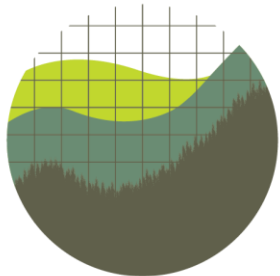


Comprehensive Planning, Market Design, and Resource Adequacy

Justin Gundlach
Senior Attorney

National Council on Electricity Policy
Annual Meeting
Sept. 14, 2021

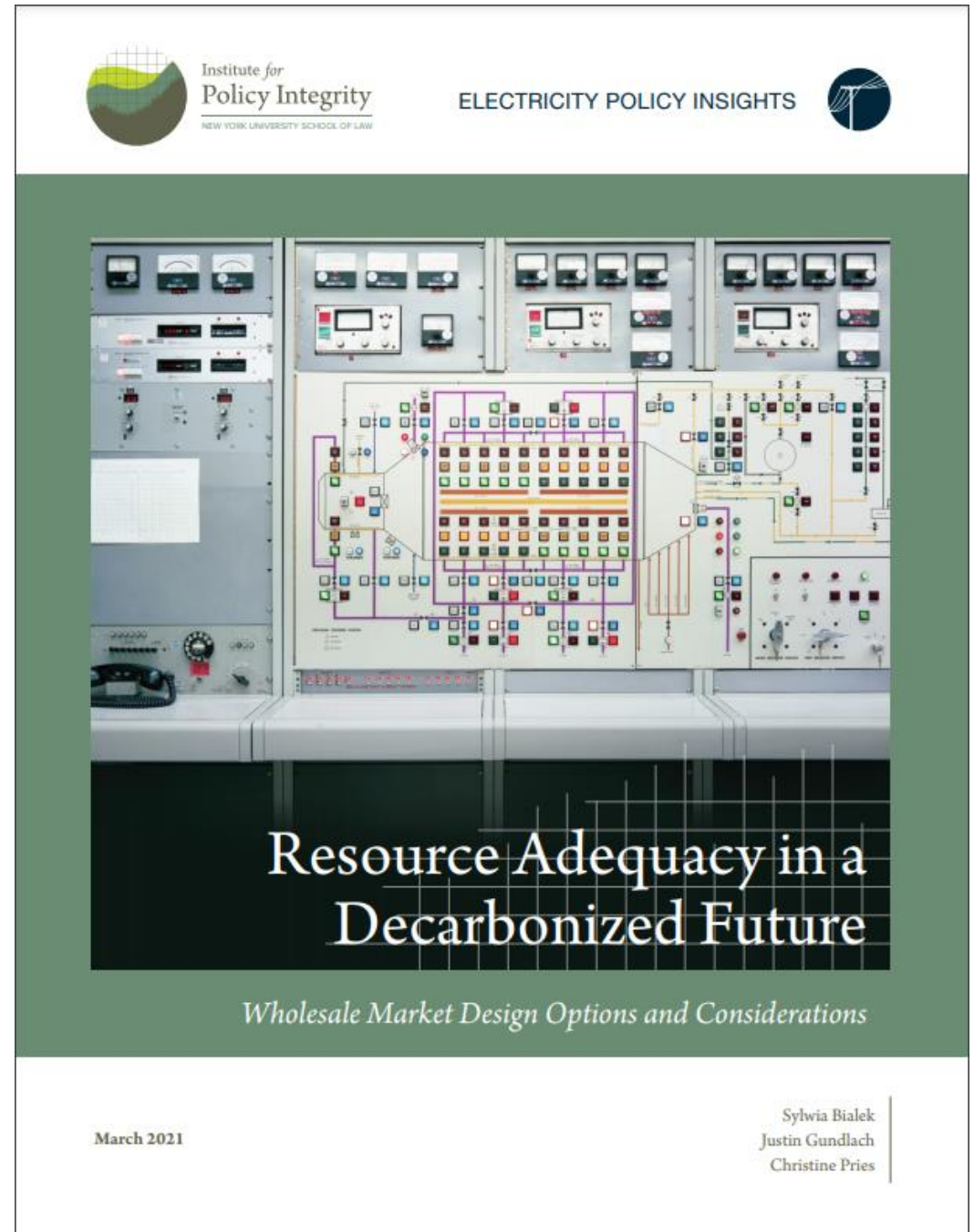


