Renewable Energy Issues for Municipalities

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Muscatine Power and Water

About Muscatine Power & Water

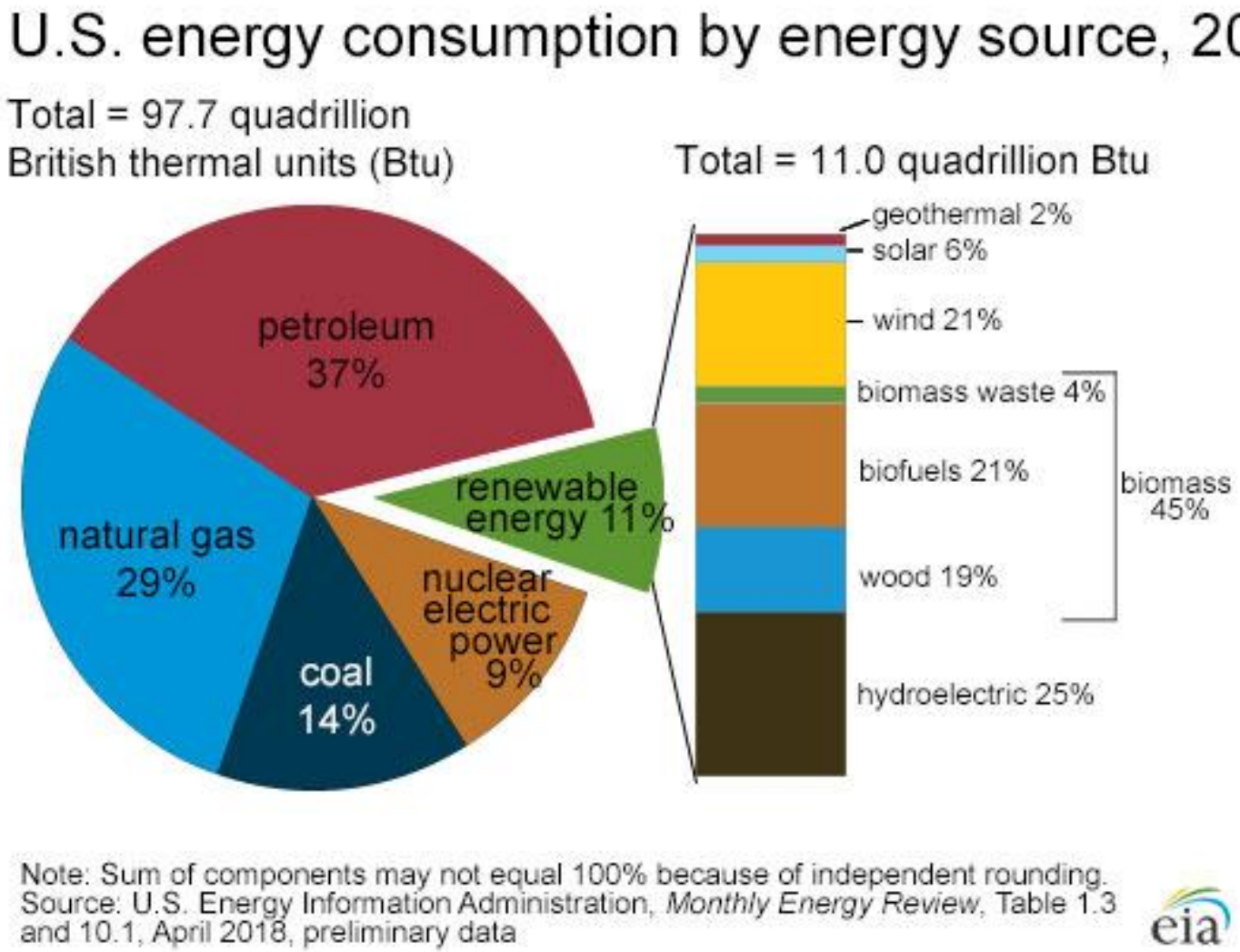
- Board managed municipal utility serving a community of 23,000 with mostly industrial load
- **Location:** On Mississippi River, 30 miles south of Davenport, IA
- **Services:** Drinking Water, Electric and Communications
- **Generation:** Local fossil fuel fired power plant (3 units with total 293 MW capacity), and 13.5 MW windfarm in MN
- **Solar experience:** Investigated community solar garden in 2017/18 but lacked customer interest to pursue; 3 customers with solar

What are “Renewables”?

