



經濟部能源署

Energy Administration,
Ministry of Economic Affairs

PV Module Recycling in Chinese Taipei: A Pathway toward a Circular Energy System

**Energy Administration,
Ministry of Economic Affairs,**

Chinese Taipei

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Solar PV Development and Outlook in CT

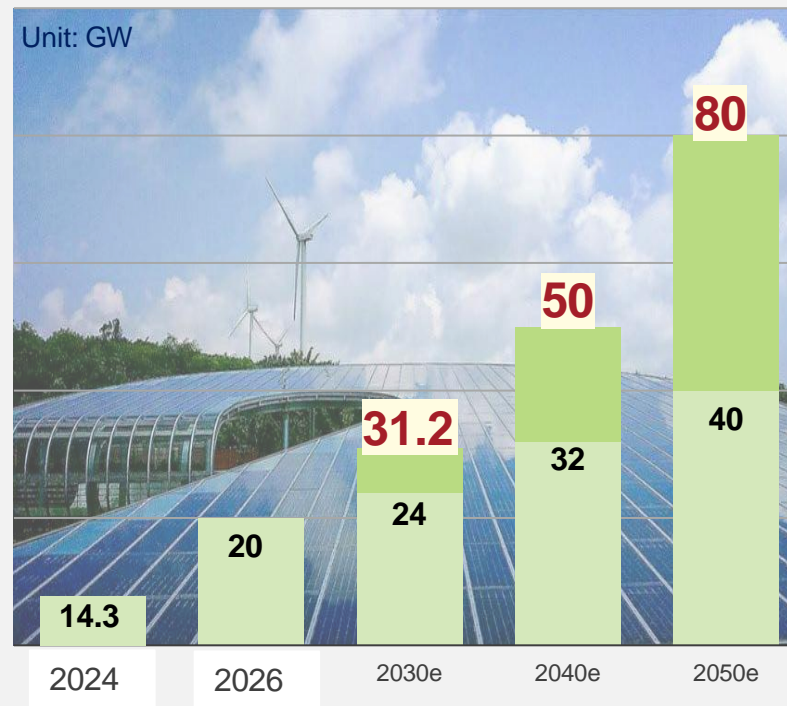
- **Current Status** (as of late January 2026): **15.58 GW**
- **Target: 40-80 GW** by 2050



Rooftop + Ground-mounted

- Factories
- Government and public buildings
- Agricultural facilities
- All new buildings
- The others
- Optimize land use
- Prioritize the promotion of aquavoltaics

