Energy Resilience and Efficiency Working Group - Summer Updates and Summary of Survey Responses

Presentation by Cindy Osorto, Policy Analyst
Maryland Department of the Environment

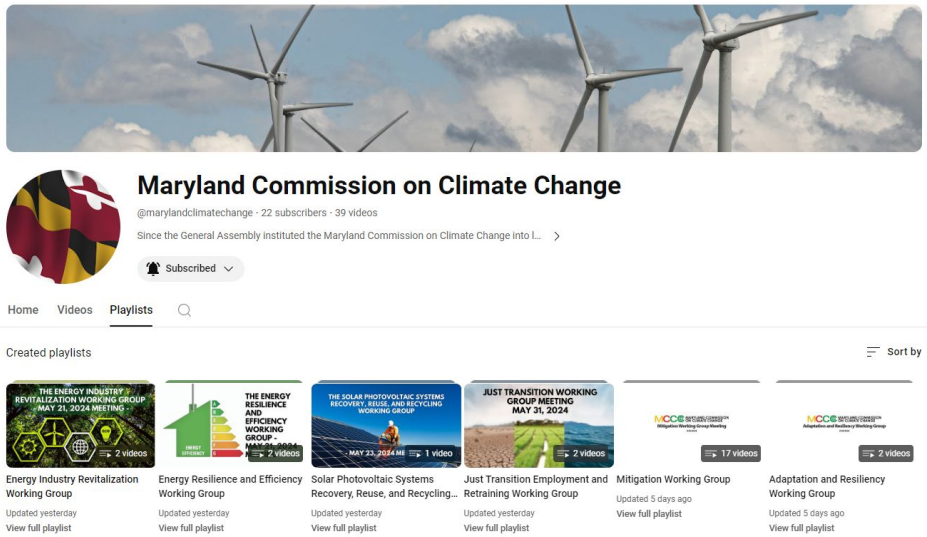
July 16, 2024

Outline

- MCCC Updates
- Survey Results
- Presentations
  - Potomac Edison/ First Energy
  - PJM
- Discussion
- Public Comment

MCCC Updates

- Meeting recordings are posted on the MCCC YouTube page under the EREWG playlist
- Mitigation Working Group contemplating potential $1B/yr+ funding needs
- **EREWG Goal: Vote on recommendations received in August 13th meeting** and submit to MCCC Steering Committee by early September



Maryland panel pondering the multibillion-dollar climate question

BY: **JOSH KURTZ** - June 20, 2024

An obscure but influential commission has begun to tackle a multibillion-dollar problem for the state of Maryland: How to pay for government's ambitious climate goals.

Maryland Commission on Climate Change Quarterly Meetings

Dates and times are subject to changes. All meetings are open to Marylanders.

2024 Commission Meetings

April 23, 2024, 10 am - 12 noon
July 23, 2024, 10 am -12 noon
September 25, 2024, 1-3 pm
November 14, 2024, 10 am -12 noon

Meetings are video recorded and can be found on the Commission's YouTube channel.

2024 Climate Law Highlights

- ✓ Allows MDE to require GHG reductions from certain **manufacturers** (HB 990)
- ✓ Requires **EmPOWER** to achieve GHG reductions (HB 864)
- ✓ Allocates **$90 million** in FY25 for GHG reduction projects (Budget Bill)
- ✓ Requires electric utility companies to allow **vehicle-to-grid** (V2G) systems to interconnect to the electric distribution network and pay EV owners for grid benefits. Also, allows for the creation of **virtual power plants** (VPPs) (HB 1256/SB 959)
- ✓ Increases the maximum generating capacity for certain **net metered generating facilities** and requires the PSC to establish a solar incentive program (HB 1435/SB 783)
- ✓ Allows certain **offshore wind** projects to submit revised plans (HB 1296)
- ✓ Requires gas utility companies to develop **networked geothermal** systems (HB 397/SB 570)
- ✓ Requires **state-owned buildings** to reduce energy consumption and GHG emissions (SB 258)
- ✓ Requires at least 40% of funding for the **comprehensive flood management** grant program to be used for projects located in or benefiting underserved or overburdened communities; and authorizes up to $20 million for the comprehensive flood management (HB 449/SB 148)
- ✓ Directs **15% of data center tax revenue to SEIF** (HB 579/SB 474)

Source: 2024 Legislative Session Review, Presentation to the Maryland Climate Change Commission, April 23, 2024

Agenda & Projected Timeline

July 16th, 2024

Today

- Review Survey Results
- Presentations
- Discussion

Refine Draft Recommendations

Submit Final Ideas for Recommendations

Submit in Word format by July 31st to:
andrew.place@maryland.gov
cindy.osoro1@maryland.gov
john.gloninger@maryland.gov

August 13th, 2024

Presentation & Voting on Recommendations

MDE will present your recommendations and comments submitted.