- Renewable energy is naturally replenishing but flow-limited
- Sources as defined by EIA:
  - Biomass - wood and wood waste, Miscanthus grass, spent grain, Municipal solid waste, Landfill gas and biogas, Ethanol, Biodiesel, etc.
  - Hydropower
  - Geothermal
  - Wind
  - Solar

- Wind generation is well established in the Upper Midwest
- Solar is the up and comer, making headway at the individual property level and starting to have utility scale installation in the Midwest

How Much Renewable Energy are we making?



Where interest in Solar is stronger in Iowa

- College towns and more affluent communities (Iowa City, Ames, Cedar Falls, etc.)
- Areas served by utilities with higher rates (Rural Electric Co-Ops, Alliant Energy)
- Municipal utilities with high cost wholesale energy supply contracts
- Areas served by Investor Owned Utilities where net metering rates are set by regulation to incentivize renewables

Why Cities are pursuing Solar

- Help offset utility costs
- Developers offer many choices in how to structure a project; take advantage of tax credits
- Cities have real estate to put towards a project- land and rooftops
- Councils and communities with public policy interest in renewables
- Cost keeps coming down for solar equipment

Structure of renewable projects

- Developers of renewable projects offer numerous options for development, operation and ownership of renewable projects
  - Power Purchase Agreement
  - Lease & Buy back
- A community could always choose to build their own and use the power for their own local energy needs
- Community Solar Garden where residents and business buy shares

Is your city ready for Renewables?

- Municipal/County Code updates
  - Most cities will need to update their City Code to address solar or small wind installations, large wind is usually in County areas
  - Different concerns and zoning issues for residential, commercial/industrial, rural and utility scale projects
  - Get ahead of it, don't wait until your first project goes in
- Code Enforcement issues
  - State specific safety standards
  - Identifying and understanding applicable Electrical Codes
  - local Utility rules regarding interconnection, shut off, etc.

Zoning concerns

- Solar concerns include set backs, not in front yard, height, roof/ground mounted, % of property footprint that can be used, aesthetics, view/light blocking concerns, historical districts
  - Ex. City of Ames City Code - Zoning, Sec. 29.1309 Solar Energy Systems and Sec. 29.1310 Wind Energy Systems
- Wind concerns include setback, approval processes, decommissioning, habitat and wildlife protection, density- how much is too much?, safety, shadow/flicker and noise
- Best practice- require property owners to get their own signed solar easement to keep neighbors from blocking available light, if they want that assurance

Rate Regulation Concerns

- Iowa Utility Board approves rates for Investor Owned Utilities; Municipals and RECs set their own rates
- Iowa other states used regulatory authority to help spur investment in renewables as a matter of public policy.
  - Renewable Portfolio Standards
  - Required net metering and certain rates to be paid for excess generation beyond what the customer uses from its renewable installation

Rate Regulation Concerns

- Movement in numerous states to change the way rates are set for renewables
  - Utilities the required payment for the “excess power” want that rate moved closer to the utility’s own cost to produce power
  - Separating facilities costs from energy costs in the rate structures
  - Increasing the facilities charges to renewables to reflect cost for maintaining reliable infrastructure and back up power
- Pending SF 583 and HF669 would change ratemaking for renewables in Iowa
- Changes to the rate making for renewables will change the economics for projects but will not stop development
- Federal and State Tax Credits unaffected by rate making changes

Questions?