



# A BRITE FUTURE, TOGETHER

**The Future of the U.S. Grid**  
Enhancing Resilience, Renewable  
Integration, and Smart Technologies

SEPT 2023



# INTRODUCTIONS

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Entrepreneur Programs Director



② **Ben Morris, Edge Energy**

Business Development & Government Affairs



③ **Dan Killoren, EPRI**

Program Manager, Global Innovation Hub





## **AT EDGE ENERGY**

**we are more than just a fantastic way to power DC rapid charging stations. We are committed to creating solutions that focus not only on sustainability, but social and economic equity. Our solution enables communities and businesses to provide electric fueling opportunities in places where fast charging would not typically be an option. Our solutions expand EV adoption and drive local economies and small businesses.**

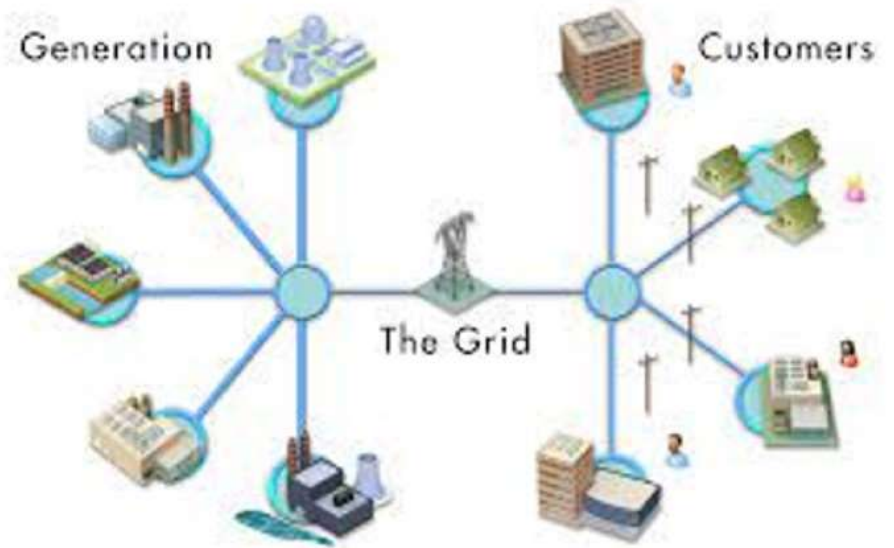
# The Electric Power Research Institute

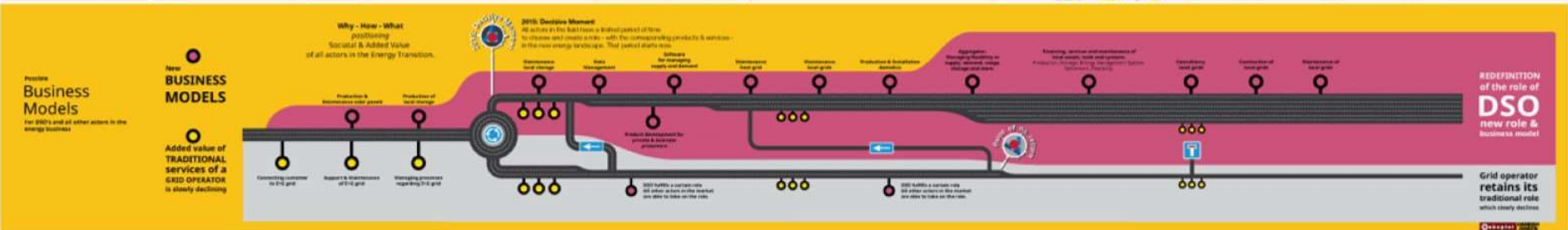
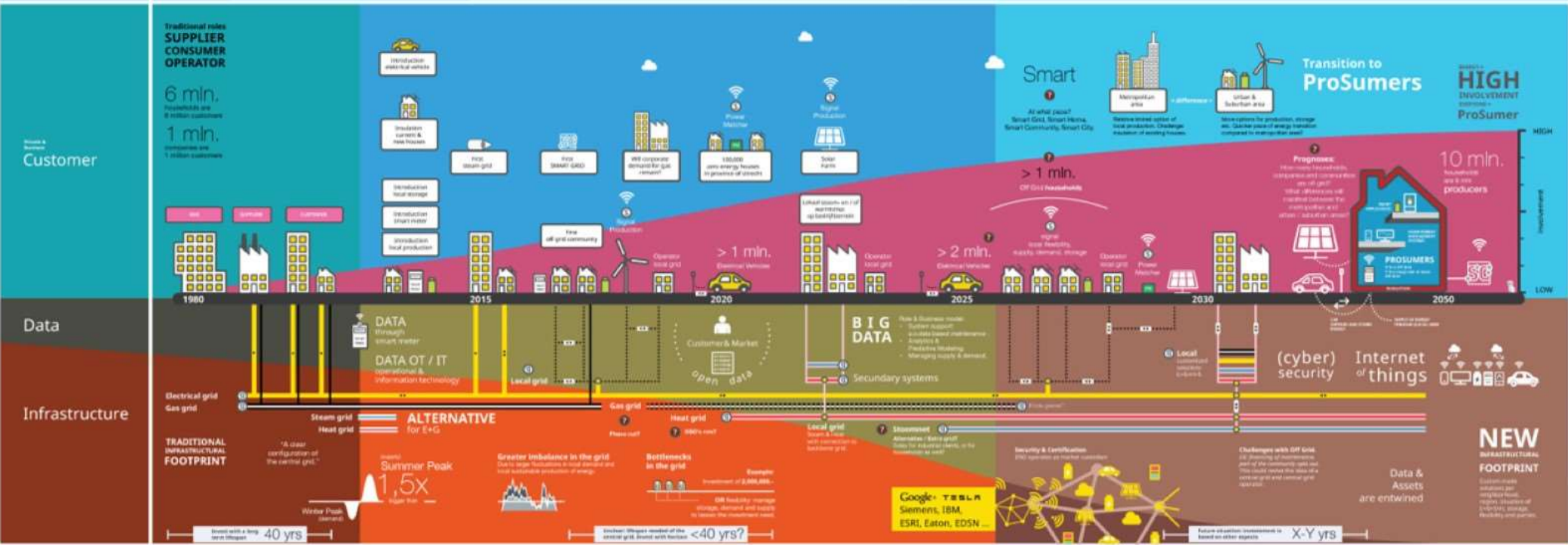
**EPRRI**

ELECTRIC POWER  
RESEARCH INSTITUTE

**conducts research and development relating to the generation, delivery, and use of electricity for the benefit of the public. This fact sheet summarizes the key aspects of our business, our strategic R&D, our focus areas for collaborative research and development, and our commitment to thought leadership, industry expertise, and collaborative value.**

