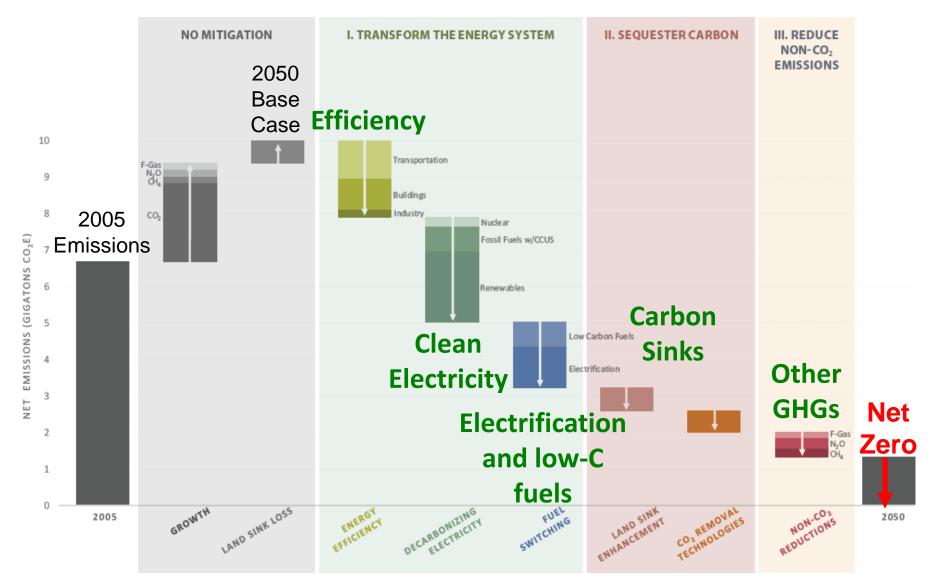
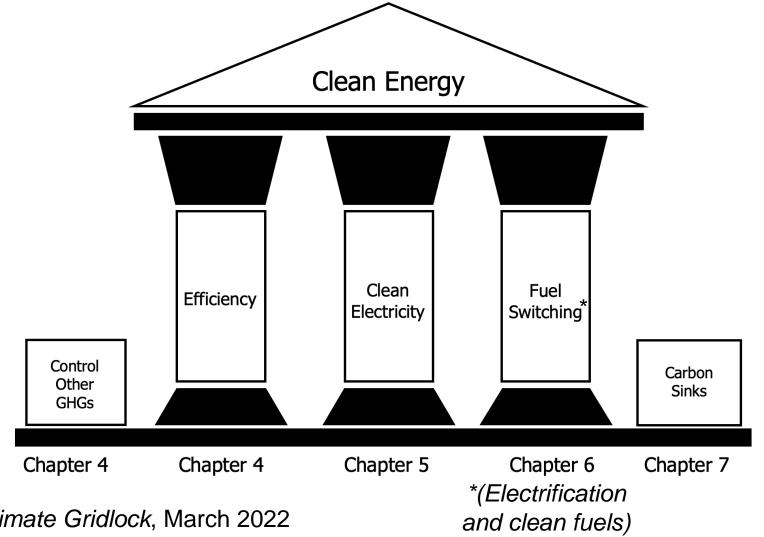
# Steps toward decarbonization and net zero



United States Mid-Century Strategy for Deep Decarbonization (White House, Nov. 2016)

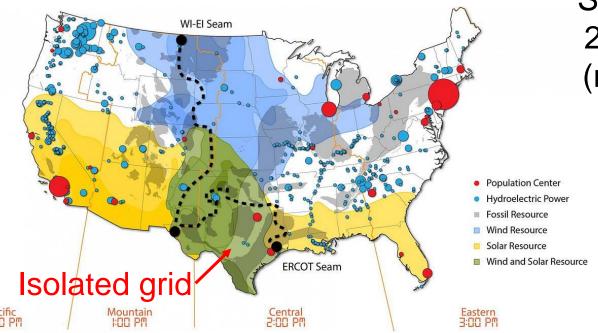
# Pillars for clean energy, plus need to control other GHGs and create carbon sinks



