Thermal Energy Offtake and Storage

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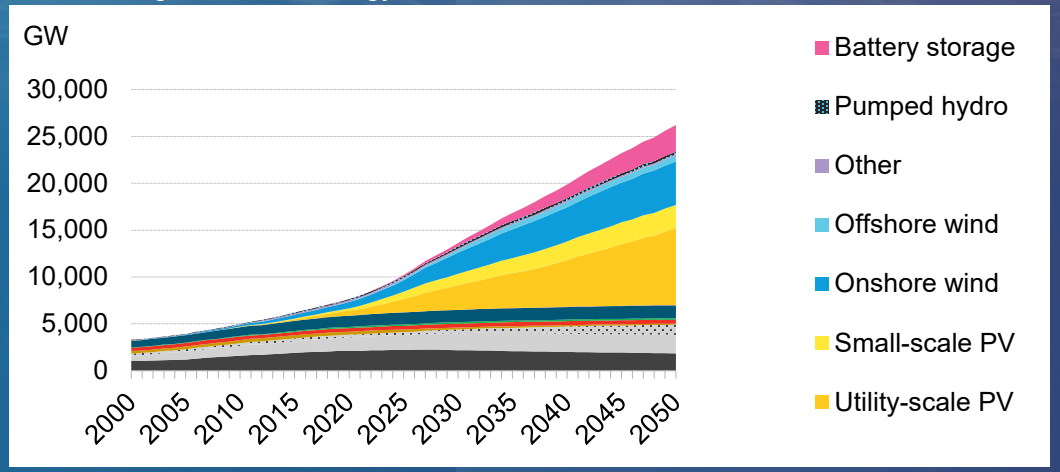
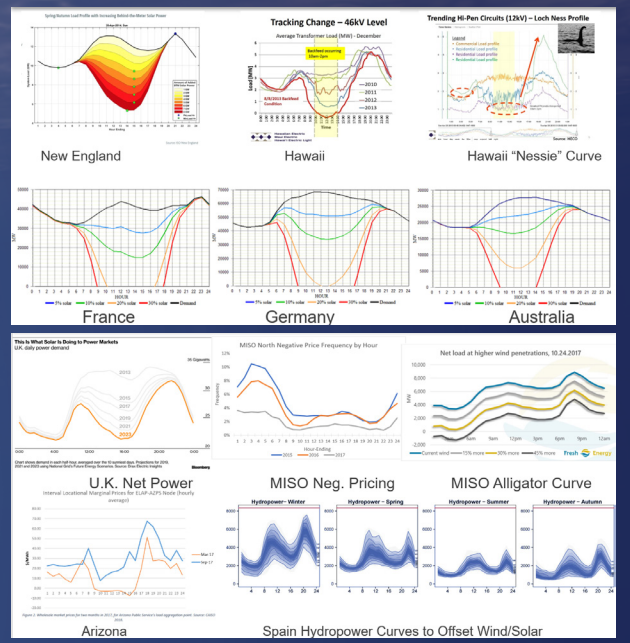
CONTEXT