Institute for
Policy Integrity

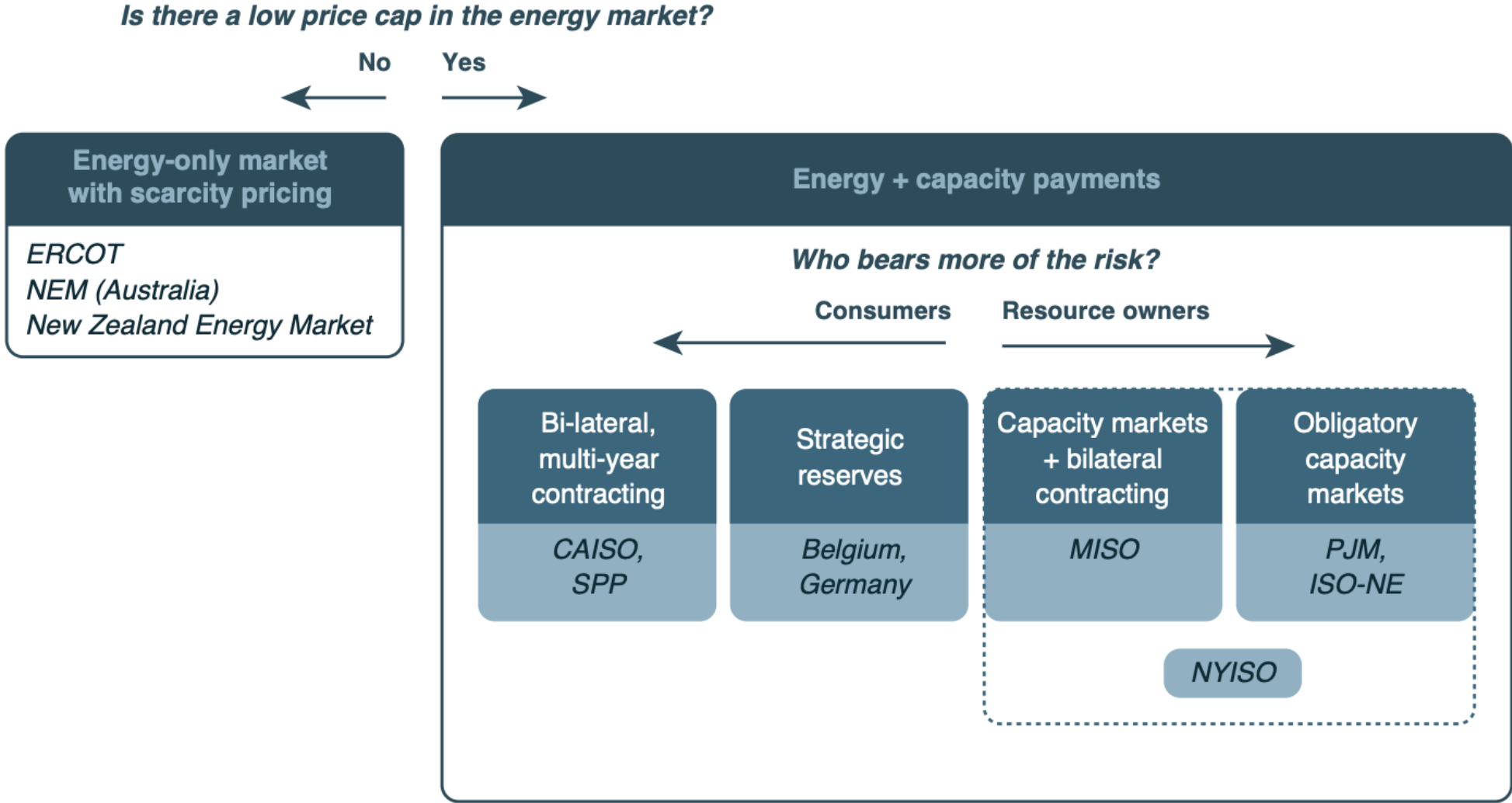
NEW YORK UNIVERSITY SCHOOL OF LAW

Overview

1. Renewables and wholesale market design options
2. Failures of market design?
 - California, Aug. 2020
 - Texas, Feb. 2021
3. Some lessons



