Electric Distribution – Barriers and Opportunities to Decarbonization Pathway

MassCEC’s Net Zero Grid Planning Lab Workshop #3

May 11, 2022
Workshop Plans

Three collaborative workshops (Task 1)

- February 3rd: Forecasting Future Electric Demand
- March 4th: Distribution Planning
- May 11th: Stakeholder Collaboration

... to enable Massachusetts 2050 Decarbonization Roadmap
Today’s Agenda

2:00pm – 4:00 pm

- Welcome
- Recap Workshops 1&2
- Stakeholder Panel Q&A Session
- Panelist Open Discussion
- Next Steps

The EDC’s want to hear from you!
Welcome!
Ariel Horowitz - MassCEC
Recap
Workshops 1 & 2
Workshop #1 - Forecasting Electrification Growth

Eversource – Advanced Forecasting

National Grid - 8760 Electric Load & DER Forecasting for 15-year projections

Transforming Pathways to Forecasts
Workshop #2: Distribution Planning

Distribution Capacity varies by location:
- Substation (<1 to >100 MVA)
- Feeder Breaker (<4 to >40 MVA)
- 3-Phase Laterals (<1 to >3 MVA)
- 1-Phase Laterals (<0.5 to >1 MVA)
- Distribution Transformer (<0.5 to >2 MVA)
- Residential Main Switch (<0.5 to >0.5 MVA)

Capacity is driven by equipment size, protection settings, and operating voltage. Distribution primary voltages range from 12.47 kV to 24 kV.

Feeder Overview:
- Serves Areas: Westminster, Gardner, Hubbardston, Templeton and Barre
- Length: 69.14 miles
- Type: Residential
- # of Customers: 3382
- Feeder Capacity: 31.63 MVA
- Substation Transformer Rating: 14 MVA
- Future Generation Considered: Roof top solar and Ground Mount Solar.

Definitions (Headroom and Hosting Capacity):
- Headroom:
  - Free Capacity Limit (LC1: Up to 30 MVA)
  - Heads Room:
    - Heads Room Limit (LC2: Up to 10 MVA)
    - Heads Room Limit (LC3: Up to 2 MVA)

- Hosting Capacity:
  - Minimum Hosting Limit (LC4: Up to 1 MVA)

Location, Location, Location!
Stakeholder Panel & Roundtable
Panel & Roundtable

Today’s Panelists

- Rob Sheridan – Moderator
- Joanna Troy – Department of Energy Resources
- Jeremy McDiarmid – Northeast Clean Energy Council

Roundtable includes

- EEA, DOER & MassCEC
- Coalition for Community Solar Access
- Metropolitan Area Planning Council
- Attorney General’s Office
- National Grid & Eversource
Stakeholder Roundtable
A question to the full audience at today's workshop....

Is there anything from the previous workshops that you would like to highlight or comment on today?
Please introduce yourself by describing what role your organization has in achieving the Commonwealth’s Net Zero goals...

And

Please share how you and your team expect to be engaged with the EDCs to ensure the distribution system is developed appropriately to enable those goals.
What does your policy and/or regulatory engagement process look like?

How do you decide what topics to address and what positions to take?
What information do you look for from the utilities, and when do you need that information, to be successful in achieving your goals?
Is there information you may be able to provide the utilities to support distribution system planning?
Do you have specific concerns about:
 a) the current state of the distribution system, and 
b) the regulatory processes necessary to achieve the Commonwealth’s policy goals?
What issues would you like to see greater focus on, or priority given to, within the distribution plan? (i.e.; cost, transparency, accountability, pace, reliability/resiliency, equity, etc.)
What one or two things would you most like to see changed to impact the future electric distribution system?
Is there something concrete—even if it’s small—that you would like to propose for this group that would help support the distribution planning process going forward? (i.e.; additional meetings, working groups, facilities tours etc.)
Summary and Next Steps
Together...Shaping the Future of Energy™