

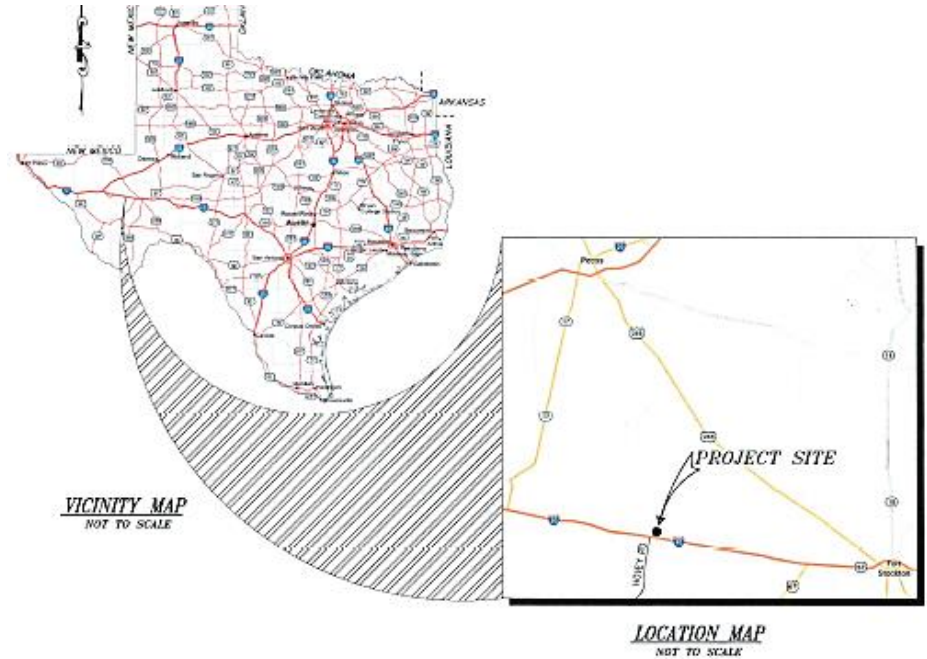


# What the Coming of Age of the Solar PV Industry Means for Texas and the Proposed EPA Greenhouse Gas Rule

Colin Meehan

# Barilla Solar Project Phase I

- First solar plant in the U.S. built without a long term PPA
- Phase I interconnection (22 MW) completed in August of 2014
- No water used to generate electricity
- Takes advantage of existing transmission infrastructure



