The Odd Couple:

Can public power providers co-exist successfully with home-based power production facilities?

International Municipal Lawyer's Association
Mid-Year Seminar
April 23, 2021

Overview

- Public power
- Home-based power production
- What does the law say?
- Other considerations
- What does the future hold?
- Questions

Who Am I?

Drew Graham

- City Attorney, Nebraska City, NE (population approximately 7,300)
- Nebraska City Utilities (municipally-owned utility)

- University of Nebraska - Lincoln – Business Administration (2009)
- UNL College of Law – Juris Doctorate (2012)

Disclaimer

- The materials provided in this presentation and any comments or information provided are for educational purposes only, and nothing conveyed or provided should be considered legal advice.
- Obviously, this is a complex topic and there are a variety of factors that could affect any particular legal situation. I am presenting primarily from my personal experience and the laws and regulations that affect my current employer.
- Please conduct your own legal research, or contact an attorney, with any specific questions you have related to the information provided.

The Odd Couple (1968)

- The story of two divorced men who decide to live together, even though their personalities clash.
- Felix Unger:
  - Neurotic
  - Neat-freak
  - Newly divorced
- Oscar Madison:
  - Fun-loving
  - Slob
  - Seasoned veteran



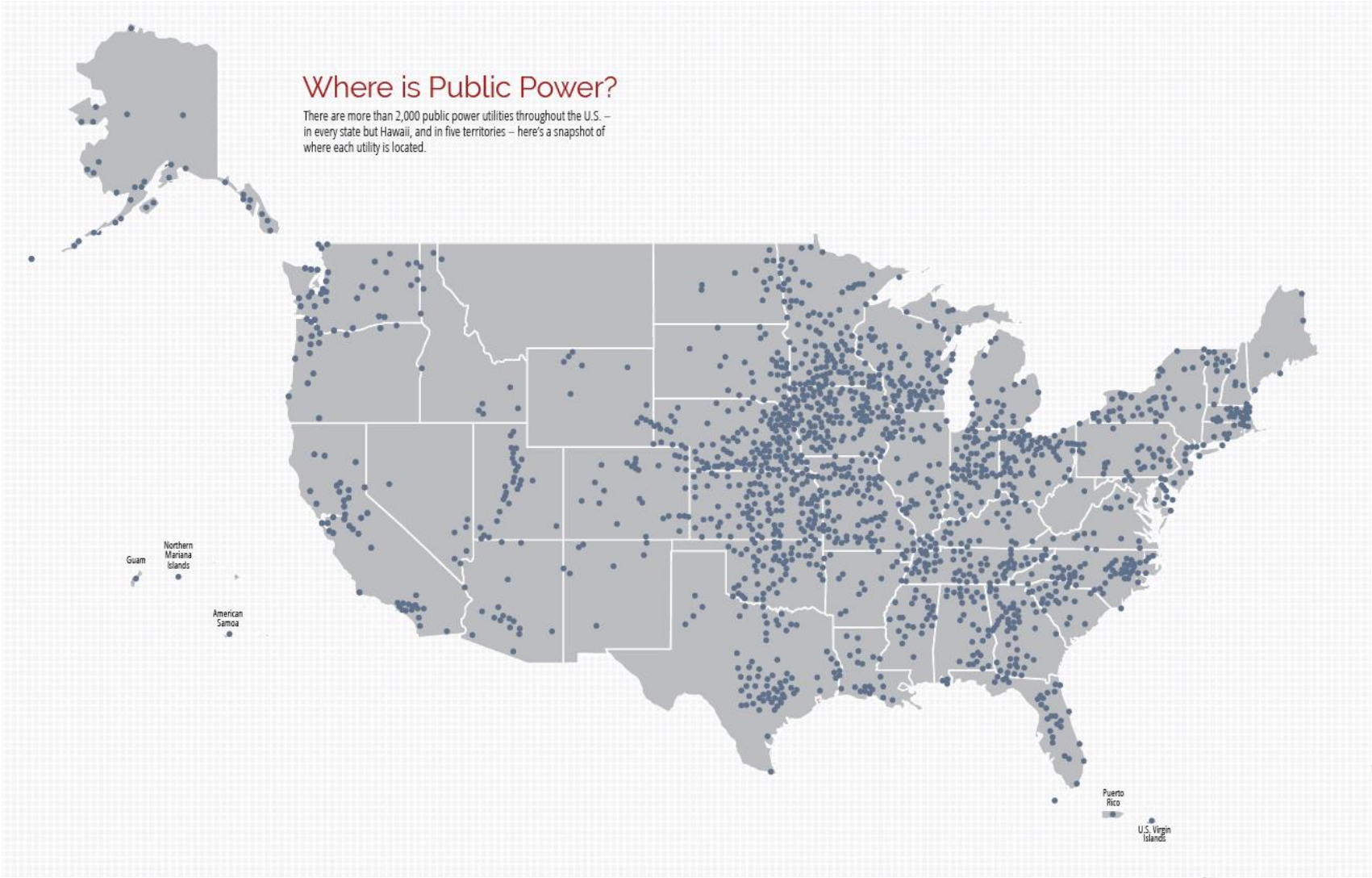
Public Power

- What is it?
  - Publicly held (local municipalities/counties/public utility districts/states)
  - Not-for-profit
  - "Felix"

- How does it practically differ from private power?
  - Public ownership;
  - Local control;
  - Not-for-profit (i.e. smaller margins)
  - Focus on customers

- Where is it?
  - Nationally represented, with the strongest foothold being throughout the central part of the United States. (Every state except Hawaii)