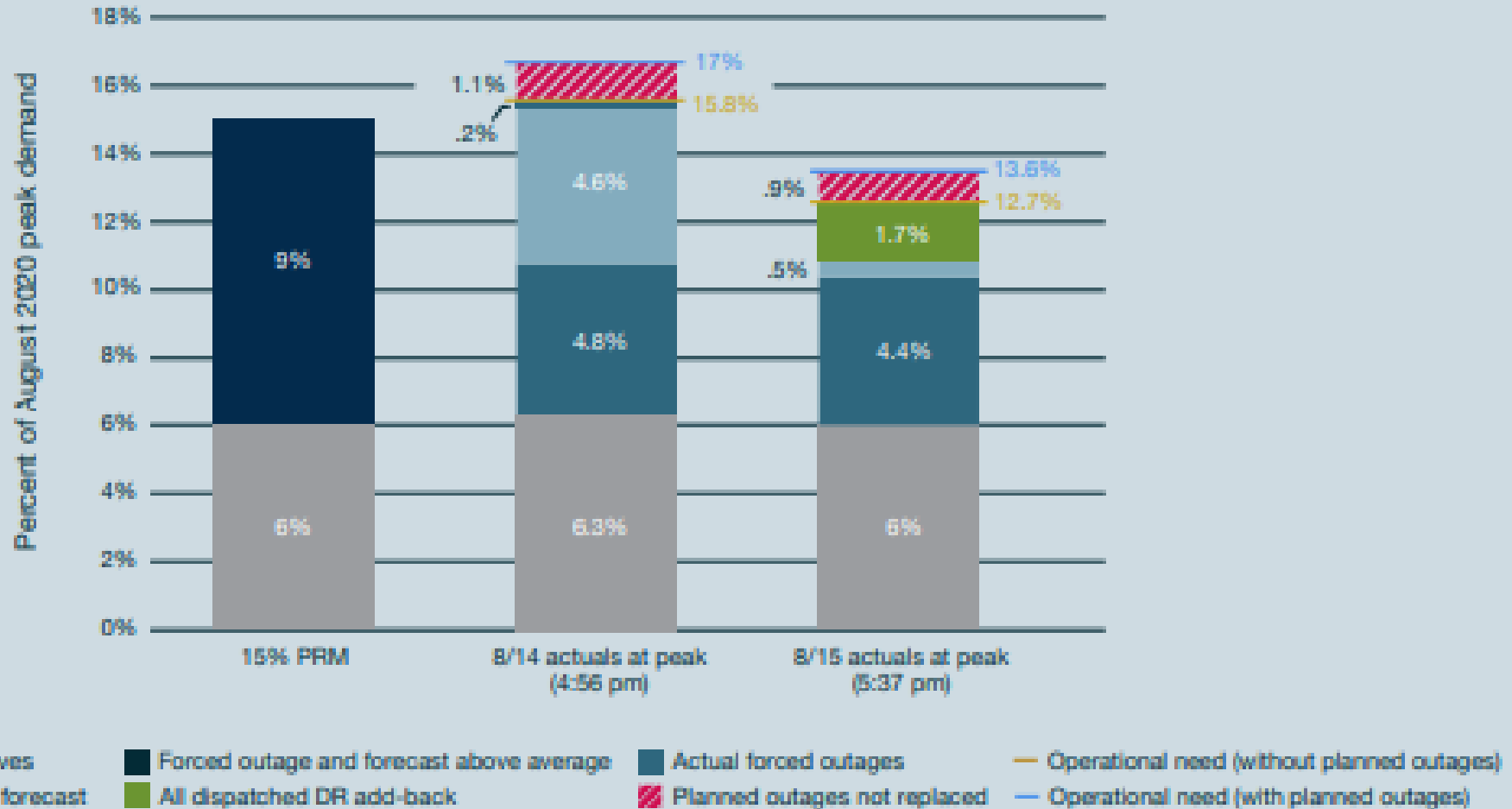
Renewables and Wholesale Market Design Options



Source: Bialek, Gundlach & Preis, [Resource Adequacy in a Decarbonized Future](#) (2021)

California, August 2020

Figure 7. August 2020 CAISO Planning Reserve Margin Compared to Actual Net Generation and Operational Need at Peak on August 14 and 15, 2020.⁷⁹