# What Makes a PV Plant “Grid Friendly”?



## Critical for Managing Grid Reliability & Stability

Regulates power factor and plant voltage/VAR controls

*Reactive Power Capability*

Curtails active power when necessary

*Active Power Regulation*

Limits the ramp rate from variations in irradiance

*Ramp Rate Control*

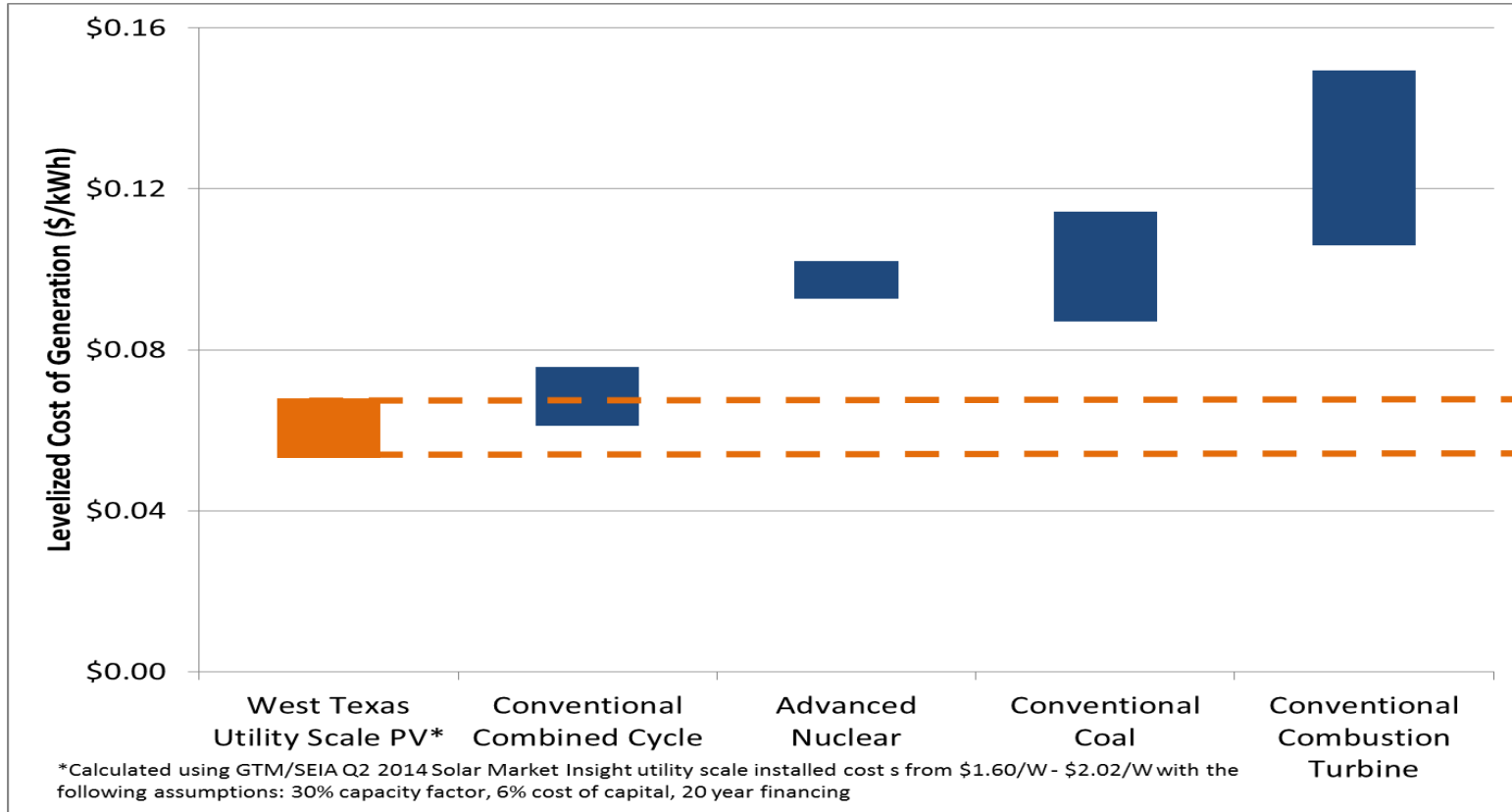
Prevents faults and other disturbances

*Ride Through Capability*

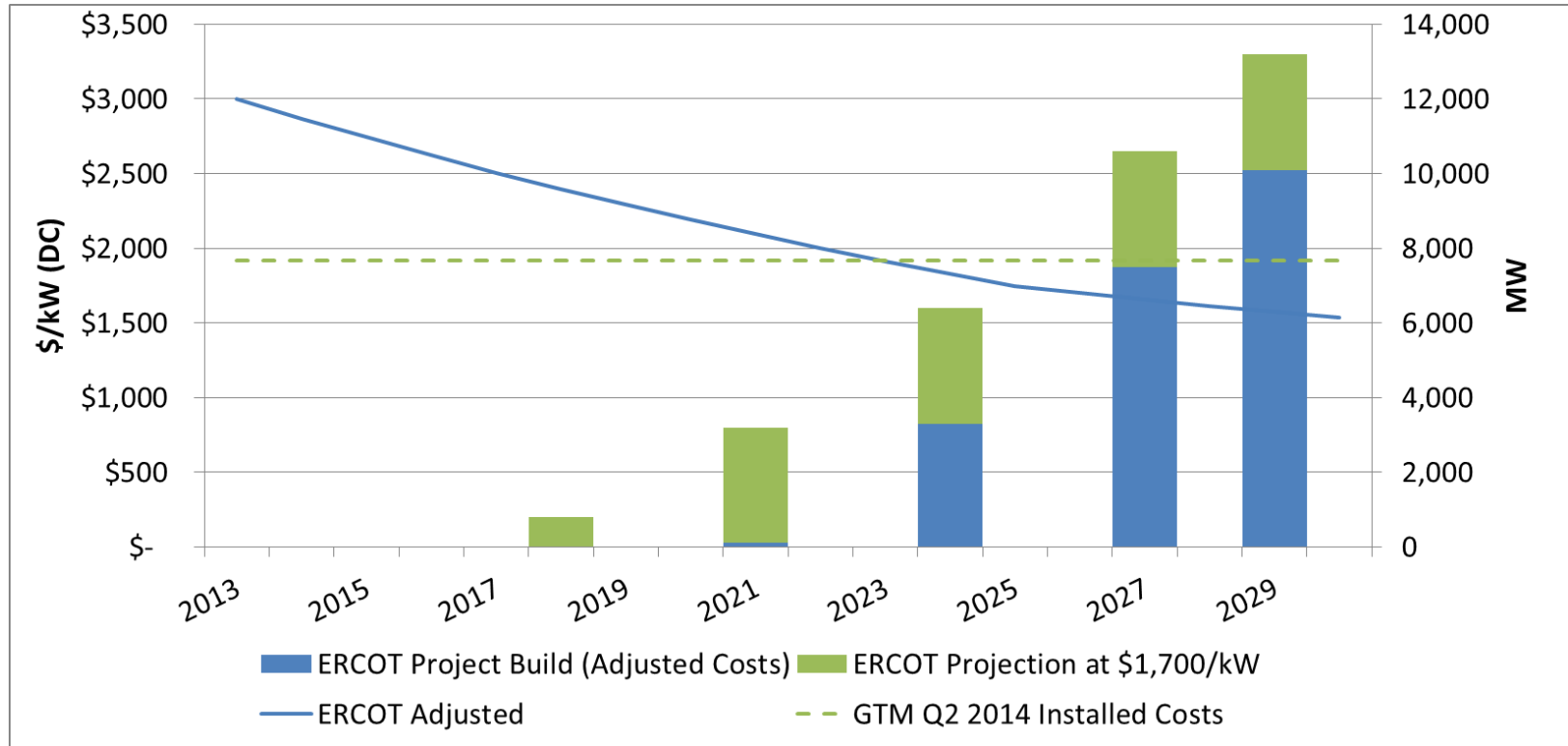
Monitors, tracks, and reacts to changes in grid frequency

