States' Role in Ensuring Sufficient Interregional Transfer Capability

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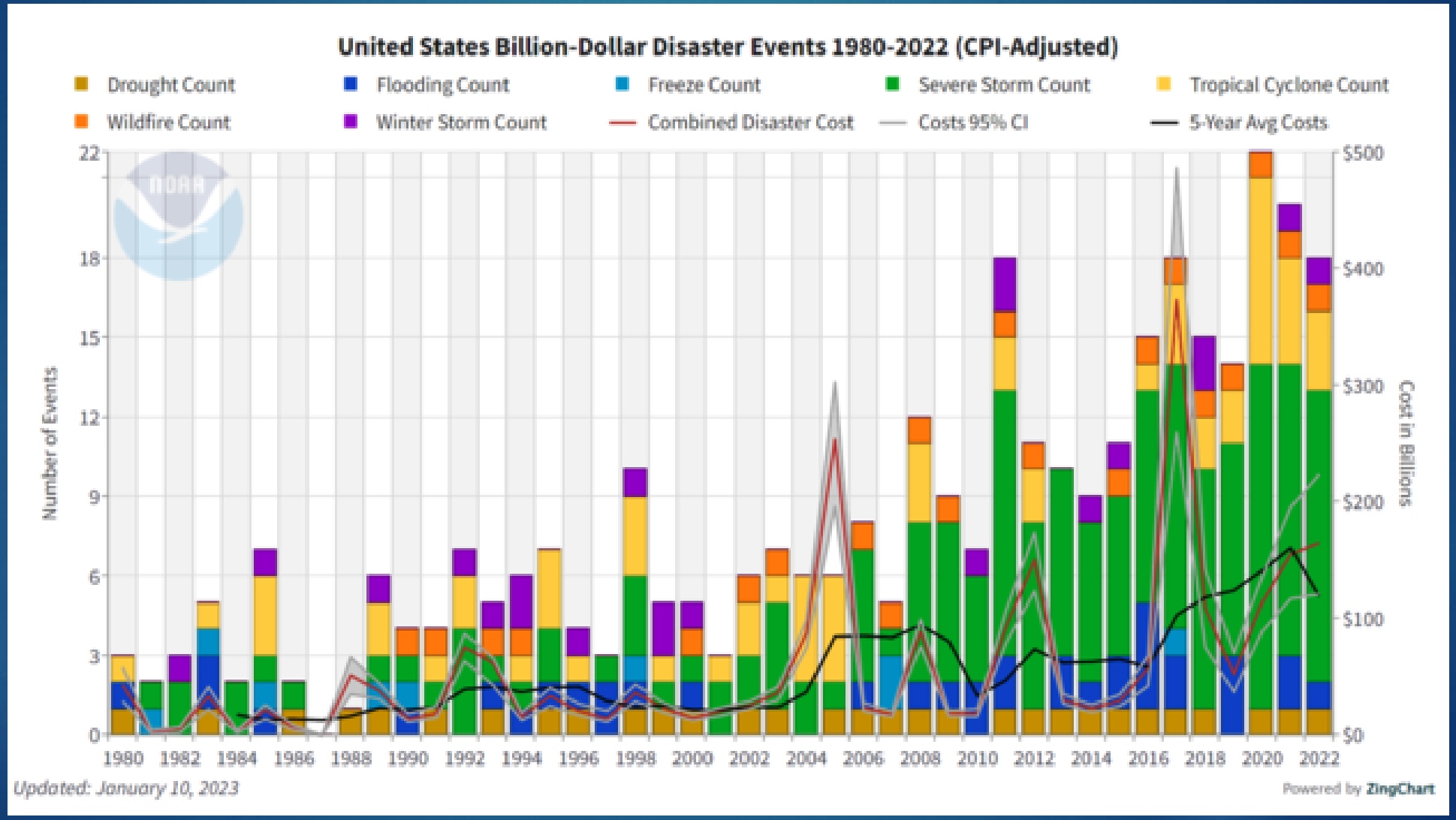
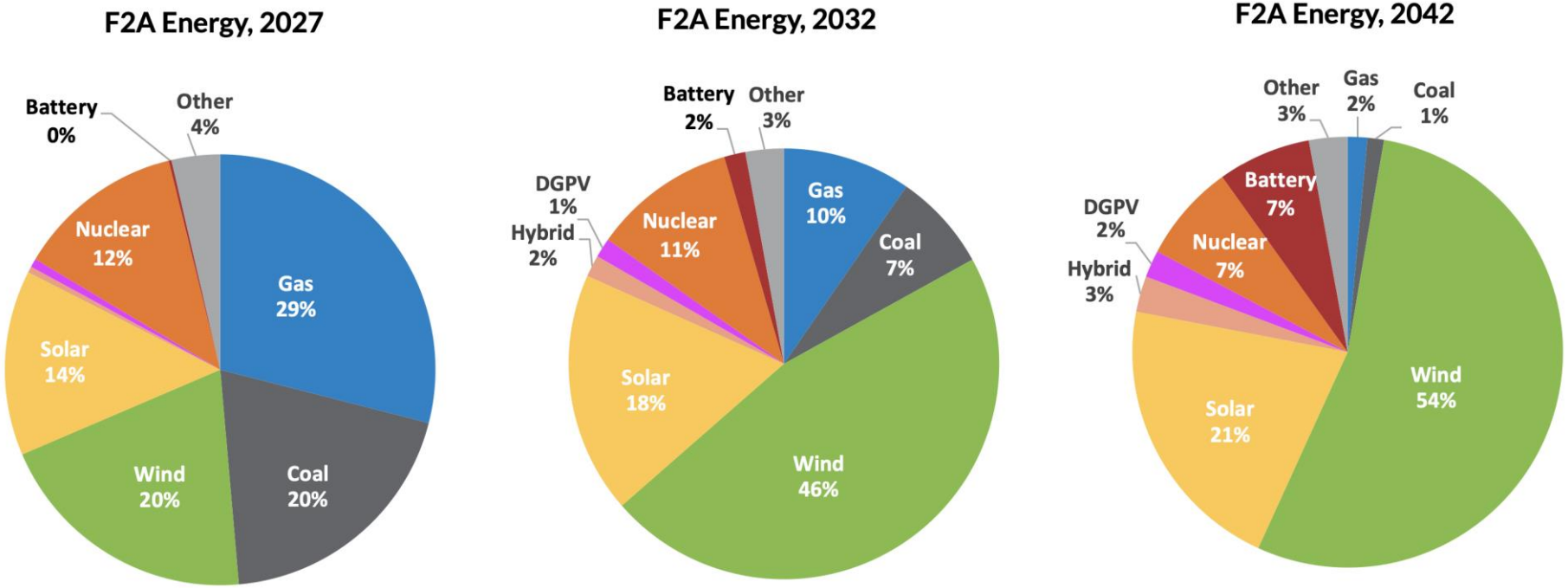
Interregional Lines are Urgently Needed Now for Extreme Weather Events



