

Municipal Aggregation and the Energy System of the Future

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About ELPC

Non-profit based in Chicago,
founded in 1993

Mission: To achieve
environmental progress &
economic development in the
Midwest

Philosophy:

- Flexible, multi-disciplinary teams
- Say “yes” to better solutions

Programs:

- Clean Energy
- Clean Air
- Clean Water
- Clean Transportation



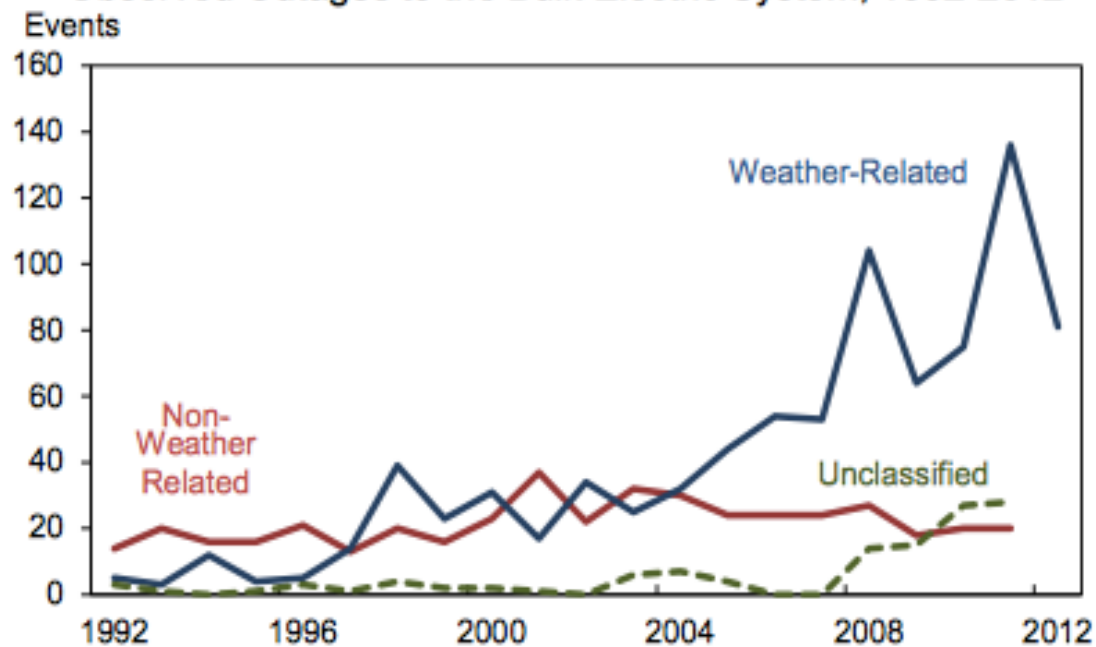
Outline

- The energy system of the future
- Implications for consumers
- The role of municipal aggregation and alternative retail suppliers

Today's grid - vulnerable and fragile



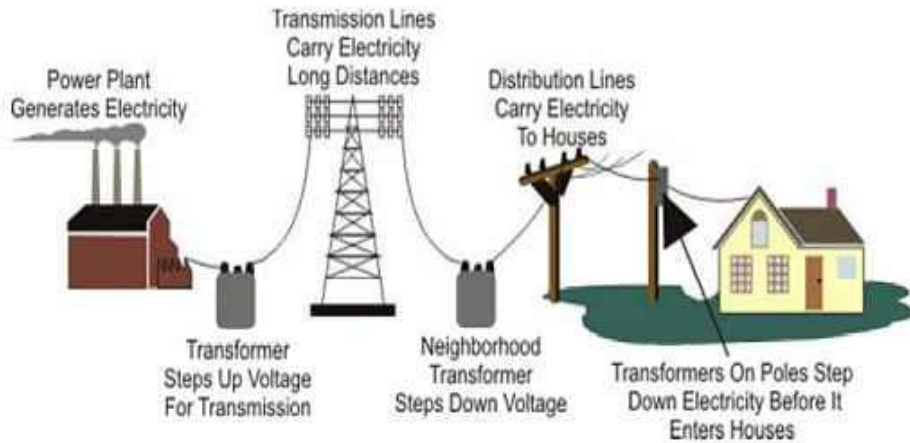
Observed Outages to the Bulk Electric System, 1992-2012



Source: Energy Information Administration

The energy system of the future

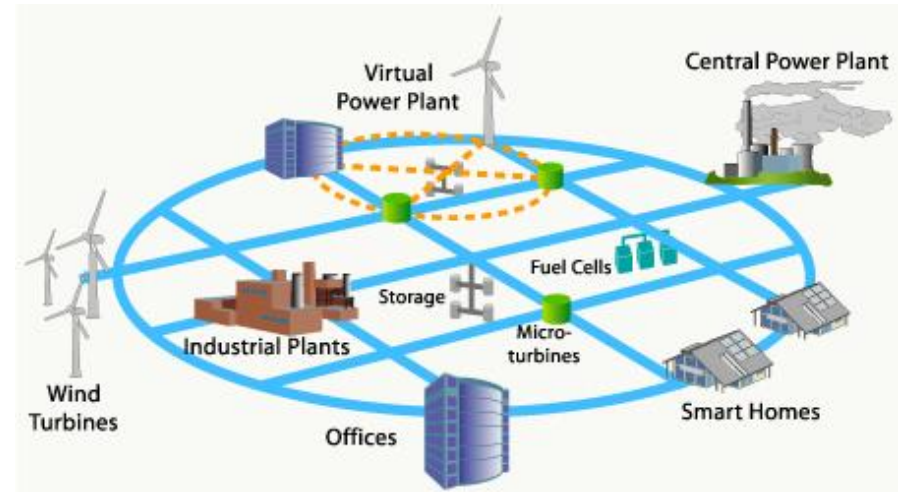
From centralized supply ...



