Friday, February 7th, 2014
1:00 PM – 3:00 PM
1st Floor Merit Board Room
NJ BPU 44 South Clinton Ave.

Agenda

- CEEEP CBA Presentation: Major assumptions & quantifying uncertainties
- Action Plan
- Response to Stakeholder Comments
- Next Steps

Meeting Notes

Introduction

The Rutgers resiliency model is introduced. Mike brings up a dilemma in order to demonstrate how the model can work: how many hours does a building have to run to justify a CHP facility that provides energy to it? He says the model provides the tools for users to make a cost-benefit analysis and frame their decision-making in regard to which projects should/should not be funded.

Combined Heat & Power Cost-Benefit Analysis & Discussions on Quantification of Uncertainties

Frank Felder begins by informing everyone that the inputs for the model are all sourced from publicly available information. The information (shown in graphs on PowerPoint slides---see NJCEP website) is available on the website, and the model itself is projected to be posted by a week after the meeting date. The framework of the model is explained: the model calculates/estimates the benefits and costs of CHP both to the individual project owner, and to society at large.

- Included in the model cost estimation: capital costs, operating & maintenance costs, fuel costs, & additional e-purchase costs
- Distributed generation might lower emissions, increase resiliency, increase reliability, provide savings to owner, and clean energy to society

Question by Betsy: Does the model determine now that resiliency has value? And is that value being applied to the Clean Energy Programs?

Answer by Frank: The model has included resiliency as a value in the energy bank, but it does not involve EE programs unless an incentive is developed around resiliency.

Question by attendee: Does the model determine user benefit vs. societal benefit for a project?

Answer by Frank: Application of the model determines whether resiliency to an entity has societal or user benefit (i.e. casino vs. school, the former has user benefit, the latter has societal benefit). The model itself does not determine this. Basically, the model works as a screening tool.

Major assumptions & quantifying uncertainties

- Project complexity and location has an effect on installed capital cost, which means installed costs for each project can vary significantly
- Information gathered & compared for the model comes from various databases (i.e. EPA); reported data is only as reliable as the information compiled by these various databases
  -Advantage: lots of data
  -Disadvantage: questionably accurate
- Actual capacity factor of CHP plants is lower than normally expected and exhibit large standard deviation
- Plants that operate at high capacity, consistently, are more economical (from an investment-decision standpoint)

Question by attendee: What does it mean for an individual plant to have large standard deviation?

Answer by Frank: It means a plant operates high capacity one year, low capacity the next, etc. In other words, the data shows the capacity to be inconsistent, making it more difficult to determine trends.

Concern brought up by Frank: how well the model works is dependent on factors outside of anyone's control, such as price of electricity and price of gas. The concern is that plants will run at mid-capacity in order to save money, which means essentially the data sourced for the model is unreliable.

Resolution: the model helps users ask the right questions while determining whether or not to fund a project, but may not always (or ever) be an accurate representation of numbers data.

Mike inserts a comment saying that the data can be used as groundwork to set rules up regarding a program based around resiliency.

Other points:

- Data segmentation (factoring in & out, for example, older plants, plants under contract, etc.) does not lead to any specific correlation results
- Data suggests that probability of running a plant at very high capacity factor is rather low (50%)
- Goal is to analyze data & figure out how to improve economics in NJ over time

Going forward with collecting data, key pieces of information should be recorded & gathered in order to have a more accurate/thorough representation of data in the database, as data is useful when gathered over long periods. These key pieces of information include:

- Facility type
- What the facility manufactures
- Daily energy usage
- Emissions filing

Data must be measured to use as talking points when selling CHP. Issues with this are:

- Studies show extremely wide range of avoided T&D costs—if data leaned to either side, it would be easier to decide whether to move forward with the building of CHP & incentive programs
- Long term investments help to improve economics over the years, but data right now does not take that into consideration for cost-benefit
- Avoided T&D asks people to place a value on something not yet built, then monetize it

Several parameters determine the extent of reliability benefits achieved by blackstart & islanding capable CHP:

- Uncertain payoff in being able to run CHP facility (taking into account power outages)
- Probability and duration of outages are difficult to predict
- In addition, other factors—such as heat waves or cold snaps that tend to result in higher energy rates—must be considered in the data, but as of now, they have not been
- Major hurricanes/tropical storms have occurred at a rate of .21 per year in NJ over the last 28 year period
  -frequency, duration, magnitude unknown, making data uncertain
- VOLL also depends upon whether any existing backup arrangements are present

Societal vs. user benefit is discussed again—for instance, a school running off of a reliable CHP energy source may have societal benefit during an outage, where it can be open to the public experiencing power loss.

