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- Politicians say 50% renewable by 202X
- DER developers say 3 yrs for interconnect agreement
- Can't interconnect safely without grid operating data
- Can't operate efficiently without real time grid data
- Regulators failing by not incentivizing sensing

- Comprehensive sensor, communications, software
- Secure, independent, data collection communications
- Output is real-time, high resolution, and **actionable**
- Fault Localization to 30 m
- 800KV Transmission to 240V distribution
- Sensors Clamp-on, Inductance Powered
- Completely scalable from 5 km to 100,000 km

PHENOMENA IDENTIFICATION

Electrical:

- Voltage
- Current
- Power Factor
- Frequency
- Energy
- PMU
- Harmonics
- Corona
- DLR
- EMF

Physical:

- Cable movement
- Cable/tower/pole vibrations
- Cable sag
- Foreign object touching cables (trees)

Environmental:

- Cable temp.
- Ambient temp.
- Humidity
- Icing

Other – upon request:

- Event imaging
- Measurement of CO₂
- Smoke detection
- Audible noise

Major problem that could have been avoided
in 2018 California fires

- Cost \$2,000-6,000/km
- 3-5 year payback from efficiency alone
- Without sensing no chance of meeting mandate and operating grid safely
- Smart meters are stupid
- What is your plan for grid sensing?