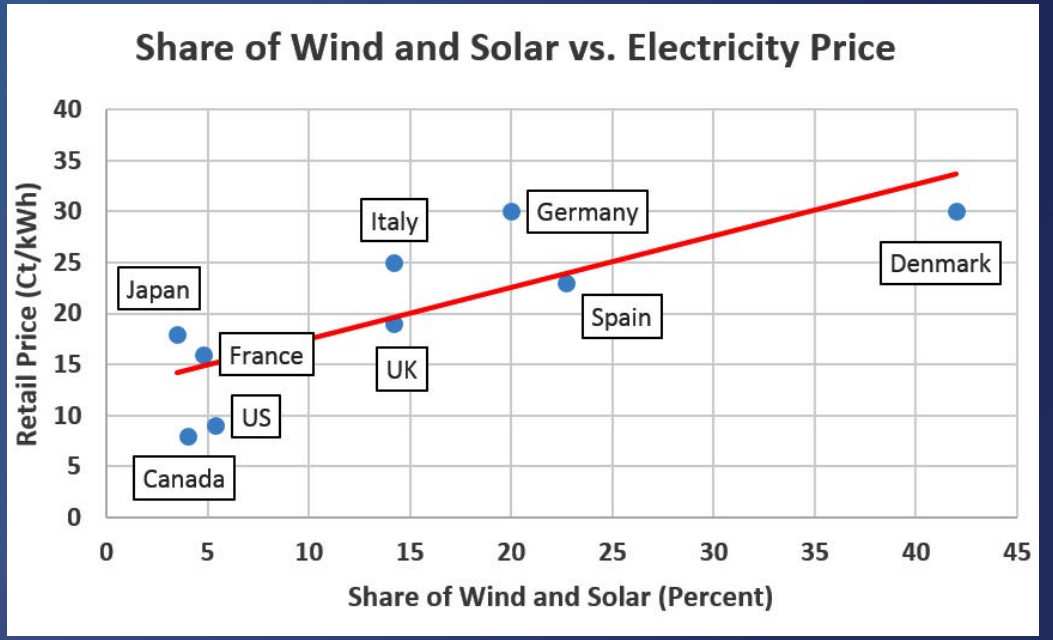
Global installed electric capacity, by technology

BloombergNEF New Energy Outlook 2022, Economic Transition Scenario





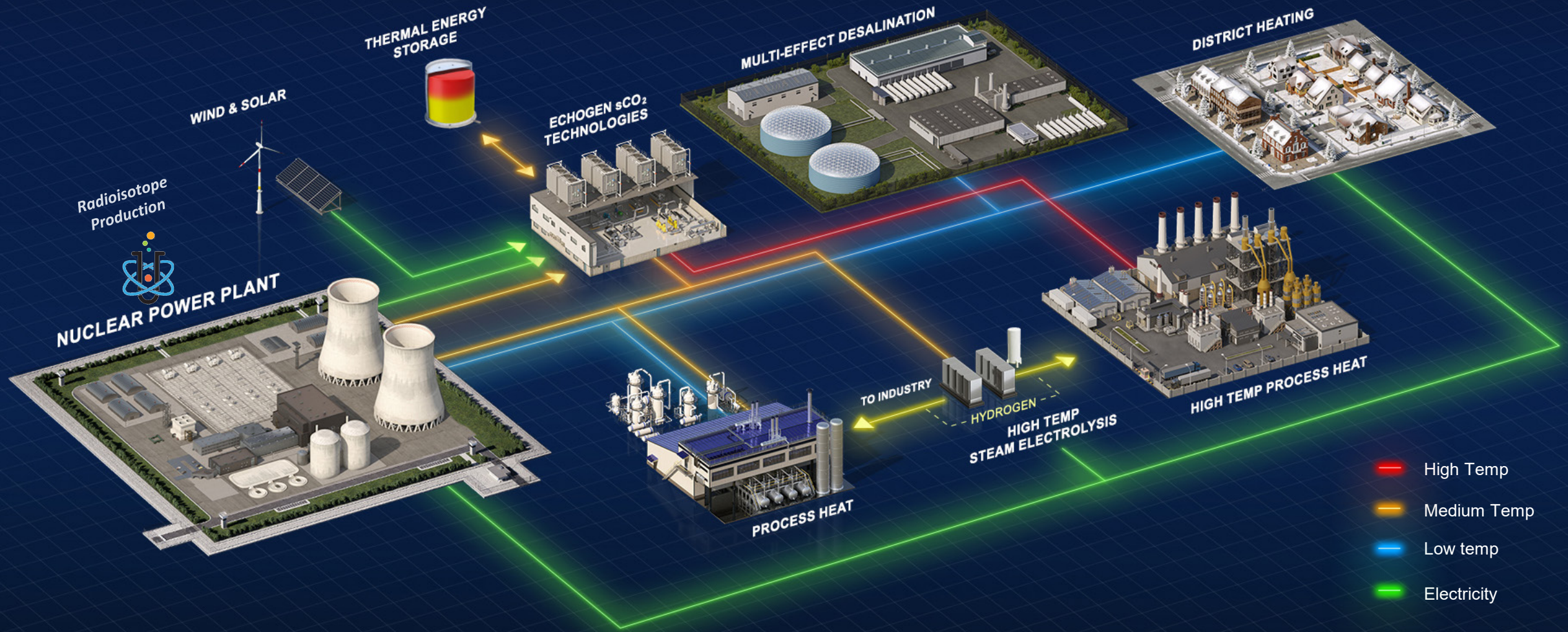
- Historically, Energy is Used as Generated
- Increase in Non-Dispatchable Generation
- Cost of Integration Dwarfs Generation
- Batteries are Expensive (i.e., short duration), Dams are "Impossible"
- Traditional baseload markets are being challenged by increasing use of non-dispatchable generation with correspondingly low/zero marginal cost
- As part of work in support of the DOE's Integrated Energy Systems Expert Group, Westinghouse has developed an entire decarbonizing stack-up



