

Adopting Cleaner Energy Breakout Session Conversation Starter

Introduction

Why this topic is germane to climate change?

A significant majority of Florida's greenhouse gas (GHG) emissions come from just two sources. According to the World Resource Institute, about 80% of GHG emissions in Florida come from electricity and transportation (37.4% electricity; 41.7% transportation in 2018 – <https://www.wri.org/2018/08/6-charts-understand-us-state-greenhouse-gas-emissions>). Adopting cleaner sources of energy to power facilities and vehicles is paramount reducing future impacts of climate change and to meeting the scientific community's recommendations to halve emissions by 2030 and achieve net zero by 2050.

What are the principal climate change impacts and challenges related to adopting clean energy?

As we see rapid population growth in our state, adopting cleaner energy will be critical to help the state and our region better manage a wide variety of climate change impacts that are key to economic stability and quality of life, including:

- Preservation of air quality
- Improvement of water quality (warmer water temps escalate harmful algal blooms)
- Health impacts from particulate matter pollution, heat, and algal blooms
- Vulnerability to stronger storms, storm surge, flooding, and droughts
- Infrastructure and coastlines at risk from sea level rise
- And more...

Transitioning to clean, renewable energy sources will lead to significantly reduced greenhouse gas emissions in our state. Currently, Florida is reliant on the burning of fossil fuels for the vast majority of its electricity (82%), and only 4.5% of all light-duty vehicle sales in Q1 2022 were EVs compared to a national average of 5.9% (*see side bar*).

Florida faces a number of challenges related to its adoption of clean energy sources, including:

- Transportation challenges:
 - Lack of comprehensive public transportation access and planning
 - Development "sprawl" (i.e., spread out as opposed to dense zoning and infrastructure)
 - Insufficient EV infrastructure
 - EV access for consumers negatively impacted by:
 - limited supply
 - Lack of statewide Zero Emission Vehicles policies
- Clean energy challenges:
 - Lack of state incentives and standards to develop renewables and to be efficient with energy use
 - Lack of competition in energy sector

Background Data

- Sources of FL electricity generation in 2020 (<https://www.statista.com/statistics/1287665/florida-electricity-generation-share-by-source/>):
 - Natural gas: 75.3%
 - Nuclear: 11.8%
 - Coal: 6.7%
 - Biomass & other: 2.8%
 - Solar: 2.6%
 - Oil: 0.7%
 - Hydropower: 0.1%
- Vehicle electrification (<https://www.autosinnovate.org/posts/papers-reports/Get%20Connected%202022%20Q1%20Electric%20Vehicle%20Report.pdf>):
 - While growing, EV sales in FL are lagging behind much of the country
 - FL ranked 18th in market share of EV's in Q1 2022
 - New EV sales in FL in Q1 2022 amounted to 4.51% of all light-duty vehicle sales compared to a national average of 5.9%

- Efforts to eliminate the state’s net metering law that supports rooftop solar and growth of the solar industry
- Grid infrastructure (centralized vs. decentralized)
- Insufficient clean energy production and storage
- Lack of smart metering to support load management for grid health (e.g. demand response)

Summary

Because so much of the state’s GHG emissions come from just two sources, Florida has a tremendous opportunity to reduce its climate change impacts through transitioning its electricity generation and transportation systems to clean, renewable energy sources. These changes also present a tremendous opportunity for economic growth and energy independence in the state. Today there is a fortunate alignment between the need for renewable energy and the economic case for its adoption. And renewables can help us avoid the volatility of fossil fuel prices and reliance on foreign oil. According to Bloomberg, solar and wind now represent the cheapest sources of new electricity generation in most global markets*. Jobs in the renewable energy and energy efficiency sectors are also growing significantly faster than the rest of the economy. And it is projected that within 5 years, EVs for every type of vehicle will be cheaper to purchase than traditional combustion automobiles***. They are already significantly cheaper to maintain. The question is what are the best ways for Florida to move forward and take advantage of these opportunities?

*<https://www.bloomberg.com/news/articles/2019-08-27/solar-wind-provide-cheapest-power-for-two-thirds-of-globe-map>

**<https://www.energy.gov/articles/doe-report-finds-energy-jobs-grew-faster-overall-us-employment-2021#:~:text=sectors%20with%20notable%20job%20growth&text=solar%20energy%20jobs%20increased%20by,%25%2C%20adding%2022%2C779%20new%20jobs.>

***<https://about.bnef.com/blog/the-ev-price-gap-narrows/>

Group Discussion Questions

1. How can Floridians most effectively transition to cleaner electric power that creates lower GHG emissions?
2. How can Floridians most effectively access cleaner transportation options?
3. How can cleaner energy solutions and electric vehicles be made available to lower-income communities?

Starting List of Potential Strategies

- State-wide guidance for reduction of fossil fuels. This could include:
 - A statewide commitment to reach net zero GHG emissions by 2050 or sooner
 - Renewable energy portfolio standards and requirements for utilities
 - Automobile and truck emission standards with reduction goals
 - Commit to preserving net metering legislation to ensure a positive crediting system for rooftop solar

- Allow power purchase agreements (PPA) to help make funding for renewable energy more accessible for lower income communities and nonprofits
- Promotion of community solar
- Use community-based energy solutions to help reach poorer communities.
- Develop micro grids with solar and battery storage to make the grid more reliable and support emergency services when the grid is down
- Make additional investments in clean energy and EV infrastructure
- Require or incentivize increased energy efficiency in new buildings
- Deploy mobile power kiosks powered by renewables for emergency services
- Use of biogases
- Regional actions for the adoption of renewable energy and EV's. This could include:
 - Investing in renewable energy and energy efficiency in municipal and county facilities
 - Replacing municipal and county vehicle fleets with EVs
 - Replacing school buses and public transportation buses with electric buses
 - Encouraging local businesses to invest in energy efficiency and renewable energy
 - Collaborating with local utilities to build microgrids with solar and battery back up to serve as storm shelters and power for emergency services when the grid is down, as well as resources to support peak demand when the grid is functioning
 - Updating local building codes to incent or require greater energy efficiency and rooftop solar
 - Design communities for cyclist and pedestrian safety and zone developments so people can meet with basic needs close to where they live