



A Perspective on Future Power Grids

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SWC 50 Follow Up Webinar

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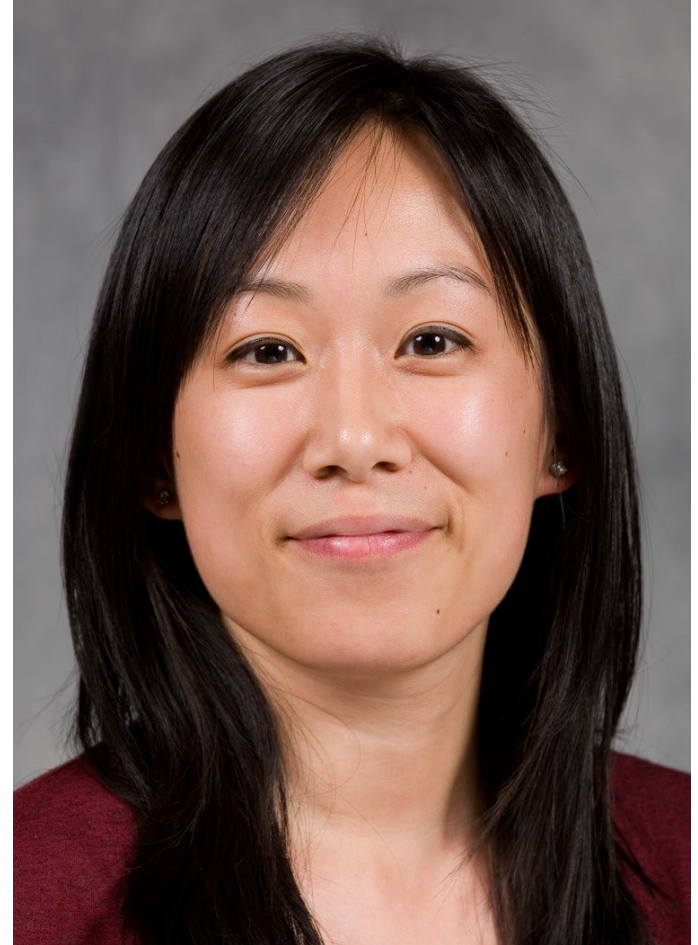
Jessica Lau

Mission:

A leader and engineer motivated by people, problem solving and creating cohesion in energy systems.

Background:

- System Planner at ISO New England
- Distribution Planner at Orange & Rockland Utilities
- Researcher at NREL



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National Renewable Energy Laboratory



Renewable Power

Solar
Wind
Water
Geothermal



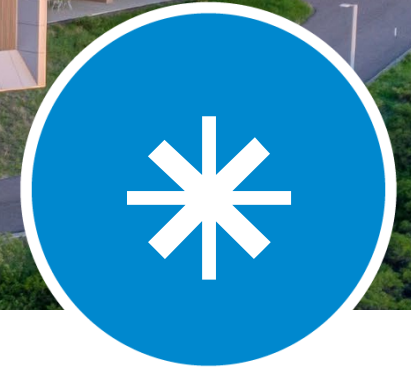
Sustainable Transportation

Bioenergy
Vehicle Technologies
Hydrogen



Energy Efficiency

Buildings
Advanced Manufacturing
Government Energy Management



Energy Systems Integration

Grid Integration
Hybrid Systems
Security and Resilience

The way it's been
doesn't mean it's
the way it will be.

People have evolving
expectations of the grid.

Multi-objective and multi-
value planning will be key
to carry out people's
interests.



Never lose power

Can I power my house
with solar panels and
batteries and never pay
an electric bill again?

Decrease my bill

Can it be 100%
renewable?

Let me choose
where my power
comes from

EXIT

We will use technologies flexibly and interchangeably

Multiple objectives and profound uncertainty drive our need to stay flexible with approaches and technological solutions.

Improving and developing technologies will be informed by our collective perspectives of the future grid.



Incentives can show up in many ways



Current incentives drive people to do things in unaligned ways.

Alignment in incentives and common goals will help enable solutions to deliver more effectively.



People are the center
of the grid.

My Vision of the Future Grid



The way it has been doesn't mean it's the way it will be.

→ *Change is accelerating and we need to do things differently*



We will use technologies flexibly and interchangeably.

→ *Technology solutions will arrive, but we will need to be open on how to use them.*



Incentives can show up in many ways.

→ We will need to leverage and align many forms of incentives, like pricing, regulations, business models, and much more.



People are the center of the grid.

→ *In addition to people's rights to electricity, we also need to energize people to be a part of the industry!*

Thank you!

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