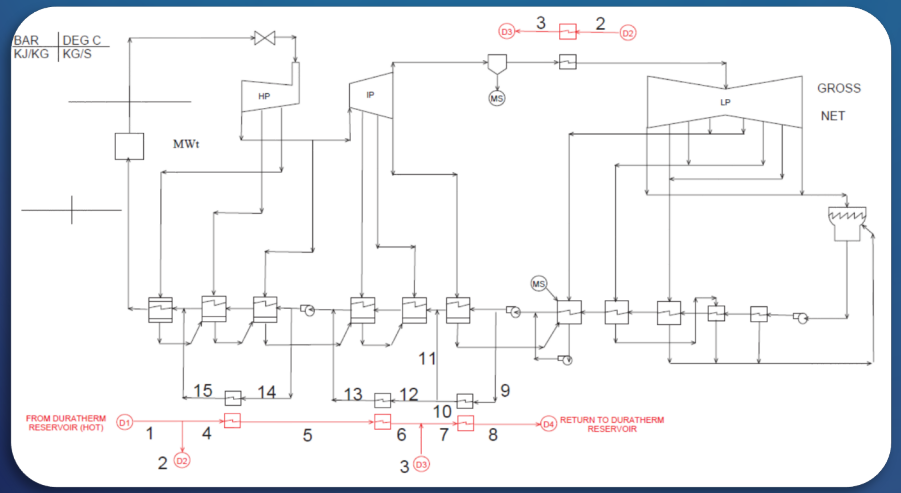
Source: Data from Clean Energy Wire and World Energy Council

Beyond Electricity

Nuclear Power Plants to Serve a wide variety of Decarbonizing Initiatives beyond Low-Cost Electricity



Westinghouse Storage Solution



Example of Integrated Models

OUR SOLUTION

Our technology, related to our stand-alone product, captures heat directly from a nuclear cycle and then produces electricity later using an innovative supercritical CO_2 power cycle

- New Paradigm of Performance Relative to Materials Availability
- Lowers the Cost to Add More / Longer Storage
- Significant Flexibility in Configuration
- Benefits of shared equipment + higher performance than standalone

Westinghouse

ONGOING WORK

- $50M DOE Award in September, 2023
- 2024 FEED Studies
  - GVEA in Healy, AK: 50 MW / 24 Hr.
  - New York State: ~1.2 GWh
- Research and Development & Market Modeling
  - Comprehensive Testing Program Underway
  - Industry-Leading Modeling Initiatives
  - Other Non-Electric Investigations
    - Supporting INL with control/human factors
    - FOA-1817 on Hydrogen Integration
    - NEUPs
      - Optimization of Storage + Desal
      - ZLD Desal + Brine Mining
    - SBIR: Use of sCO_2 heat pumps for high-grade process heat from LWRs