Source: https///www.climate.gov/news-features/blogs/beyond-data/2022-us-billion-dollar-weather-and-climate-disasters-historical

Interregional Lines will be Needed for Everyday Operations as Weather-Fueled Generation Increases



* Data as of March 7, 2023. Futures do not account for all operational level reliability needs and attributes that may require different levels of dispatchable resources. Resource additions may be subject to adjustment based on new accreditation rules.

DGPV: Distributed Generation solar PV

MISO

Source https://cdn.misoenergy.org/20230310%20LRTP%20Workshop%20Item%002%20MISO%20Future%202A%20Expansion%20and%20Preliminary%20Siting628178.pdf

The Future Grid Must be Larger Than Weather Systems

- The availability of energy from weather–based fuels changes with, well, the weather.
- In the future, as weather fronts move across our nation, the grid operators will be following those weather fronts and dispatching energy from different generators.
- Therefore, everyday operations of the grid will depend on the ability to access generators in differing weather systems.
- Storage will also play a large role in how weather-based generators are operated.

- CONCLUSION 1: The larger the area from which weather-fueled generators may be dispatched the higher the level of reliability and resource adequacy.
- CONCLUSION 2: Interregional transmission lines become increasingly important not just for extreme weather but for everyday operations.

There is no meaningful interregional planning happening among SPP, MISO and PJM.

If you want change, ~~ask for~~ demand it.

Role of Governors and Regulators in Interregional Planning

- MISO's MVP process was kicked off by a letter from five governors asking MISO to develop a grid to enable compliance with their RPSs.
  - MISO stepped up and now leads the nation in long-term regional planning.

- Governors and Regulators can demand that their respective RTOs work together to conduct real interregional planning that enhances both reliability and resource adequacy.

Joint RTO Planning for Interregional Lines

Without a federal standard for interregional transfer capability, RTOs will need to agree on goals and metrics

Step 1: Define Goals and Metrics – regulators must be involved given that they will be approving the lines at the state level.

Step 2: Alternatives Evaluation – mostly an RTO function

- Step 2a: Does the alternative help to achieve the agreed-upon goals?
- Step 2b: Compare alternatives and, using agreed-upon metrics, select the "least regrets" lines

Step 1 on Developing Goals and Metrics: Agree on Foundational Facts

Here's an Example of How to Start a List of Foundational Facts

- The generation portfolio is changing rapidly in type, volume and location.
- Given extreme weather and the increasing weather-fueled generation, geographic diversity of new generation and storage is imperative.
- Inter-regional lines must provide access to resources located in areas that will be subject to differing weather systems. When considering how to value geographic diversity, planners should consider, at least, the following:
  1. Timing of seasonal peak demand;
  2. Renewable output; and
  3. Correlated generator outages.
- Interregional lines should significantly improve reliability and resource adequacy.

Foundational Facts – Page 2

- The future is uncertain including future weather and climate patterns, generation mix and location, load patterns, gas demand and supply availability, power flows, etc.
  - Given this uncertainty, it is best to establish a set target for interregional transfer capability rather than regularly recalculate it.
  - Given this uncertainty and given that interregional lines will take years to design, planning for interregional lines must utilize 20-year out scenario planning.

THE END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