  - Approximately 2,000 community-owned electric utilities serve more than 48 million people.
  - 3 million businesses utilize public power.

Public Power (continued)



Public Power (continued)

- Benefits:
  - Local Control
    - Control is held by the individuals within the immediate region…
  - Reliable Customer Service
    - Since it is locally controlled, customer service is at a premium.
  - Affordable Prices
    - There are no investors driving for increased profits.
    - Low margin = low prices
  - Local Economic Development
    - Since the power is controlled locally, it may be possible to offer incentives for local economic development.
- Negatives:
  - Razor thin margins
    - Since the margins are so thin, there is often little room for unforeseen circumstances (i.e. large storms or outages).
    - Not too much to work with.
  - Change is difficult (increase rates for new infrastructure)
    - Relating back to the thin margins, major updates can be difficult to implement due to a lack of funds.
    - This can lead to aging infrastructure that cannot be replaced due to inadequate funds.
    - Also, it may not be possible to adopt newer technology due to similar limitations.

Home-Based Power Production

- What is it?
  - Production of power on the end-user's side of the meter (could be residential or business)
  - Examples:
    - Solar panels
    - Wind turbines
    - Micro-hydropower
  - "Oscar"
- Benefits Generally
  - "Green"/renewable energy
  - Potential to offset some costs
- How prevalent?
  - Nationally:
    - Estimated 2.5% of residential homes by 2024
    - 1 million (2016) – took 40 years
    - 2 million (2019
    - 3 million (2021)
    - 4 million (2023)
  - Nebraska City
    - 4-5 residences co-generate

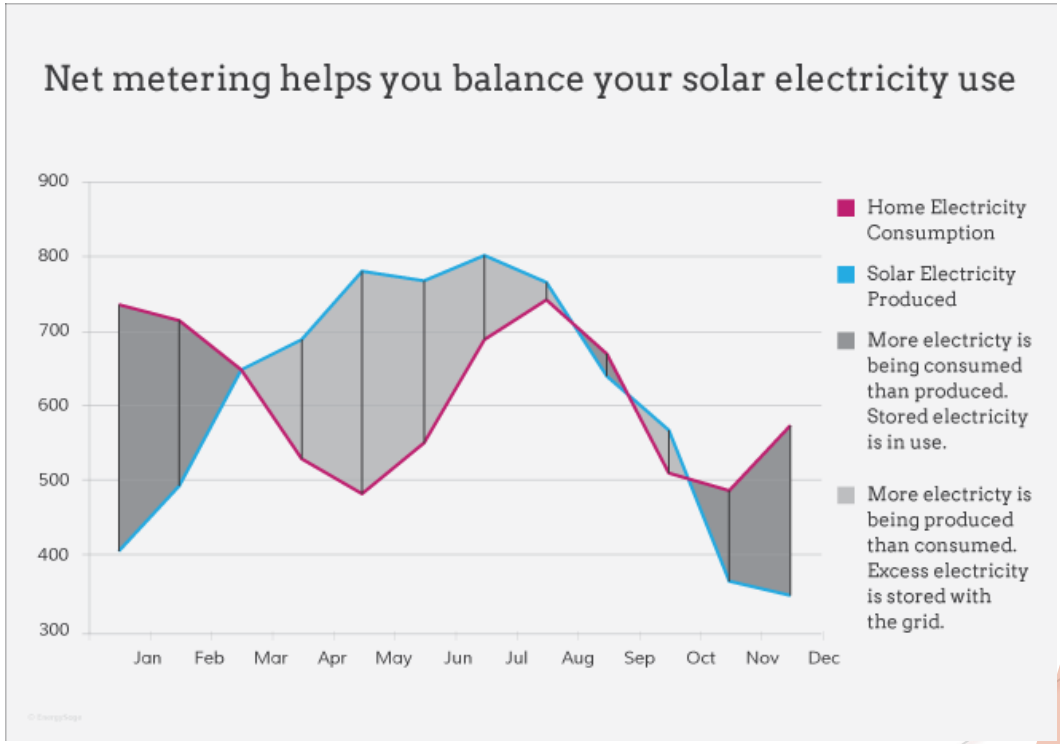
Home-Based Power Production (continued)