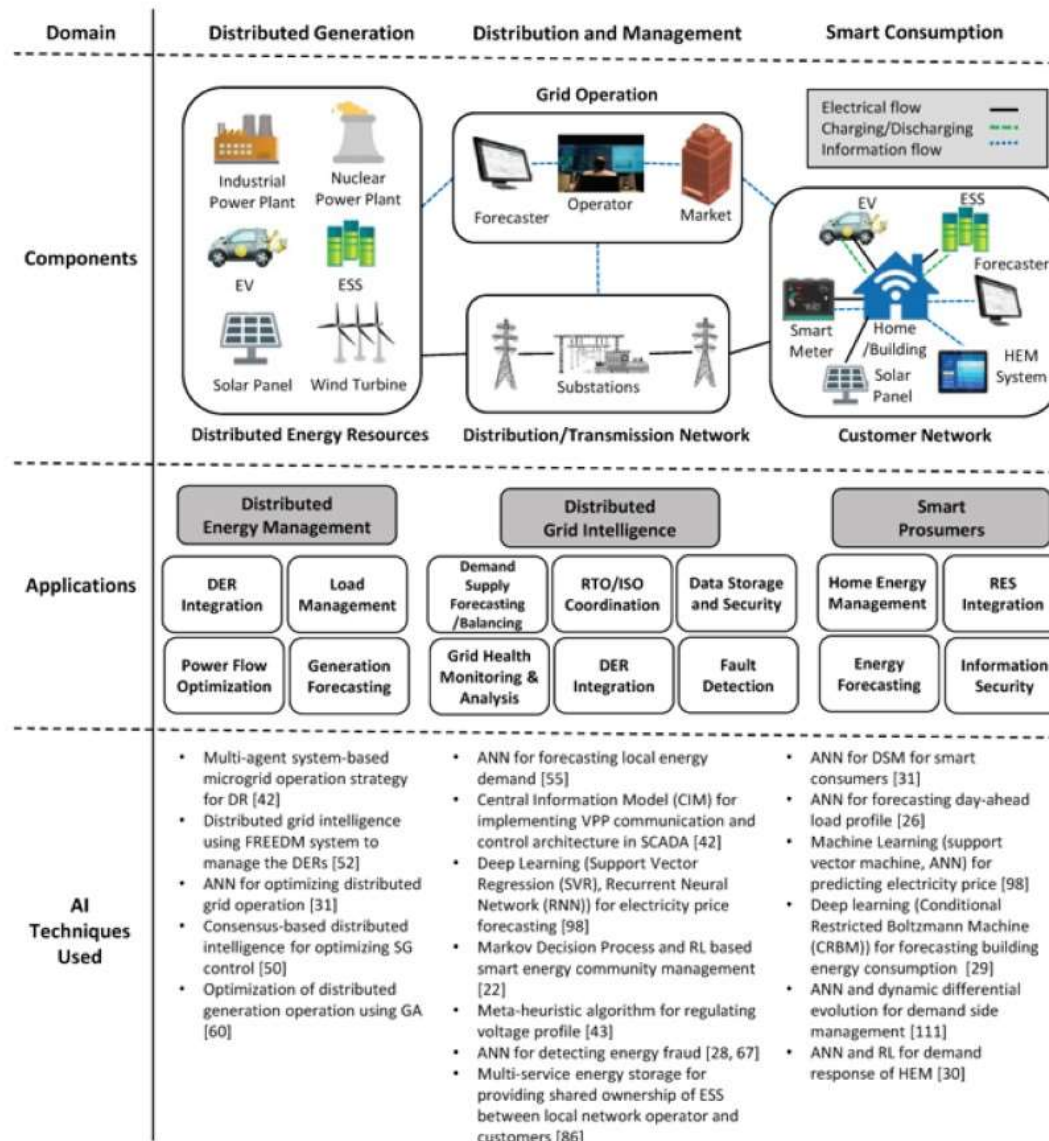
# THE CHALLENGE





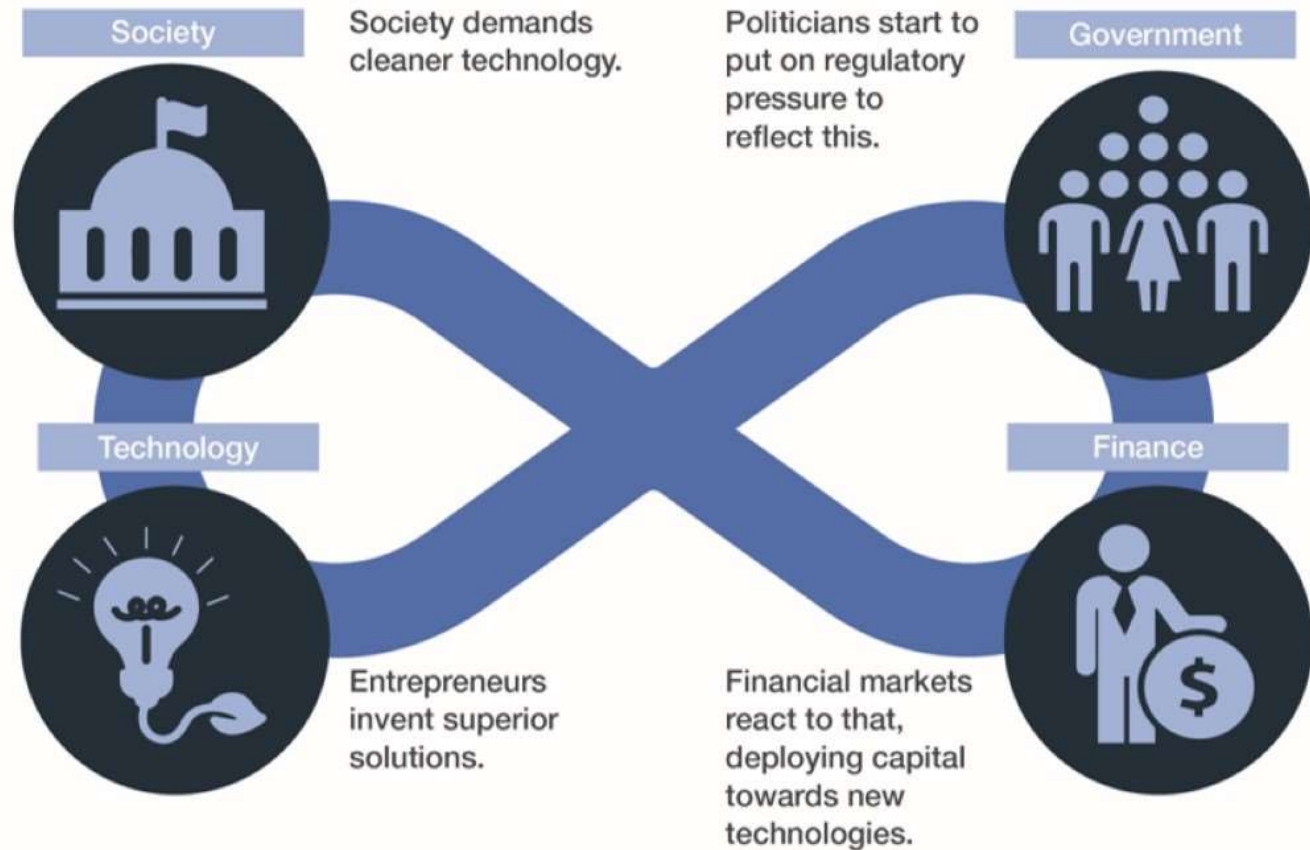
# Artificial Intelligence





