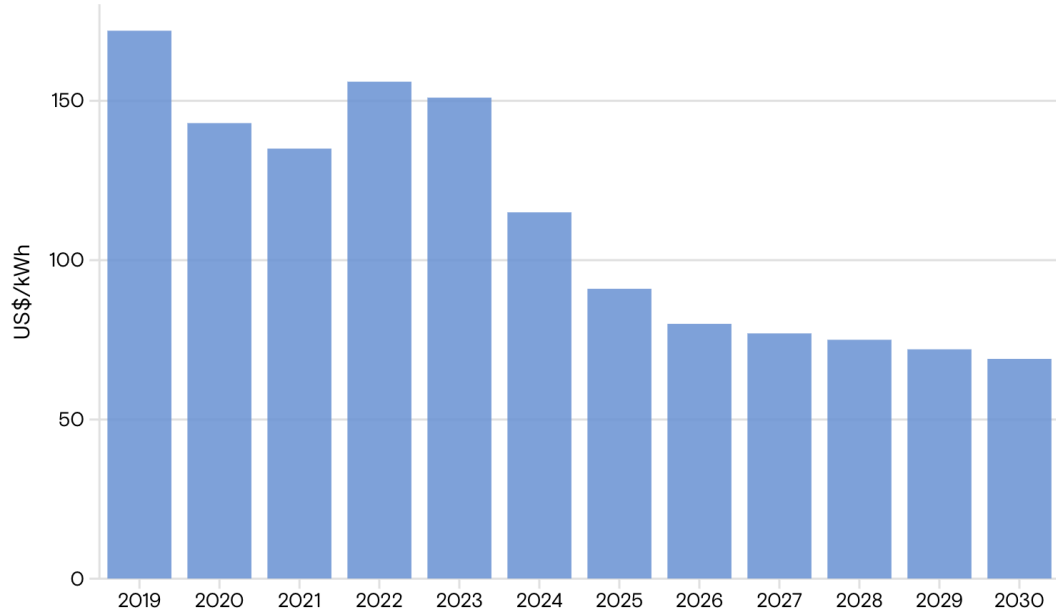
US



# Evolution of Economic Resilience

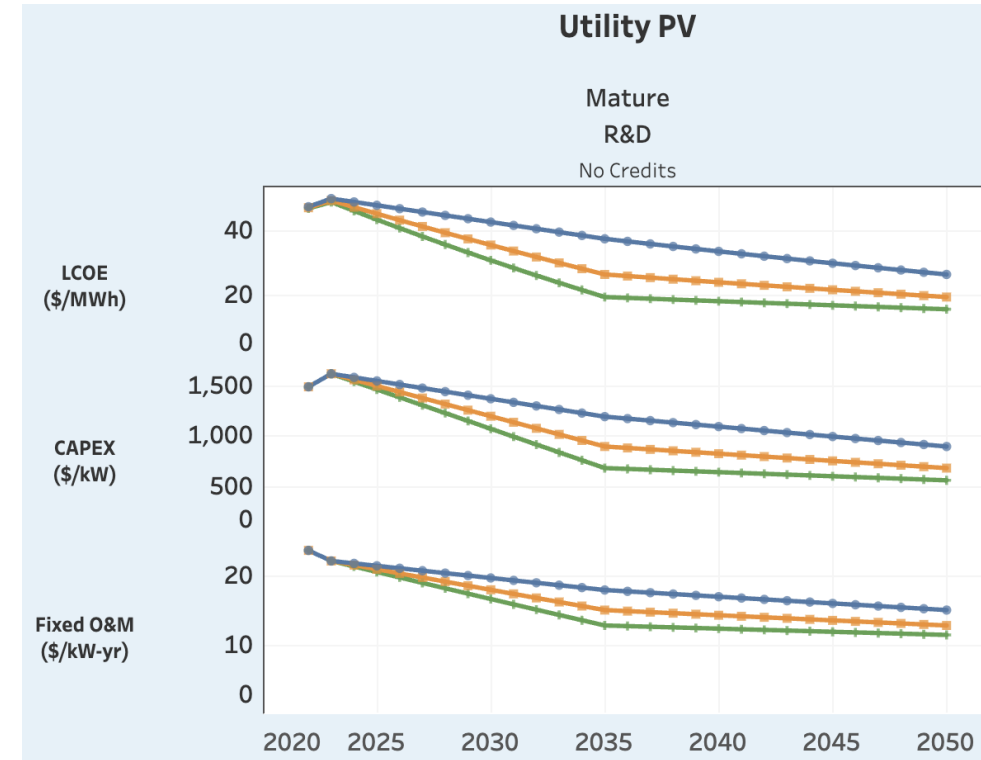
## Battery prices are forecast to fall

Global average battery pack prices



Source: Company data, Wood Mackenzie, SNE Research, BNEF, Goldman Sachs Research  
2023-2030 are estimates

**Goldman Sachs**



- Conservative ●
- Moderate ■
- Advanced +

Parameter value projections by scenario, financial case, cost recovery period, and technological detail.

Select the parameter (LCOE, CAPEX, Fixed O&M, Capacity Factor, and FCR [fixed charge rate]), OCC, CFC, GCC, scenario, financial case, cost recovery period, and technological detail. The year represents the commercial online date. The default technology detail best aligns with recent or anticipated near-term installations.

NREL, 2024

= Utility scale energy storage capability

= Grid interconnection capability: Improving but backlogged

Companies = key: unlikely to reverse existing clean energy investments

# Politics & Process: Influence on U.S. & Japanese Energy & Climate Strategies

	U.S.	Japan
POLITICS		
National	Upcoming election	New PM: focus on hydro & geothermal
State/Prefecture	Upcoming elections	Upcoming elections
Local	Siting & employment	Siting & employment
