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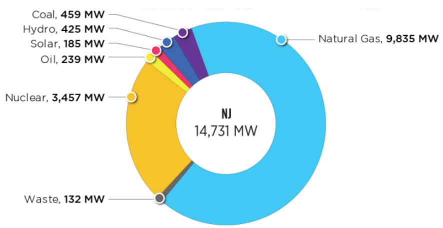
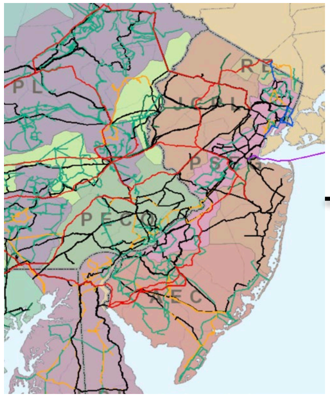
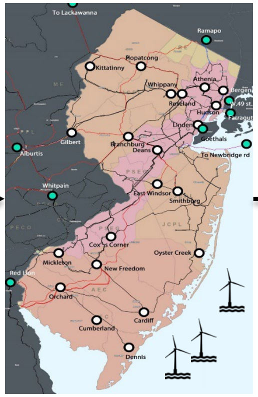
# *Impact Assessment of Energy Storage & Offshore Wind Integration within NJ Elect. Grid*

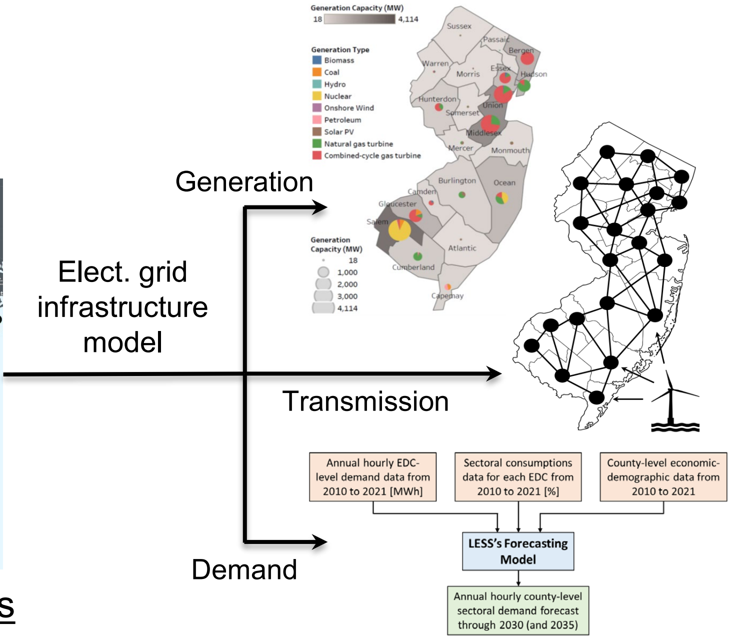
- New Jersey's Energy Master Plan:
  - 3,500 MW of offshore wind by 2030 & 7,500 MW by 2035
  - 2,000 MW energy storage by 2030 & 2,500 MW by 2035




Existing Installed Capacity as of Dec. 2020 [Source: PJM]








- Framework to quantify the integration impacts of ESSs & OSWs
  - A state-level Unit Commitment-based optimization model is developed.
  - The model computes "best" power generation/storage mix to balance supply and projected net-demand.
  - 5 Key performance indicators (KPIs) are proposed to quantify impacts of different ESS+OSW configuration scenarios in comparison with the baseline cases (only OSWs).
  - Decentralized ESS configurations with uneven capacities seem to have better impacts on the system operation, i.e., LMPs, congestions, renewable curtailments and the operation cost.