



Korea's Policymaking & Technology Deployment for New and Renewable Energy

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1. Policymaking for New and Renewable Energy

Vision

Rational Integration of Nuclear Power and Renewable Energy Sources

Contribute to domestic industry and
Pursue reasonable and feasible renewable energy initiative with the community

Five Policies

01

Reasonable and Feasible
carbon neutrality strategy

02

Expanding Cost-effective
Renewable Energy

03

Supply Renewable Energy
Considering Power System burden

04

Renewable Energy
Based on Resident Acceptability

05

Renewable Energy
with Domestic Industrial Development

16 Major Tasks

- Reset Renewable Energy Goals and Balance Distribution by Source
- Support the Expansion of offshore wind power supply
- Assist Industries in Implementing RE100 Initiatives
- Adjust Small-scale and Cooperative Support Policies
- Inspect and Improve the Government's Support Programs Overall
- Promote Competition among Power Generation Companies
- Reinforce of Grid Responsibility for Renewable Energy
- Introduction of a Planned Location System based on Grid Acceptance
- Strengthening Grid Requirements for Power Generation Permits
- Expansion of Profit Sharing for Local Residents
- Active Expansion of Idle land Utilization
- Enhanced Safety Management for Solar Power in Mountainous Areas
- Strengthen the Competitiveness of the Solar Industry Ecosystem
- Enhance the Wind Power Industry Value Chain
- Expand the Distribution Base for BIPV
- Establish a Foundation for Revitalizing the Bio-industry

1. Policymaking for New and Renewable Energy

The 10th master plan for long-term electricity supply and demand (23.1)

- To forecast mid- to long-term electricity demand expand power facilities accordingly
- 15-year long-term plan (10th : 2022-2036)
- Key points
 - Adjust the proportion of new and renewable energy to a feasible level by 2030
 - * Renewable electricity generation : (the 9th) 121.7 TWh (20.8%) → (the 10th) 134.1 TWh (21.6%)
 - Adjust energy mix for balanced distribution of solar and wind power
 - * re-adjust solar and wind power electricity generation ratio from 87:13 (by 2021) to 60:40 (by 2030)

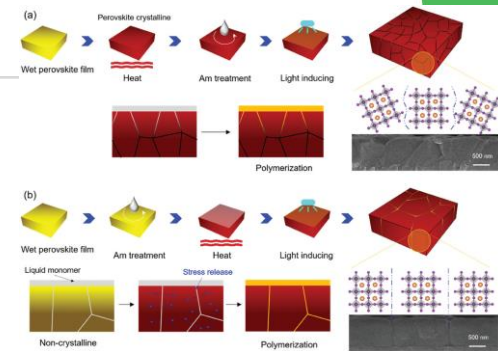


2. Technology Deployment for New and Renewable energy

Solar

■ In Situ Polymerization of Cross-Linked Perovskite-Polymer Composites for Highly stable and Efficient Perovskite Solar Cells

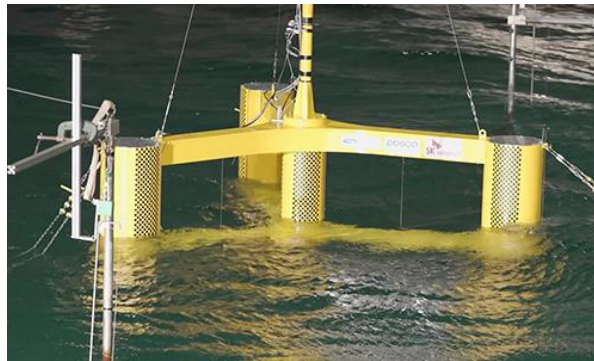
- The light-induced cross-linking of acrylamide(Am) monomers with non-crystalline perovskite films is used to fabricate highly efficient and stable perovskite solar cells(PSCs)
- The Am monomers induce the preferred crystal orientation in the polycrystalline perovskite films, enlarge the perovskite grain size, and cross-link the perovskite grains
- The liquid properties of Am effectively releases lattice strain during perovskite-film crystallization
- The cross-linked interfacial layer functions as an airtight wall that protects the perovskite film from water corrosion.



2. Technology Deployment for New and Renewable energy

Wind

- K-Floater(offshore wind power float model)
 - SK Ecoplant received basic design certification for K-Floater, an offshore wind power float model developed with purely domestic technology, from DNV(the Norwegian classification society)
 - K-Float is a 10MW semi-submersible floating model
 - It can with stand a typhoon with a speed of about 40m/s and has been recognized as maintaining structural and functional stability even in extreme sea environments such as 2m/s currents and 10m high waves.





Thank you



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