### Pillars of Decarbonization in Texas

- Efficiency: Untapped opportunities
- Clean electricity: Leader in wind; fast-growing solar
  - Innovation in solar, geothermal, and offshore wind
- Fuel switching: Opportunities to electrify vehicles, etc.
  - Innovation in biofuels, hydrogen, and EVs
- Other greenhouse gases: Control methane leaks
- Carbon sinks: Innovation, infrastructure, and geology for sequestration

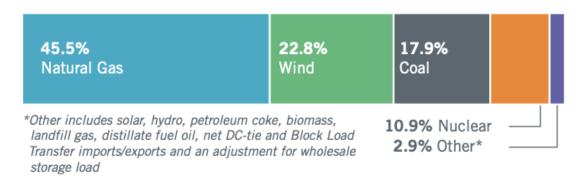
## **Electricity in ERCOT**



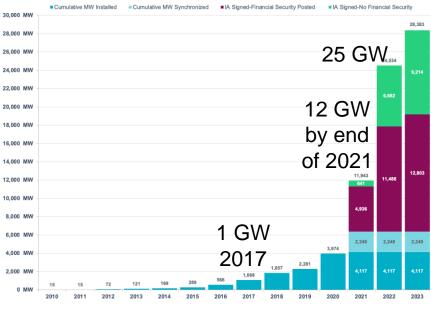
Solar growing 2-3x per year (record pace)

Wind large and growing

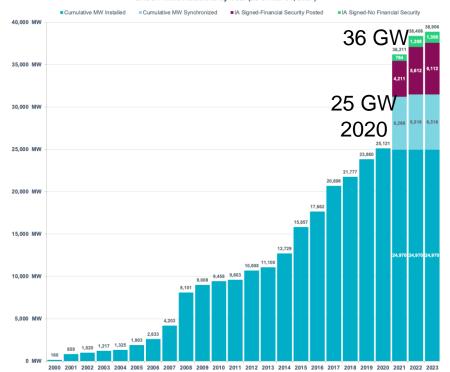
#### 2020 Energy Use



ERCOT Solar Additions by Year (as of Mar 31, 2021)



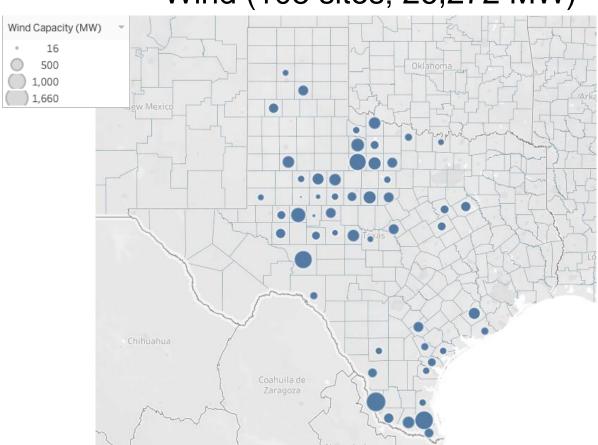
#### ERCOT Wind Additions by Year (as of Mar 31, 2021)



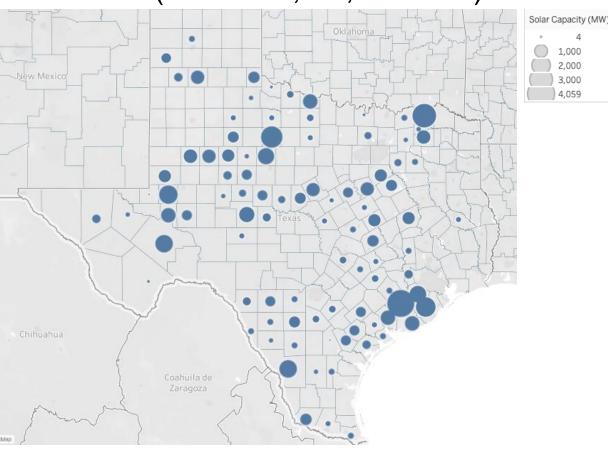
ERCOT fact sheet; NREL seams study; ERCOT capacity changes

# Proposed wind and solar projects in ERCOT interconnection queue (June 2020)

Wind (108 sites; 26,272 MW)



Solar (262 sites; 73,655 MW)



Morse et al., in review

**ERCOT June 2020 Generator Interconnection Status Report** 

# Wind and solar are complementary