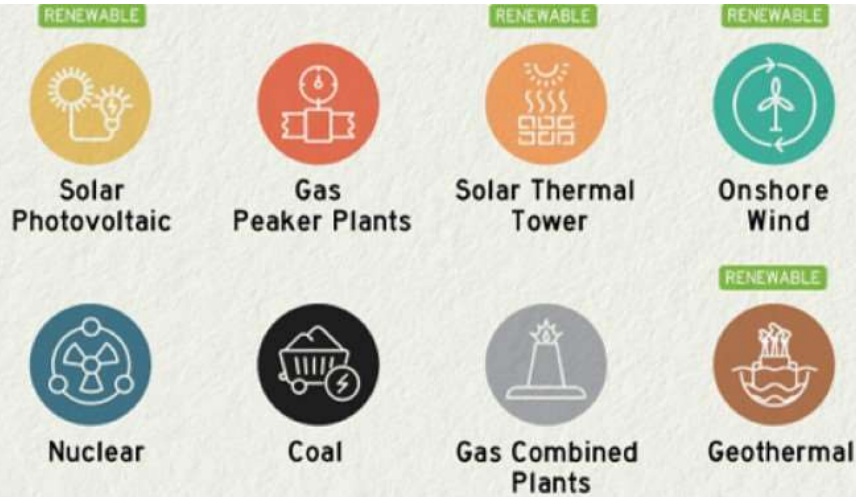


# Dependencies and Hurdles

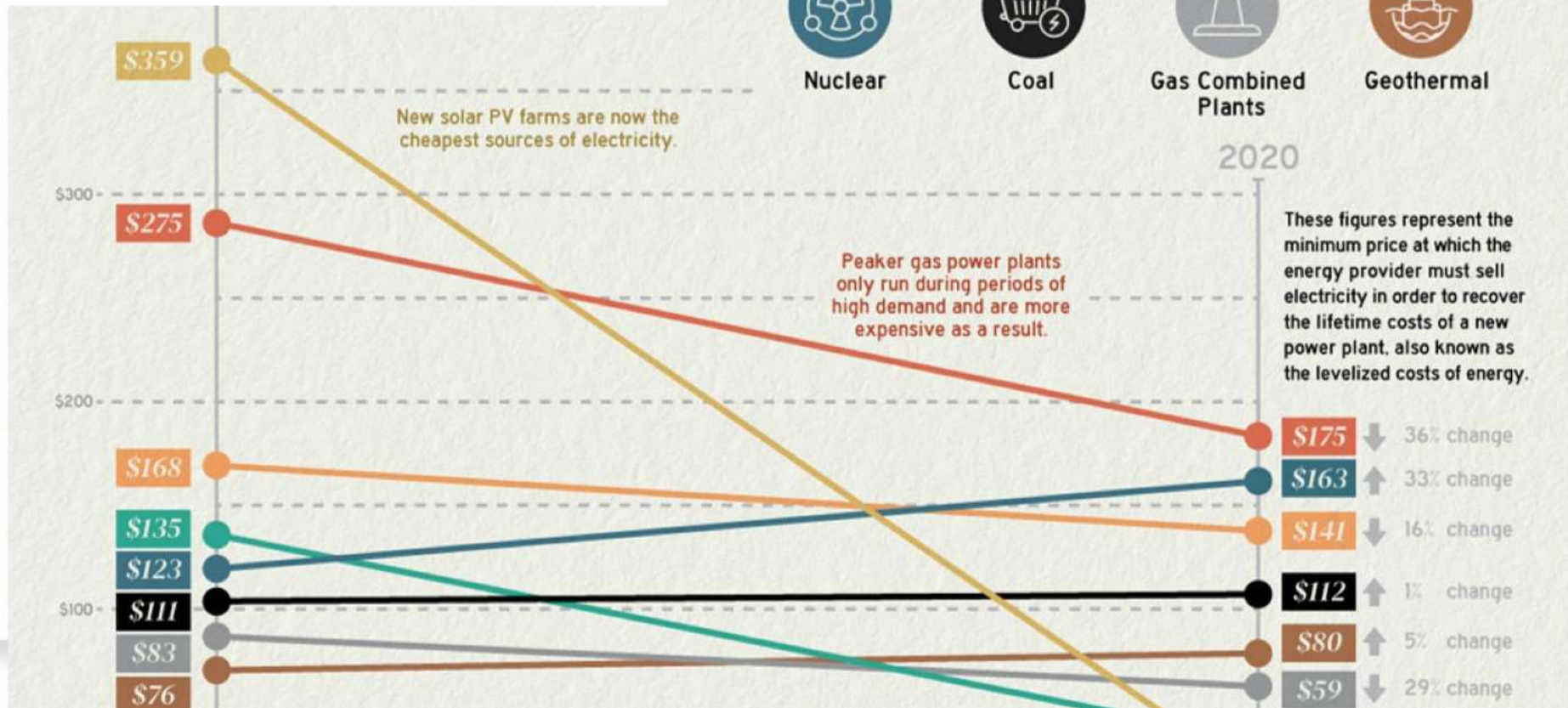


# What's driving this change?

As rising production and innovation in renewables increases their efficiency, the cost of production falls.