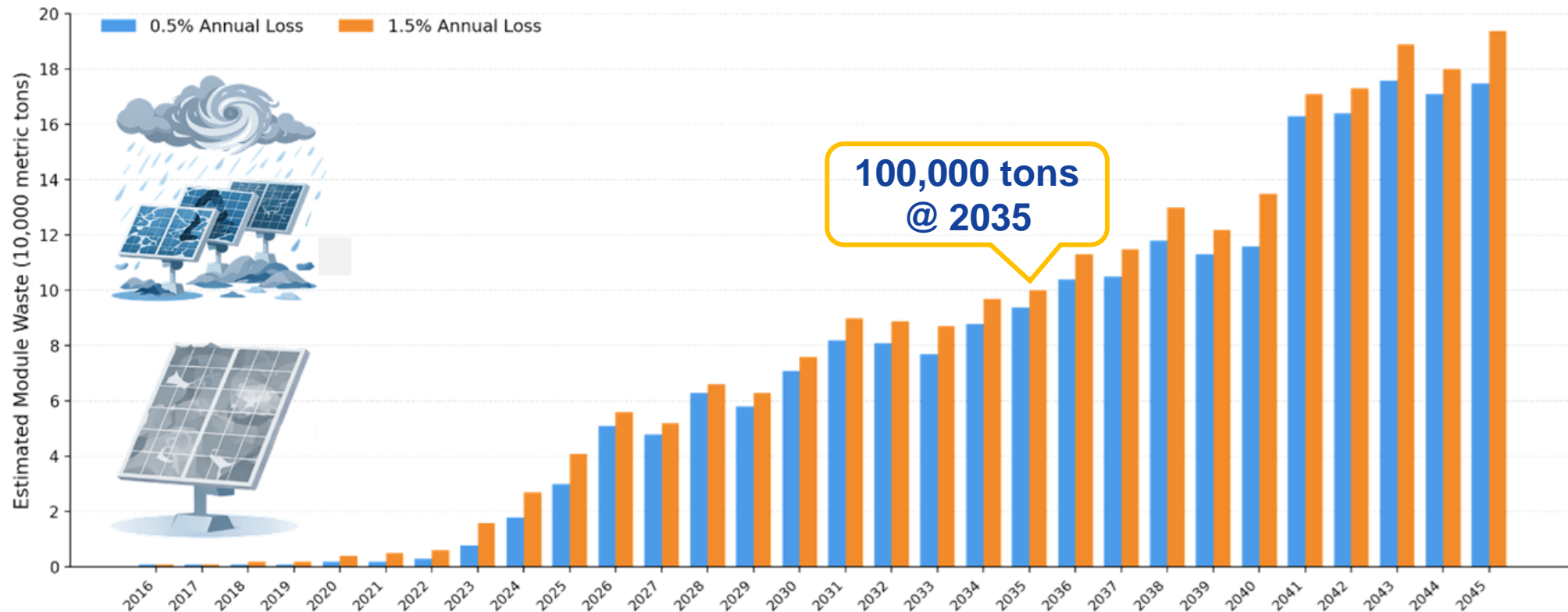
Estimated scale of solar PV deployment by 2050