Question by attendee: There is no number value in the model on societal benefit? In other words: value of loss numbers don't account for certain things, such as loss of life during an outage at a facility like a hospital?

Answer by Frank: No, there is currently no number value pertaining to societal benefit. Societal benefit is determined as a judgment call by the user of the model.

Concern: There is a danger with these models where one can get any result one wants, as numbers can be tied to a biased explanation for the numbers. However, that room for interpretation allows /assists one to make a determination about what projects are prioritized.

Question by attendee: So the model is just a framework to input numbers?

Answer by Frank (paraphrased): Yes.

Question by attendee: Who is putting in the numbers for resiliency?

Answer by Frank: There is no way to input resiliency currently. The NJ Clean Energy Programs also do not currently take into consideration resiliency. A way to incorporate resiliency into the NJ clean energy programs is part of what is being discussed.

Action Plan

Mike begins by discussing press release from the governor's office regarding Sandy recovery & disaster relief funds. On October 29th, HUD issued their second allocation (just short of 1 billion dollars).

- Hurricane Sandy rebuilding task force: HUD wants to look into energy infrastructure in their second allocation
- Applications can only be for small public business, due to the structure of HUD
- No waivers given in allocation
- HUD's criteria for project funding is listed in general terms
- Action plan needs to include cost benefit for HUD

Comment section for HUD open for 30 days, & applications have 90 day window before approvals need to be made. All information can be found on DCA website.

Question by attendee: In terms of what the bank would fund, it's very broad? You don't envision us seeing any additional structure until post-approval?

Answer by Mike: Right. Until HUD approves spending of funds, no additional structure will be added in the interim.

Question by Betsy: With these funds, would a program specific to energy resiliency be developed? And would applications beyond CHP be accepted, as long as the project meets some kind of resiliency threshold?

Answer by Mike: Yes, that's why this model was expanded to encompass fuel cells, solar, etc.

Mike brings up here FEMA that came into the state, and HUD's allocation of these dollars:

- Most granted requests were for generators
- State is making priority-based decisions
- Water treatment plants, hospitals higher priority

For potential projects, there is an LMI requirement, which means:

- 60% of the projects funded by HUD money must benefit low to moderate income communities
- 80% of the money spent must be directly tied to the 9 impacted FEMA communities
- For communities impacted by Hurricane Sandy, HUD will determine on a case-by-case basis

Question by attendee: What bank would approvals go through, is there a plan in mind?

Answer by Mike: Agencies (like the BPU, EPA) would be the "bankers"—the planning will remain in the early stages until HUD 's requirements are met.

Betsey insets comment that, meanwhile, the NJ Clean Energy programs are already in place, & have funding—she encourages users to apply for those.

Question by attendee: Is there a definition where hospitals can be considered small business? (in other words, why do hospitals qualify for the program?)

Answer by Mike: Hospitals are critical facilities that do not meet the federal requirements of small business—there is discussion of asking for a waiver from HUD, but nothing is set in stone.

Betsy introduces the idea of whether the program competes with NJ Clean Energy; is there a way to supplement/complement?

A comment is made saying that selling the program should go both ways—in talking to potential customers, one should try to gather whether or not they are interested in resiliency programs. A discussion follows on why entities may/may not want to participate in resiliency capability.

- Entities with multiple utility accounts without the funds to change over to CHP are possible good candidates for the program
- Customers who want blackstart & islanding may not want to participate in programs that do not offer these
- There is much site preparation needed to build a CHP facility, & currently incentives do not cover site prep

Question posed: Can the board use clean energy standards for resiliency? Is resiliency even cost-effective energy efficiency?

Answer by Betsy: There are always leftover CHP funds—the focus should be on how to get people to apply for those so that the funds are spent. Can resiliency be used to help? Large scale government & hospitals will likely not be the bulk of applicants, she guesses. However, there is some dissent and side conversations over this point.

End Meeting