- Benefits:
  - From the public power provider's standpoint, likely no benefit.
- How does this affect public power?
  - "It depends…"
  - Two scenarios

1) End User Use
   - Localized impact
   - Financial
2) Co-Generation
   - Impact (potentially) further reaching
   - Net-metering

Home-Based Power Production (continued)

- Net-metering
  - It is two-way metering.
  - When the production exceeds the use, that energy is put out into the grid.
    - ($) HOME → GRID
  - When the use exceeds the production, energy is drawn from the grid (exactly like every "normal" customer).
    - HOME ← GRID ($)
  - Calculated over time, this leads to a net-usage figure.



Home-Based Power Production (continued)

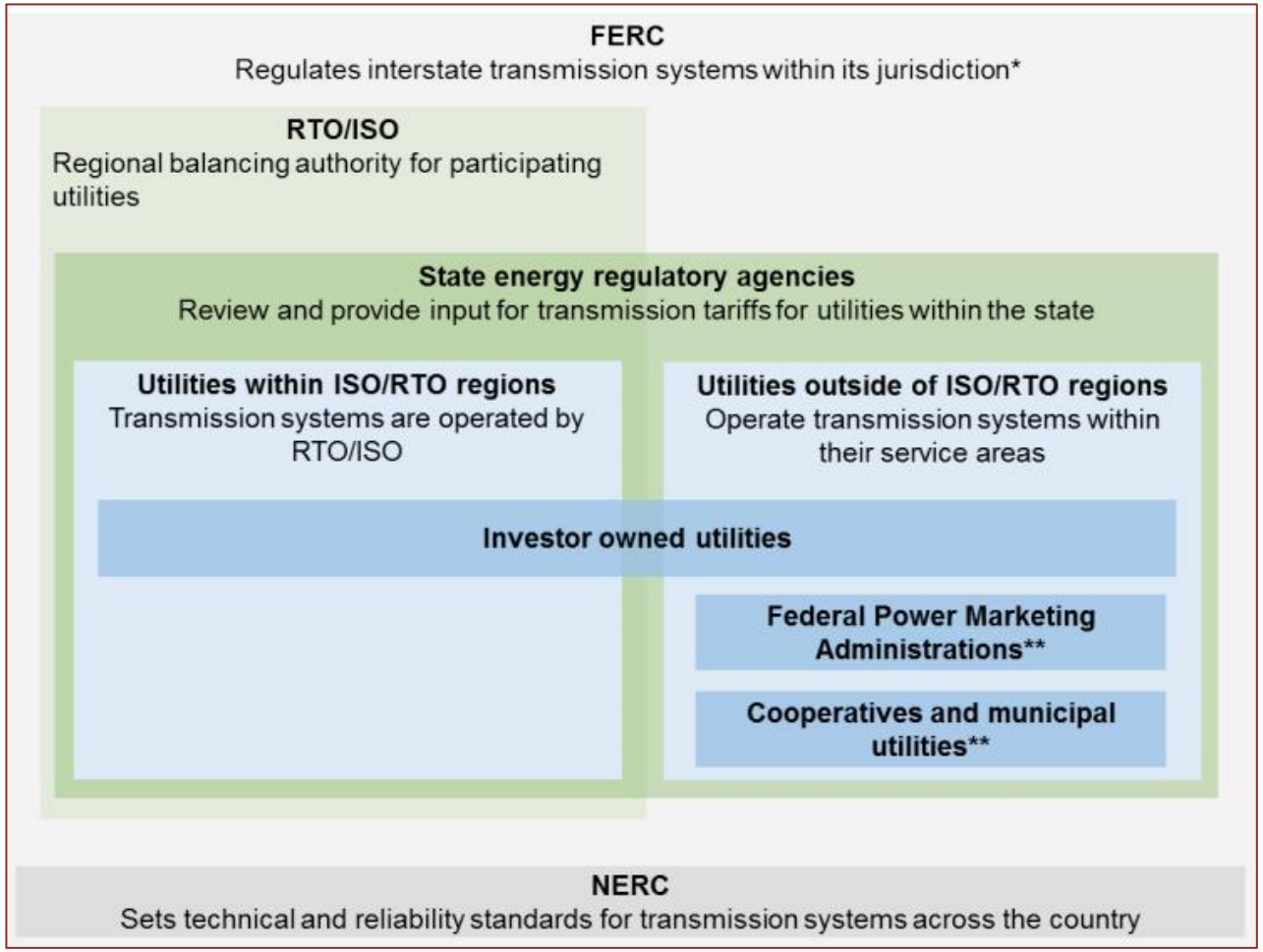
- Negatives:
  - SAFETY, SAFETY, SAFETY!
    - Need to ensure not only the safety of the consumer, but also the safety of all municipal power workers, as well as the safety of the power infrastructure itself.
  - Financial impact
    - Every account that begins home-based power production is a loss in potential revenue (against already thin margins).
    - The cost of installing, and maintaining, the public power infrastructure is the same for a “regular” customer as it is for someone with home-based power production.