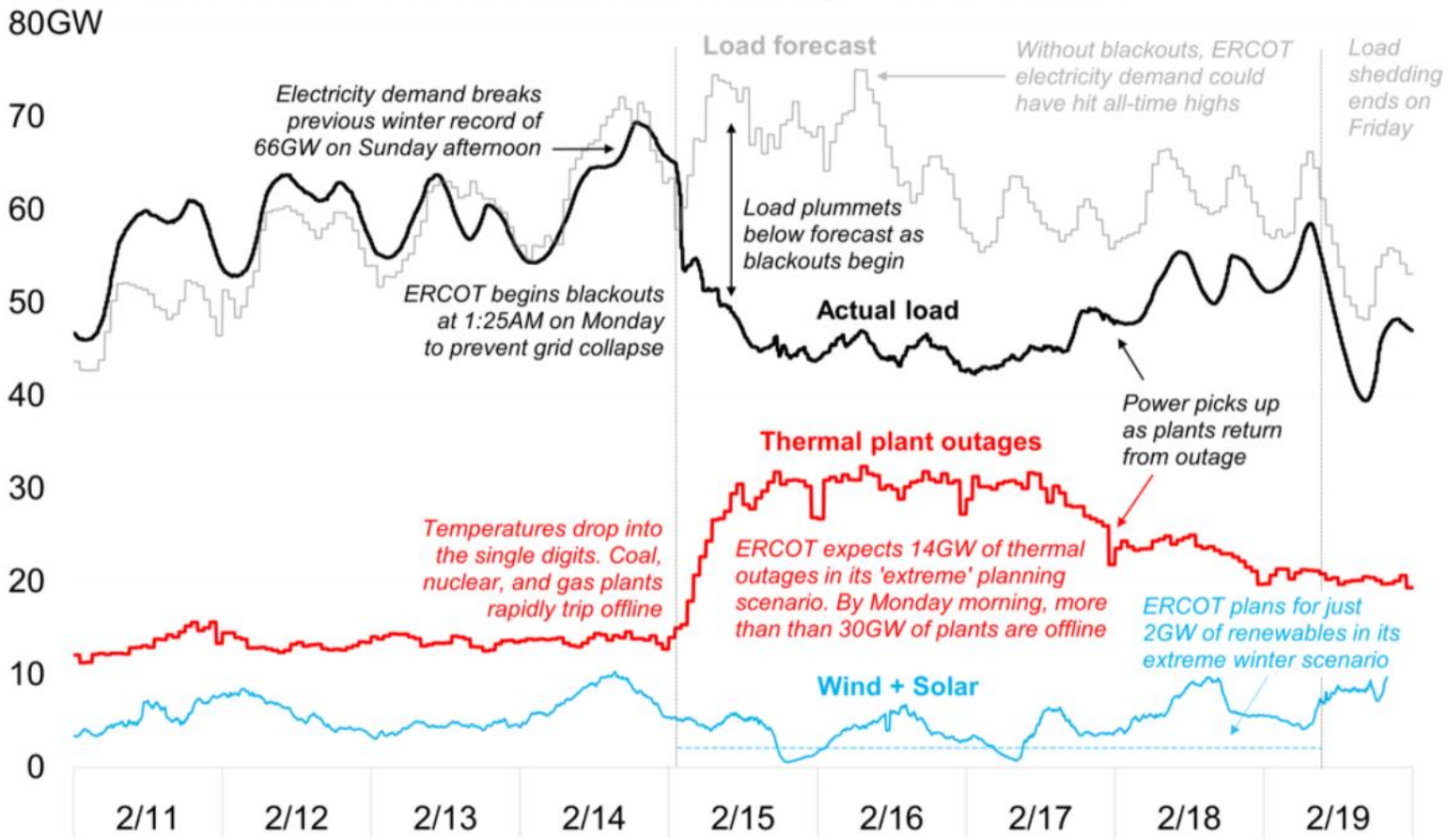


Source: CAISO, CPUC & CEC, [Final Root Cause Analysis](#) (2021)

Texas, February 2021

Extreme Weather, Extreme Outages Pushed Texas into Blackouts

ERCOT electric load, load forecasts, thermal plant outages, and renewables



Data source: ERCOT Note: 'Thermal plant outages' is non-renewable generator outages reported by ERCOT

Source: Brian Bartholomew, (@BPBartholomew) [Twitter](#) (Feb. 24, 2021, 12:24 AM)