PROCESS	<ul style="list-style-type: none"> <li>• State leadership: CA, MA, NY, TX</li> <li>• <u>Trump</u>: Limits on states through Supreme Court &amp; EPA + Executive Orders</li> <li>• <u>Harris</u>: Federal + state climate &amp; energy incentives</li> </ul>	<ul style="list-style-type: none"> <li>• Land use restrictions for solar</li> <li>• New nuclear construction</li> </ul>

# U.S.-Japan Energy Cooperation Prospects

Energy Technology	Trump Administration	Kamala Harris Administration
Hydrogen	blue + purple	blue + purple + green
Nuclear Fission & Fusion	Yes	Yes
Natural Gas	Yes	Yes
Critical Minerals	Yes	Yes
CCS/CCUS	Yes	Yes
Hydropower	Yes: Large	Yes: All
Offshore Wind	No	Yes
Geothermal	Uncertain	Yes
Solar	Uncertain	Yes
Battery storage	Possible	Yes



**THANK YOU!**

**QUESTIONS?**

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**Sklarew, Jennifer F. 2023. *Building Resilient Energy Systems: Lessons from Japan*. Routledge.**

**Available at Routledge, Amazon, & Barnes & Noble.**



# References

Goldman Sachs. 2024. Lower battery prices are expected to eventually boost EV demand. March 6. <https://pv-magazine-usa.com/2024/03/06/battery-prices-collapsing-grid-tied-energy-storage-expanding/>

NREL. 2024. Annual Technology Baseline. Utility Scale PV. [https://atb.nrel.gov/electricity/2024/utility-scale\\_pv](https://atb.nrel.gov/electricity/2024/utility-scale_pv)

Cover images:

<https://instituteforenergyresearch.org/wp-content/uploads/2014/09/electric-transmission-lines.jpg>