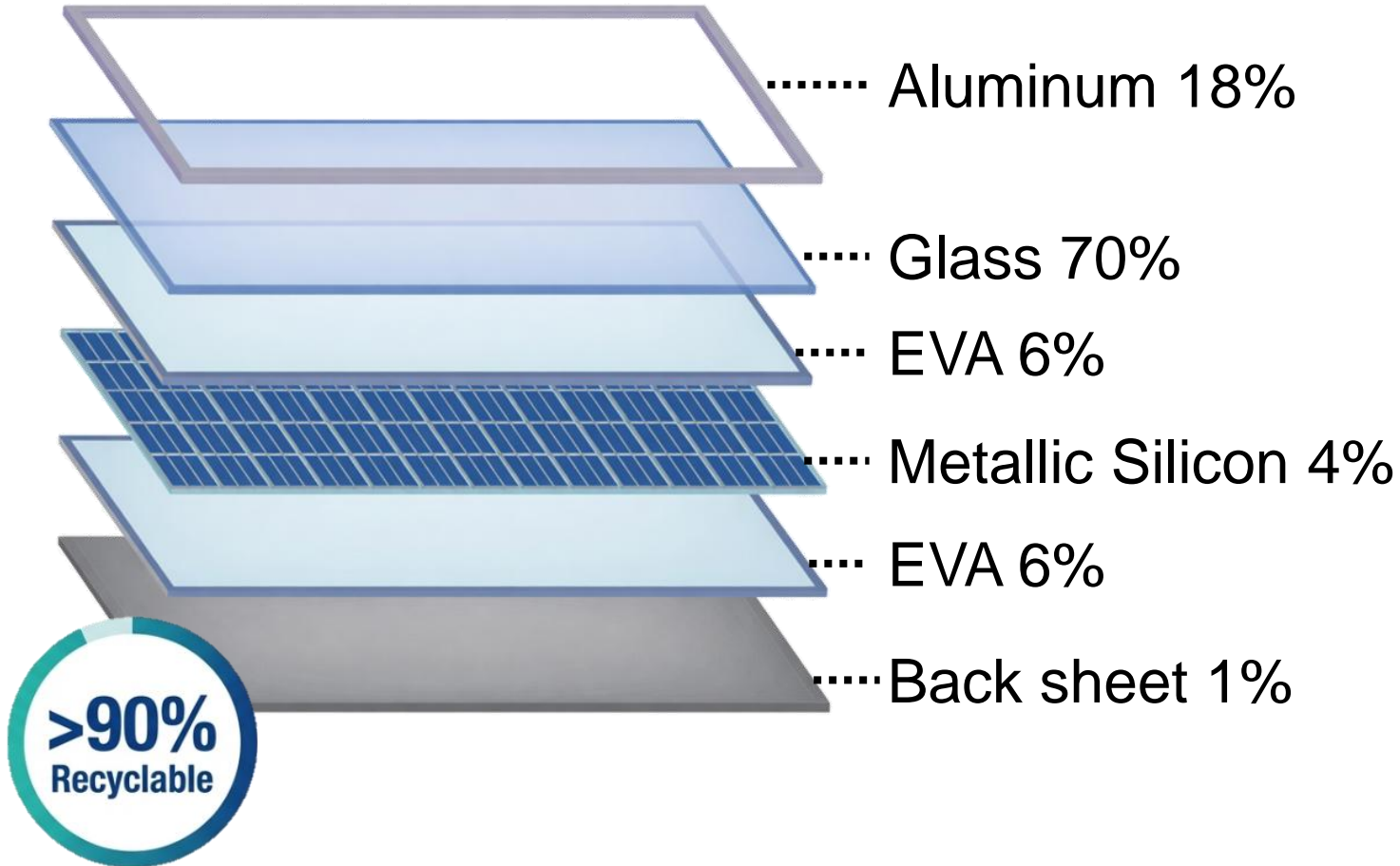
Why PV Module Recycling Matters

- PV modules typically last about **20** years, but **typhoons** can cause premature damage.
- About **0.5%–1.5%** of cumulative installed PV modules are **retired annually**.
- Cumulative PV module waste is estimated to reach **100,000** metric tons by **2035**.

