

Nov 27 2017  
CFB - Energy TAG

Peter Fox Penner  
Cutler Cleveland  
Bruce Biewald – Synapse  
David Luke Oates – Brattle  
Patty DiOrio – National Grid  
Brad Swing  
Cammy Peterson  
David Ismay  
Seth Federspiel  
David Cash  
Alison Brizius  
Michael Walsh  
Chris Meier

David Cash – How will you model the impact of federal policies?

Mike W – Assuming continuation of existing policies. (???)

Peter – The impact on the grid study is huge, obviously, but we can only model what the City can do.

Peter – we don't want to do a full ISO-NE grid simulation, but hope there is a candidate simulation already that has assumptions "consistent enough with our climate plan\*" that it will work for our purposes. This will save building a gigantic and complicated model that may not be any more accurate. But this might not work and we have to be prepared to do a new and custom simulation.

\*With the assumption of where the CFB plan (aka "the puck") is going...

Cammy – Could we do a regional model at the same time? "Regionalizing the study." Because the choices that Boston makes might be affected by whether the City is going it alone or could do more/different with a larger group of cities.

David Ismay – If 80x20 is state law, why not use grid energy as an input and assume the State does what it is supposed to do, and see how to make up the difference. For Boston to be net neutral, it would have to go faster. [there was more nuance to that comment – talk to Mike]

Peter – But we want to have a scenario that shows plausibly *how* it is done.

Synapse – Bruce Biewald. Reductions to

Analysis of the MA RPS (Synapse and SEA) May, 2017. This is missing the AGA rule and the caps update of summer 2017. So the trajectory of the electric utilities is now baked in.

Synapse is also doing an AESC model, for the purpose of valuing energy efficiency. But does not assume energy efficiency, because it is removed for the purpose of the study [??].

Consistency across Energy and Trans must allow for high electric vehicle penetration.

Seth – How are the ghg assumptions made – regional energy mix? MA energy mix?

David I – the assumptions of the inventory will matter, because ISO NE doesn't settle RECS. So is there any meaning to Boston purchasing RECs?

Mike – the model will be activity-based. Identify total MJs of energy and figure out where they are coming from.

Boston uses c-40 GPC protocol. But will stress test the model with other protocols.

David O – Brattle model has regional focus, but less in weeds on MA. Looked at least-cost methods of reaching decarb goals. *A Dynamic Clean Energy Market in New England, Nov 2017.*

Is this the projection based on known policies? No, more like a set of assumptions vetted with I-MAPP stakeholders. It's a back-fit to meeting the GWSA, but not nuanced per behavior, nor the details of the regs. Does not include the new DEP ruling from summer 2017. (The idealists versus the realists.)

Brad – what is the rationalization of the use of natural gas in support of achieving a Carbon-Free Boston? Residents are up in arms about this now. The subtlety of the City's messaging is important.

Peter – that is important in the set of options that the CFB team puts out.

What happens to the stranded gas distribution assets, after everything is electrified?

Third Model – National model by Pacific Northwest National Lab – looks at economic interactions between various technologies. *GCAM-USA Analysis of the U.S. Electric Power Sector Transitions, PNNL-JGCRI, May 2017.*

David C – shouldn't we be modeling the "getting worse" scenario for national policy? Could coal come back?

David I & Peter F-P – but short of the Feds actually undoing the GWSA, there is no particular impact. We have to build the model to the binding constraints.

David I – But CAFÉ might be an example (or the example) that could be built in.

Michael - What are the core scenario narratives?

Patty DiOrio – How granular is the model? Nodal? (shows electron traffic)

Bruce – not sure it would make sense to do that out 20-30 years. But it is important to look at the policies that Boston would actually do, such as CCA, solar roofs, local policies that move things forward.

Seth – Cambridge just completed a study of energy sources for building energy.

Michael – We want to look at hourly load profiles of buildings across the entire year. [Is this level of granularity necessary?]

Peter – the grid modeling will be net of all other technologies (e.g., thermal demand). It's the plug number – but linked back to supply and load factors, so they can be tweaked.

David Ismay – but it is more nuanced than that; you have to look at supply decisions. What if Boston can't hit its goals without being much more aggressive?

Sharon – don't forget the load side.

We have three models, and want to do a mash-up for CFB. Bruce: what do they all have to do with Boston and what Boston can do? What can Boston reasonably do itself to influence and drive the direction of the grid in its electrification.

Brad Swing – we need to have actions and policies that move the dial and are perceived as a service to Bostonians. It can't be just modeling work that doesn't affect constituents.

Where does that leave us? PFP – we need to modify closer to David I's idea to see if we can model a couple of emissions trajectories, while focusing resources on the linkages between the trajectories and actions that will be needed in the climate plan. There is much more energy around the table for figuring out how to affect the trajectory and taking the given three scenarios as "black box."

Alison – Don't see this as an either/or. Just a clearer way of describing the project.