*Frequency Droop Control*

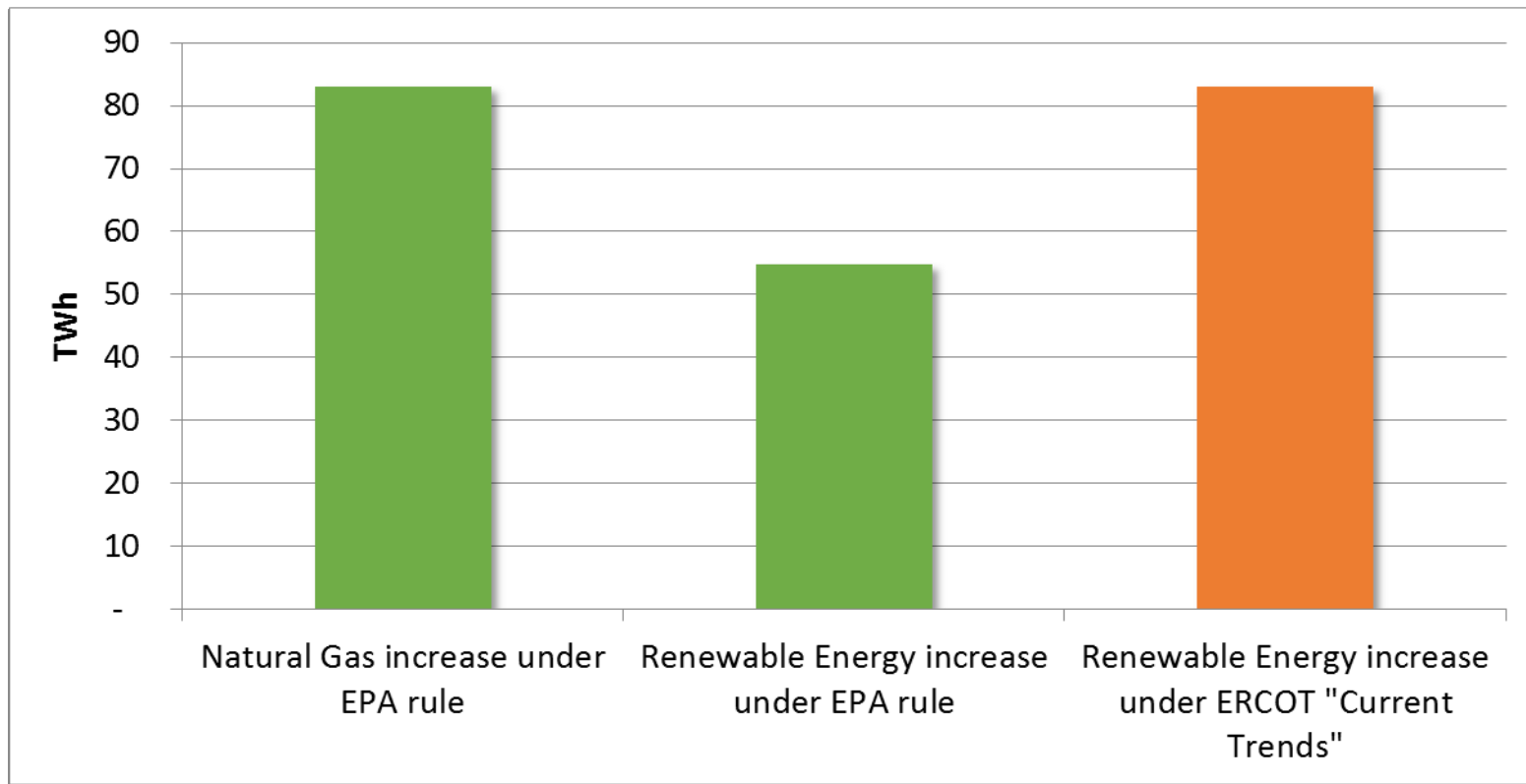
# Cost Competitive with Conventional Energy Sources Today



# Cost Assumptions Impact Future Planning



# EPA's RE Growth Assumptions are Conservative



# Does Texas have a Backup Plan?

- To ensure that it receives full credit for what it is already doing, Texas needs to have a credible plan that
  - Supports a continuation of Texas' historical growth in renewable energy
  - Reduces the risk of renewable energy curtailment
- The competitive wholesale market is the ideal mechanism to achieve these goals at the least cost possible providing Texas a further advantage beyond its ample solar and wind resources
- “Outside the fence” solutions like increased use of existing natural gas generation, solar, wind, and energy efficiency are critical to keeping costs low and reducing dependence on other states for fuel





# TAKING ENERGY FORWARD

partnering with you to uncover solutions to your energy needs.