Approved recommendations will be sent to the MCCC Steering Committee.

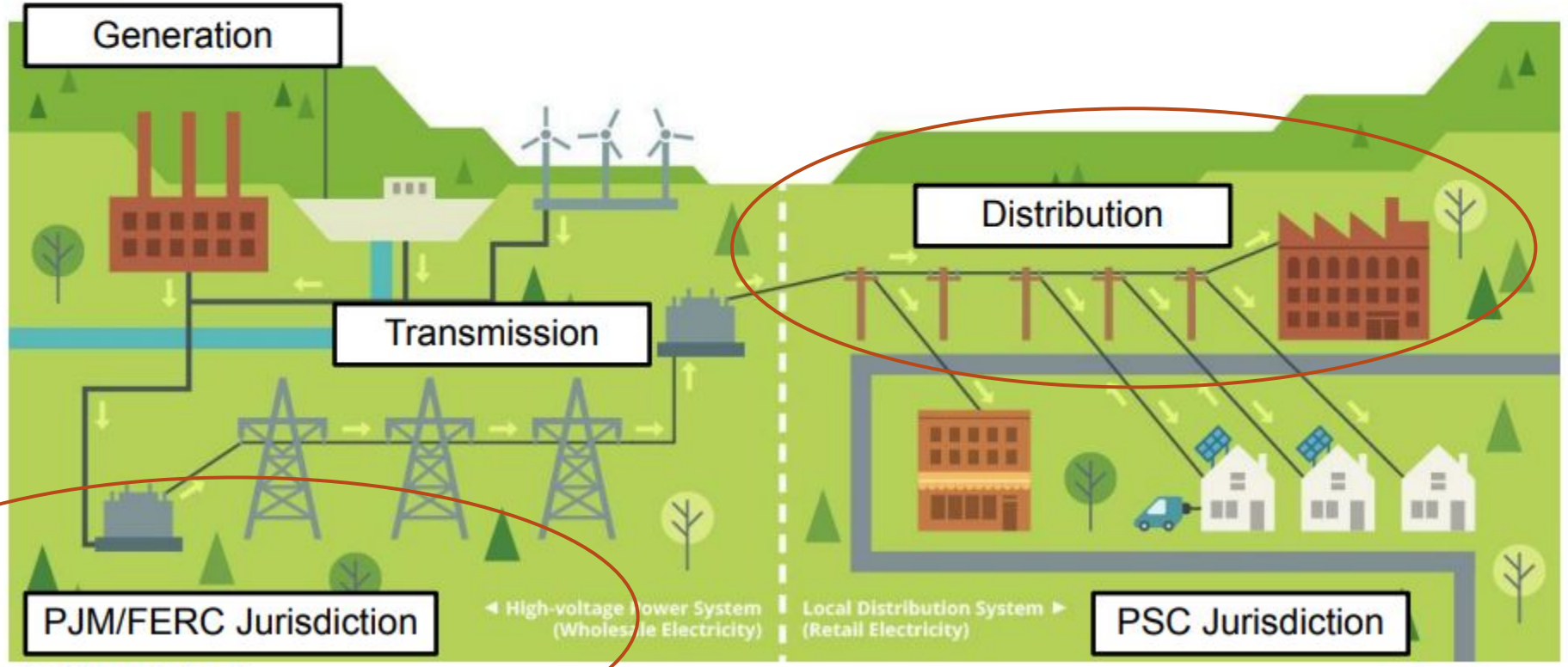
Going Forward

Study

After submitting the recommendations to the MCCC, the focus of this working group can shift to its second deliverable, the study.