Estimated PV Module Waste Volume by Year



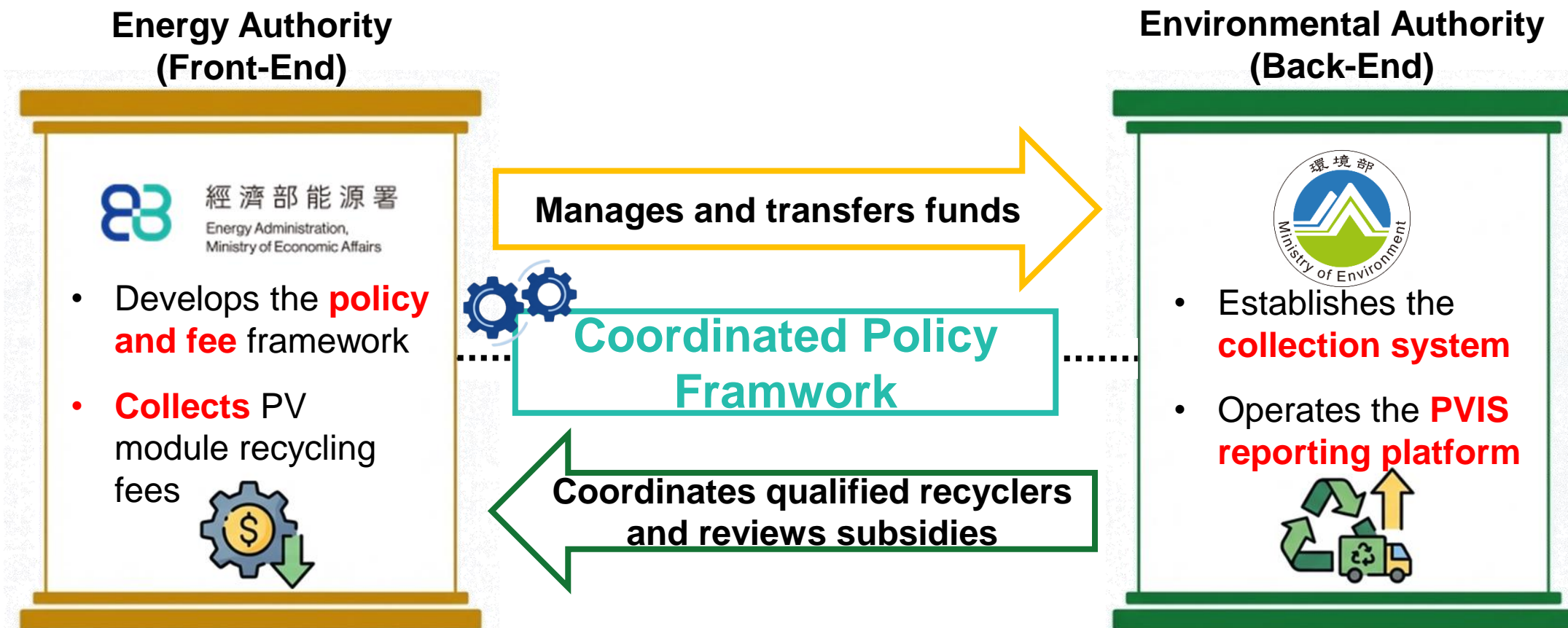
The Circular Value of PV Modules



- PV modules are composed mainly of glass, aluminum, polymers, and silicon-based solar cells, with small amounts of **valuable metals, which** retain economic value.
- In some cases, **over 90%** can be recovered.
- Recycling reduces landfill waste and can help return valuable materials to domestic supply chains.

CT's PV Module Recycling Policy

- **Cross-Ministerial Synergy:** Seamless cooperation between the Ministry of Economic Affairs (**MOEA**) and the Ministry of Environment (**MOENV**).



Financial Mechanism

- A **mandatory recycling fee** is collected to support future collection, clearance, and treatment capacity.

- Fee collection is linked to a centralized **recycling management framework**.



- The current recycling fee is set at NTD 1,000 (~**USD 31**) per kW.

- The fund provides **financial support** for domestic recycling system development.

The 3C1R Operational Mechanism



Collection:

Safe removal and collection of PV modules.

Database Creation:

Digital registration and tracking of module.

Clearance:

Regulated removal and transport by qualified operators.

Recycling:

Separate and recover reusable materials.

■ Ensures **traceable**, **compliant**, and **efficient** end-of-life PV module management.

Key Takeaways and Future Outlook



Established Framework

Chinese Taipei has established an operational PV module recycling framework.



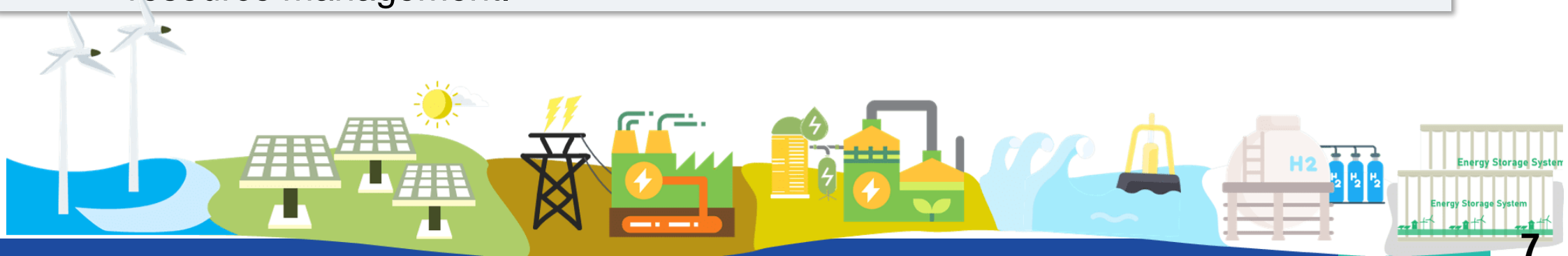
Circular Practice

The system reflects circular economy practices in the renewable energy sector.



Ongoing Enhancement

Future efforts will continue to strengthen implementation and enhance circular resource management.





Thank you