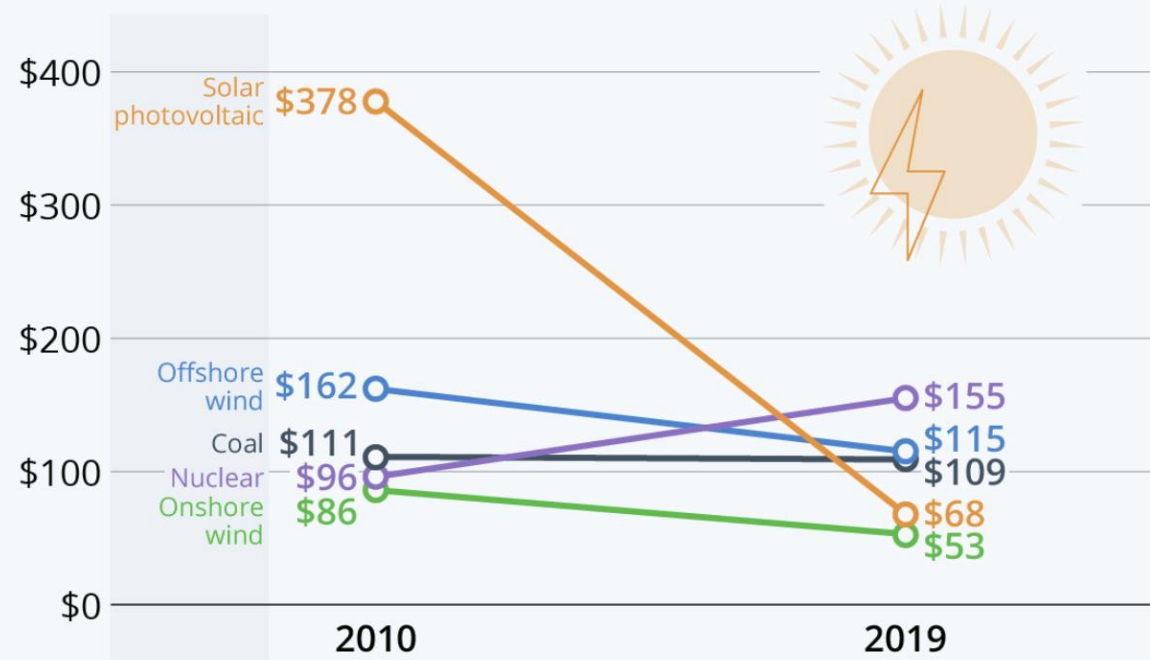
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# Additional Material

# The Falling Cost of Renewable Energy

Price per megawatt hour of electricity, by source\*



\* Global weighted average of levelized costs of energy (LCOE), without subsidies.

Source: OurWorldinData.org



statista

# Local Initiatives

## U.S. leaders:

**California:** auto emissions standards, EV + charging incentives, energy efficiency rebates

**Massachusetts:** Energy efficiency

**New York:** Accelerated Renewable Energy Growth & Community Benefit Act: streamlines siting and environmental reviews, includes community engagement & benefits

22 states + DC have RPS or Clean Energy Standard of 100% by 2033-2050

22 states + DC have energy storage incentives

12 states have energy storage targets

Most battery storage added in the US in 2023 was in CA and TX (<https://www.eia.gov/todayinenergy/detail.php?id=61202>)

## Japanese leaders:

Land use: In April 2024, Miyagi Prefecture became 1st local government implementing an ordinance to impose taxes specifically targeting renewable facilities. Ordinance imposes a tax on owners of renewable energy facilities (solar, wind or biomass) newly installed through the development of forest areas larger than 0.5 ha in proportion to the power capacity. new measure to drive the location of new renewable energy power projects outside of forest areas, with approximately 60% of all prefectures nationwide being “interested” in such ordinance.

In Tohoku, in addition to Miyagi Prefecture, Aomori Prefecture also announced in September 2023 its intention to introduce a new tax targeting renewable energy facilities, especially onshore wind projects (in April 2024, the governor suggested at a press conference that the scope should include solar projects too).

Governor of Yamagata Prefecture also stated interest in a tax at a press conference in April 2024.

(<https://www.orricks.com/en/Insights/2024/07/Japan-Renewables-Alert-68>)

# Combining New Capitalism and Energy Resilience Thinking: Green Transformation GX Strategy