## ECONOMICS



# Grid Modernization

## DOE EERE: A National Roadmap for Grid-Interactive Efficient Buildings



### Efficient

Persistent low energy use minimizes demand on grid resources and infrastructure.



### Connected

Two-way communication with flexible technologies, the grid and occupants.



### Smart

Analytics supported by sensors and controls co-optimize efficiency, flexibility and occupant preferences.



### Flexible

Flexible loads and distributed generation/storage can be used to reduce, shift or modulate energy use.

# Los Angeles Times

## Wildfires knocked out power to an entire California county. The unprecedented fight to bring it back



Smoke and flames rise from part of the Smith River Complex fires next to the closed U.S. Route 199 in Gasquet, Calif. Wildfires left power

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## Texas Teeters on Edge of Blackouts as Demand Squeezes Grid

- Grid operator issues first emergency declaration since 2021
- ERCOT draws on electricity reserves while urging conservation





**An innovation-first ecosystem advancing the transition to a clean energy economy. Our mission is to accelerate the transition to a clean energy economy through our ecosystem of purpose-driven partners and cleantech innovation. Our vision is to unleash the energy revolution across Ohio**



**Newsletter**



THANK YOU

## REFERENCES:

EPRI Report: The Integrated Grid – realizing the full value of central and distributed energy storage

<https://www.energy.gov/sites/prod/files/2015/03/f20/EPRI%20Integrated%20Grid021014.pdf>

Ali SS, Choi BJ. State-of-the-Art Artificial Intelligence Techniques for Distributed Smart Grids: A Review.

Electronics. 2020; 9(6):1030. <https://doi.org/10.3390/electronics9061030>

DOE EERE: A National Roadmap for Grid-Interactive Efficient Buildings

<https://gebroadmap.lbl.gov/>



## Biographical Information



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Jing works with energy innovation by creating a community that offers services and support that helps accelerate commercialization of new technologies. She has experience launching several hard tech energy startups then spent time in corporate consulting around process and continuous improvement. Jing earned her BS in chemical engineering from Case Western Reserve University and also holds a MBA from Keller School of Management.

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Dan Killoren is Program Manager for the Global Innovation Hub at the Electric Power Research Institute (EPRI), an independent, not-profit energy R&D organization that works with 450-member energy providers in 45 countries. Dan leads EPRI's innovation practice in the areas of capability development and demonstration with early-stage commercial entities.

Dan brings over fifteen years of energy and natural resources experience with specialization in the areas of corporate strategy, R&D and innovation. Prior to joining EPRI, Dan worked in the Enterprise Innovation group at American Electric Power (AEP) in Columbus, Ohio, leading technology and business model scouting and helping to lead AEP's innovation and future of work strategy development.

Dan previously worked at Salt River Project (SRP), a water and electricity provider in Arizona, where he assumed roles of increasing responsibility, ultimately leading the Corporate Strategy group and directing SRP's comprehensive strategy development process. Dan pursued his academic studies at Arizona State University, completing B.A. and Ph.D. degrees in History.

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Ben leads business development and government affairs for EdgeEnergy an edge-of-grid power infrastructure company based in Cincinnati, OH that uses proprietary phase-conversion technology to eliminate the need for three-phase upgrades. Ben provides leadership for the day-to-day operations of the sales, marketing, and product teams while maintaining a focus on the company's strategic goals, which include, go-to-market strategy, revenue growth, brand awareness, channel partnerships, and vertical expansion. Ben also manages local, state and federal relationships with a wide variety of public officials and organizations. Prior to joining EdgeEnergy Ben has held sales management, marketing, and business development positions in several midwestern companies as well as founding a brand development and marketing firm in Cincinnati in 2011. Ben attended Northern Kentucky University where he studied Marketing, Business Management, and History.