Source: gridwatch.org

- One-way power flow
- Inefficient (65-75% losses)
- Water- and carbon-intensive
- Vulnerable and unreliable
- Low penetration of renewables
- Supply follows demand
- Strong barriers to entry

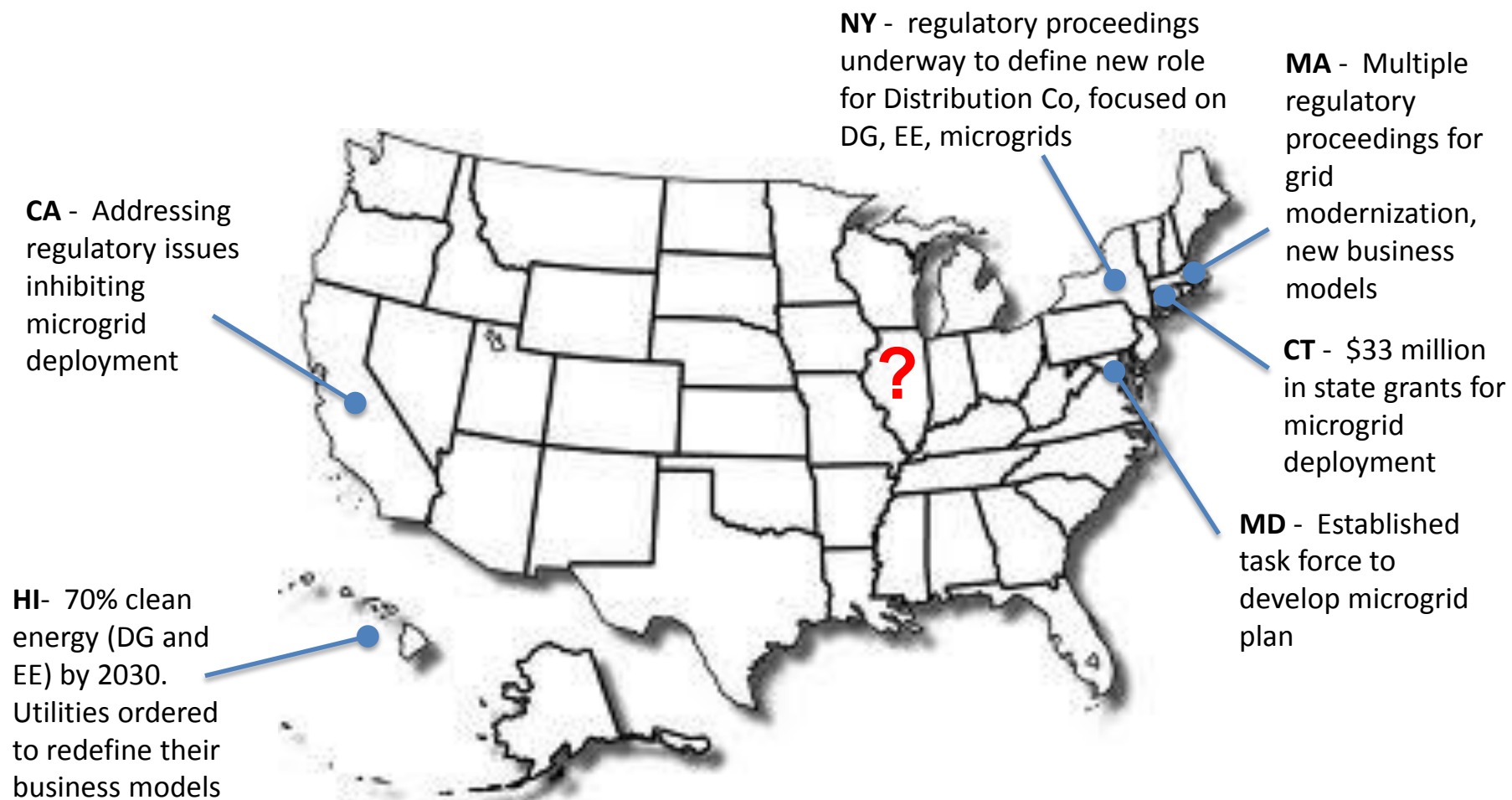
... to distributed energy resources



Source: www.powergenasia.com

- Multi-directional power flow
- Efficient
- Less water- and carbon-intensive
- Resilient and highly reliable
- High penetration of renewables
- Demand follows supply
- Opportunities for new market entrants

The transformation is underway ...



What do these companies have in common?



Disruptive business models – Exhibit A



Disruptive business models – Exhibit B



Implications for consumers

- Interest in more than just energy commodity
- Options
- Changing expectations for utilities and suppliers
- Active participation in deployment of distributed energy resources
 - Distributed generation, including CHP
 - Energy storage
 - Energy efficiency
 - Peak demand reduction

The role of municipal aggregation and alternative retail suppliers

- Education, “clear the clutter”
- Sharing of municipality best practices
- Collaboration with non-traditional market participants
- Innovation, new products and services
 - Pricing?
 - New aggregation services?
 - Others?

Thank you!

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