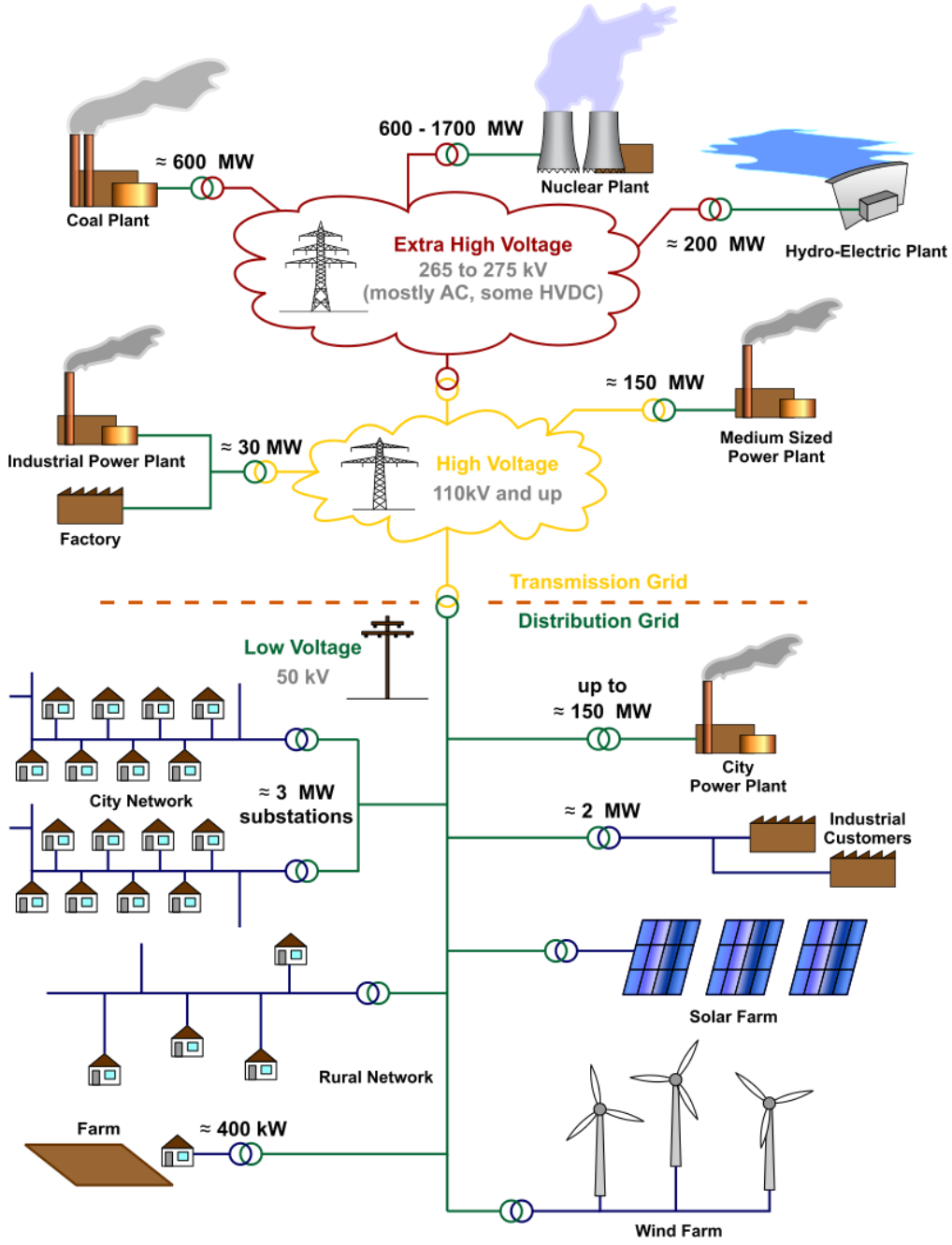
Legal

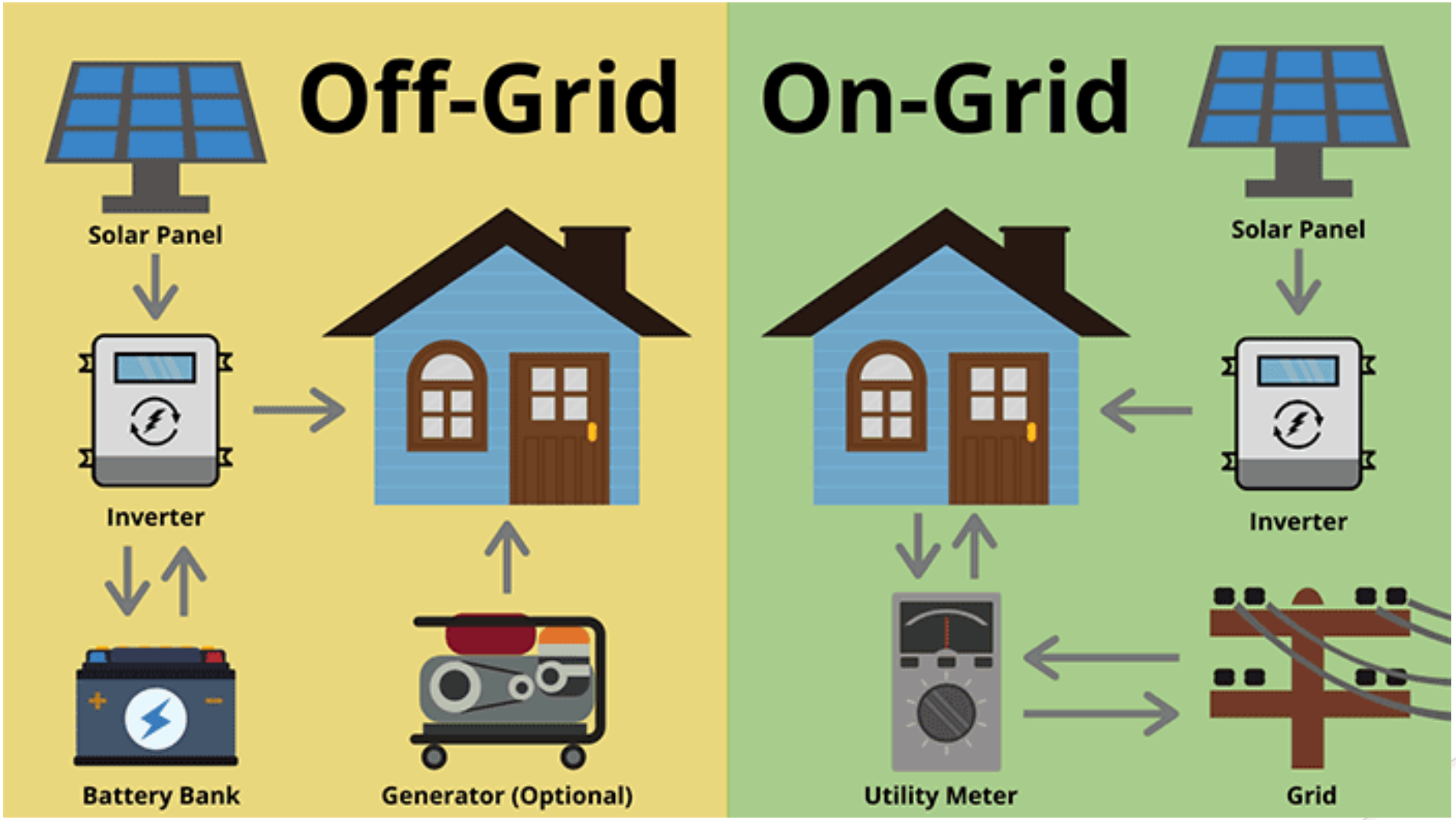
- Who ultimately has the jurisdiction here?
  - Federal
    - Federal Energy Regulatory Commission (FERC)
  - State
- Interconnection Requirements:
  - FERC and NERC set the national interconnection and reliability technical standards
  - No unified set of interconnection requirements in the United States
    - Generators under 20 MW
    - State government, typically though the public utilities commission, regulates interconnection

