Trends in AZ and Across the U.S. that have implications for the future of the solar industry

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There is a paradigm shift underway in the energy industry (100 year old business model is being challenged)

- Traditional model: monopoly in exchange for regulatory oversight and a “fair return” on capital invested
- New business model: individually customized infrastructure as a service (i.e. pay as you go)

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Utility reactions to solar (per Steven Chu):

- Tell us what to do
- Deer in the headlights
- We’re going to fight this

Solar is divided into 2 camps (although there is overlap):

- Centralized (“utility”)
- Distributed Generation (“rooftop”)

Arguments for Utility Scale Solar:

- Economies of scale
- Benefits everyone equally
- Utility is a known entity (less risky)
- “wires are not going away anytime soon” (not everyone can take advantage of DG)

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Arguments for DG/ DER:

- Flexible / modular
- More resilient / secure (redundant)
- Less environmental impact
- Rapid deployment

How are the incumbents responding?

- slow down solar uptake (i.e make it less attractive/ more difficult)
- legislation/ regulation
- changes to NEM
- rate changes
- own or control solar (e.g. NC, FL)
- demonstrate “economies of scale” (i.e. < $0.05/kWh PPA)

Inputs to the utility business model:

- Fuel
- Labor
- *Capital Equipment*

Consider:
Most "rooftop" solar represents a non-utility capital investment – What are the implications?

Components of an electric bill:

- Transmission & Distribution (the “wires”)
- kWh charges (volumetric /energy)
- Demand charges (Capacity availability charge)

Trends in rate making discussions:

- kWh price reduction (lower fuel cost)
- Demand charge increase ("fixed cost recovery")

Consider:
Solar and energy efficiency are antithetical to the traditional utility business model!

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What are the implications for solar?

- Solar will continue to grow – but in which direction?
- How far down the road are cost effective storage, smart homes and microgrids?
- Is the “utility death spiral” a real phenomenon?
- Is there common ground for stakeholders? e.g. Community Solar?

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Parting thoughts:

- Arizona does not operate in a vacuum. We can become leaders, or end up as laggards
- Policy matters!
- How to engage in a productive dialogue? (i.e. NOT the battle of the studies/rhetoric)
- What is the Value of Solar? (economic, social, environmental)

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