Towards the Energy System of Tomorrow
Environmental and Energy Study Institute
June 4, 2021
Regional solutions: economies of scale and scope

HVDC offshore transmission line linking all wind plants.
Fragmented electricity trade
Fragmented transmission planning
Electricity customers can offer key solutions

• Customer devices will scale up with electrification
  – D-system must be able to manage higher amounts of smaller, distributed resources discharging and storing electricity

• EVs, HVAC systems, etc. on the D-system can help balance electricity supply and demand
  – Help integrate wind/solar and maintain reliability at least-cost
  – FERC allowing DR, storage, DERs to participate in wholesale electricity markets helps optimize use of these resources
  – Need T&D coordination, accurate prices, better forecasting
How can Congress help?

• Market / transmission expansion and grid-edge issues highlight importance of federal, state and local authorities collaborating—need forums to work out solutions
  – Ask FERC/DOE to convene states, local authorities, stakeholders to develop coherent, equitable, implementable large-scale backbone transmission plan
  – Fund and provide technical assistance to states to study the benefits of market and transmission expansion, and improve D-system to accommodate DER proliferation and participation in markets
  – Fund DOE to improve open-source mapping tools to identify transmission corridors that optimize efficiency, equity, and avoid environmentally sensitive and cultural heritage sites while maximizing existing rights of ways
• Reduce costs of efficiently sharing resources
  – Fund DOE to develop common open-source energy market trading platform to optimize trades across borders
• Align incentives with policy goals
  – Direct FERC to require utilities to trade electricity and share resources as part of an independently operated market to minimize overcharging customers
  – Enable DOE to investigate setting standards to encourage greater efficiency for the transmission system
Thank you!

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