High Level Electric System Example

How electricity is produced, transported, and delivered to consumers

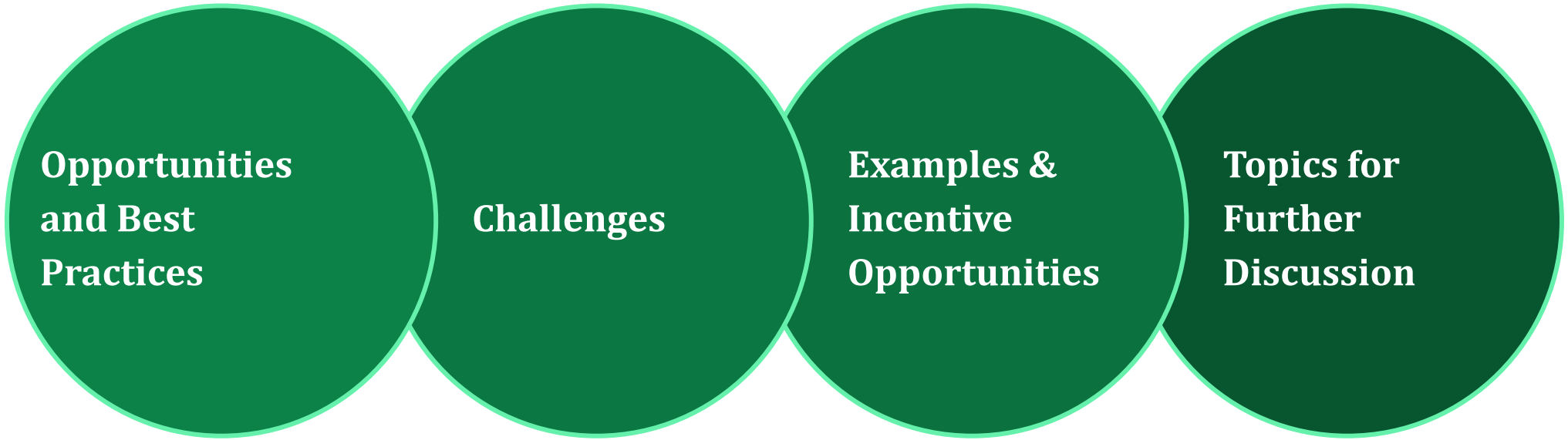


ISO New England
(https://www.iso-ne.com/about/what-we-do/in-depth/how-electricity-flows-from-wholesale-to-retail)

Survey Responses

Collaborative Summary Results from Survey

The purpose of this survey was to gather information from EREWG members and participants, to better understand the common priorities for this working group, and facilitate collaboration to help one another accomplish those goals while improving the efficiency and resiliency of Maryland's electrical grid alongside the goals under the Maryland Climate Solutions Now Act of 2022.



Survey Responses

Opportunities & Best Practices

Identify Vulnerabilities

- Determine where the grid is vulnerable
- Identify critical facilities and potential actions that address vulnerabilities
- Ensure communication is prioritized during major outages

Cost-Effective Electrification

- Incentivize ground source heat pumps (ideally networked)
- Encourage future planning and proactive investments based on forecast load (rather than reacting to customer demand)

Energy Storage

- Define the necessary ratio of storage to renewable energy generation (by source) to ensure maximum resiliency
- Turn distributed energy resources into distribution assets by:
  - Ensuring demand side participation is done in a way to maximize renewables and minimize costs
  - Micro-grids, especially resiliency hubs in LMI communities

Survey Responses

Expansion Opportunities

Networked Geothermal Systems

Maryland is poised to pilot this approach & we should continue to stack incentives to get as many of these systems up & running as soon as possible.

Community-Wide Approaches

Engage with community groups and contractors to electrify or weatherize an entire neighborhood at one time.

Solar Site Identifications

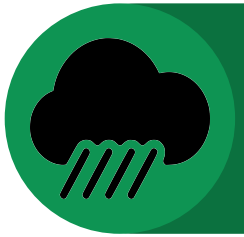
Identify suitable land for solar energy development & develop a database for recommended sites.

Survey Responses

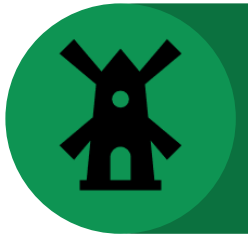
Challenges

Finding the right alignment of incentives and regulations that will direct avoided costs into current investments

Addressing **retirements** of existing generating facilities alongside reliability



Increases in **severe weather** adds to existing challenges



Failure to generate enough energy in the state to be resilient/self-sufficient

Battery backups can assist during periods of stress but should be **centrally managed** to ensure their availability when needed

Shift funding sources from ratepayers funds to taxpayer (or fossil fuel companies) funds

Survey Responses

Challenges

Finding the **ideal locations** for siting clean energy generation

Identifying and addressing where we need additional distribution and transmission

Estimating the impact of the increase in **load** across PJM's service territory

Lack of insight on the **added cost** that changes to the grid will have on ratepayers and **added benefits** from DER

System planning continuing to become more complex due to the increased connections of customers sited & variable generation

STRIDE continues to build new gas infrastructure instead of investing into clean reliability and resilience

Discussion

Led by Andrew Place, Senior Advisor, Chair of ERE WG

Survey Responses

Discussion Themes and Questions

- **Planning** - How to incorporate 15-year load forecasts for into our planning? If we have a goal to reach net zero emissions by 2045, how should we start making new infrastructure decisions?
    - *Potential approach: Provide new account under general funds specifically to support long-term energy modeling with reliability, resilience, and DER considerations that align with Maryland climate goals. Integrate multiple inputs to identify the optimal mix of ground-source and air-source heat pumps, DER solar and storage, VPP's, etc.*
- **Reliability Improvements** - Could investments be redirected from the Reliability Must Run process to invest in energy storage alongside improving reliability*?*
- **Resilience Improvements** Are we generating enough energy within the state to be resilient? Should we have an energy generation self-sufficiency goal?
    - On the continuum between generating more than enough for in-state needs and being a net exporter and fully relying on interstate transmission grids, where is the ideal place for Maryland?

Public Comment