The Argument for Changing the Electric Utility Business Model

Center for Science & Technology Policy Research: Wednesday, Oct. 22, 2014

Agenda

I. History of the electric utility industry
II. Where we are today
III. What needs to change and why
IV. Examples around the U.S.
V. Conclusion

History

- When first formed, electric utilities were "natural monopolies" in many states
- Significant capital costs, economies of scale, and high barriers to market entry for would-be competitors
- In theory, could produce power at a lower average cost

History

- Vertically integrated utilities own assets in generation, transmission and distribution
- Operate as legal monopolies with no competition
- Public utilities commission regulates rates and services

History

- Under traditional model, electricity use grew steadily
- Utilities built large, centralized power plants (coal, nuclear, gas) and took rate cases to PUC to recover costs from ratepayers over time
- Traditional regulatory revenue model; 100 years old

Where we are today

Colorado Utility Regulation	Deregulated States
Supports vertically integrated utility structure	Unbundled generation and transmission to avoid preferential treatment of generators
Prices set by regulator based on historical cost model (little incentive to manage cost and efficiency)	Cost of power established by market/ transmission regulated
Services must be approved by PUC and offered to all customers	Services and pricing packages can be created to meet unique customer needs

What needs to change and why?

CLEAN LOCAL ENERGY

reliable low-cost possible

BoulderEnergyFuture.com

What needs to change and why?

Revenue Model

- Depends on increased kWh sales and large capital investments
- Potential for profit erosion ("utility death spiral")

Investments in Infrastructure

- Large central generating stations

What needs to change and why?

Causes

- Changing demographics and needs
- Deregulation and competition
- Technology
- Public pressure

What needs to change and why?

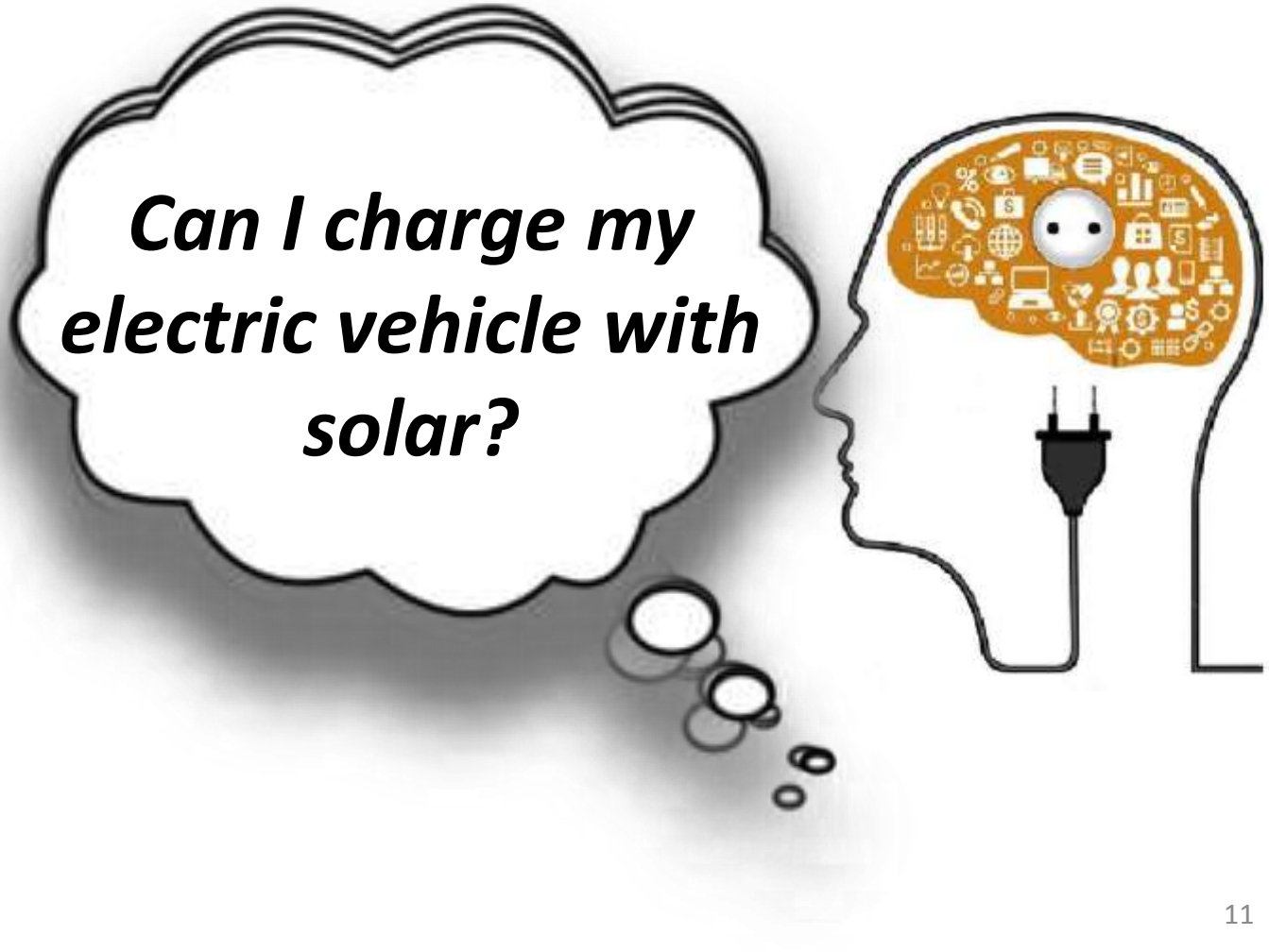
Public Policy Pressures

- *Climate change and CO2 emissions reduction*
  1. Reduced use
  2. Distributed generation

- *Natural disasters and impact to grid*
  1. Frequency of adverse events
  2. Need for resilience

What needs to change and why?

CLEAN LOCAL ENERGY
reliable low-cost possible
BoulderEnergyFuture.com



Examples around the U.S.

Hawaii

- Very high concentrations of solar PV because so much cheaper than shipped in diesel
- Hawaiian Electric Company (HECO) grid is not prepared for solar
- Regulators asked HECO to come up with a "utility of the future" blueprint to phase out older, expensive power plants and prepare grid for steady increase in distributed generation

Examples around the U.S.

New York – "Reforming the Energy Vision"

- Looking at changes to standard regulatory ratemaking to drive development of distributed generation
- New infrastructure that is more resilient to natural disasters (Superstorm Sandy)
- Driven by the governor and implemented by the NY PUC which conducted a stakeholder process to develop solutions

Examples around the U.S.

Maryland

- 2014 Empower Maryland Plan

California

- “Utility of the Future”

Conclusion

Do we need to change?

Discussion and Stay Informed

Follow along at www.BoulderEnergyFuture.com

- Sign up for E-News updates and newsletter
- Use online comment form for questions, feedback or suggestions

Send an email to staff team

- EnergyFuture@BoulderColorado.gov

Contact Heather Bailey with questions/comments

- BaileyH@BoulderColorado.gov or 303-441-1923