LEGAL (CONTINUED)

Jurisdictions for transmission regulation in the United States




≈ 600 MW
Coal Plant
600 - 1700 MW
Nuclear Plant
≈ 200 MW
Hydro-Electric Plant
Extra High Voltage
265 to 275 kV
(mostly AC, some HVDC)
≈ 150 MW
Medium Sized
Power Plant
Industrial Power Plant
≈ 30 MW
Factory
High Voltage
110kV and up
Transmission Grid
Distribution Grid
Low Voltage
50 kV
up to
≈ 150 MW
City
Power Plant
City Network
≈ 3 MW
substations
≈ 2 MW
Industrial
Customers
Solar Farm
Rural Network
Farm
≈ 400 kW
Wind Farm


Off-Grid
Solar Panel
Inverter
Battery Bank
Generator (Optional)
On-Grid
Solar Panel
Inverter
Utility Meter
Grid




Deborah
ST
5600
Los Coyotes



LEGAL (CONTINUED)

- In 2009 the Nebraska Legislature adopted laws intended to encourage customer-owned renewable energy resources.

- In essence, these laws provide regulation for how public power providers *must* allow certain customer-generated facilities. Public power providers cannot simply do nothing, or completely bar customer-generated facilities.

Legal (continued)

- Neb.Rev.Stat. § 70-2002 – Important Definitions
  - Customer-generator
  - Interconnection agreement
  - Local distribution system
  - Local distribution utility
  - Net excess generation
  - Net metering
  - Qualified facility

Legal (continued)

- Neb.Rev.Stat. § 70-2003 – Requirements for Utility Provider
  - Must interconnect with qualified facility if they have an interconnection agreement with Utility.
  - Must provide system capable of net-metering.
  - Must provide net-metering to customer.
  - Exceptions:
    - Size of qualified facility
    - Limitation on total amount of net-metering must provide per customer
    - Limitation on total amount of net-metering must provide overall
    - safety

Legal (continued)

- Neb.Rev.Stat. § 70-2004 – Requirements for Customer-generator
  - Inspection
  - Notice to local utility 60 days in advance of install
  - Responsible for all costs
  - Owns the renewable energy credits of the electricity its facility generates

Legal (continued)

- The 2009 law gave the municipally-owned utility a baseline (i.e. “thou cannot do less than this…”).

- The City needed to draft a policy to provide further guidance.
  - Would the City only allow the minimum?
  - What about facilities that have the capability to produce beyond the limits that must be allowed?

Other Considerations

- What does the future hold?
  - Will home based power production facilities become more common?
  - Empirically, there seems to be a direct correlation between increasing home-based power production facilities and tax incentives.
- What are the possible implications to public power in America, specifically rural/small-town America?
  - Are municipally-owned power providers going to be put out of business?
  - Will this trend lead to increased privatization?



Other Considerations

- What can public utilities do to “future proof”?
  - Should public power providers begin to embrace home-based power production as an inevitability?
  - Is there benefit to taking a larger role in the beginning, rather than waiting until home-based power production becomes a normal part of life?
- What are the legal considerations that need addressed moving forward?
  - What limitations can be put in place? How much can a municipally-owned power provider really limit a home-based power producer?
  - Should public power providers be taking a more offensive stance with lawmaking?

The End of the Movie

- Felix and Oscar come to understand and appreciate one another for what they are.





- Public power providers must learn to understand and appreciate home-based energy production… it is not going away.

QUESTIONS?

Drew Graham

City Attorney

Nebraska City, Nebraska

402-873-5515

dgraham@nebraskacity.com