Some Lessons for Holistic Market Design

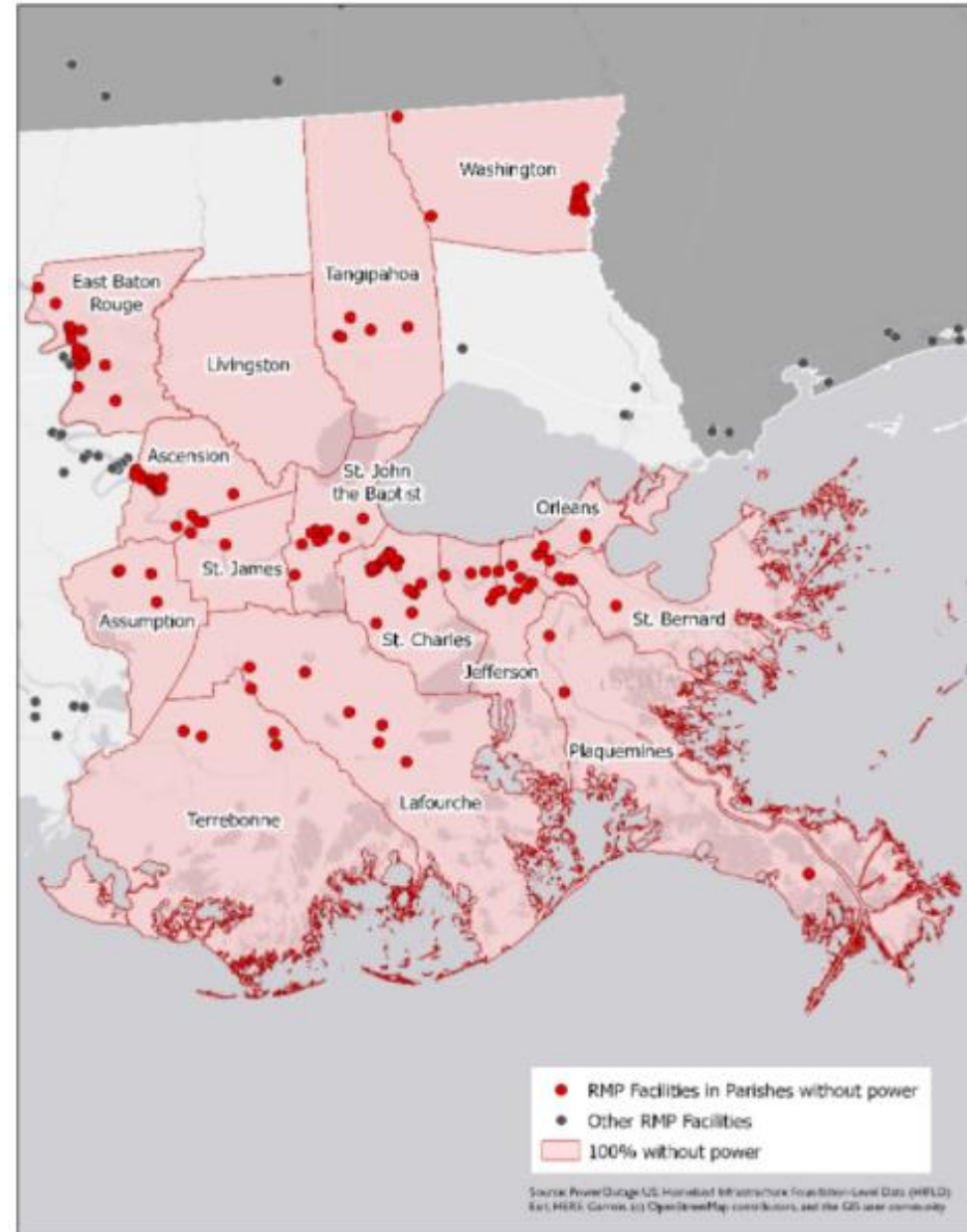
1. Existing wholesale market design options will remain useful as renewables proliferate
2. Some problems *do* root in organized wholesale market design
3. Big problems root in broader failures:
 - Blinkered risk assessment
 - Balkanized perspectives and responsibilities
 - Poor integration and flow of info across markets

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Extra: Louisiana, Sept. 2021

- Red dots = 138 designated facilities without power
- Outage + failed backup → releases of harmful emissions/effluents



Source: Union of Concerned Scientists Blog, [Hurricane Ida leaves Chemical Facilities and Surrounding Communities Without Power](#)

