From: Preston Jordan <pdjordan@lbl.gov>
To: Carbon Neutral Albany advocates and takes action to reduce Albany's greenhouse gas emissions. <cap@lists.carbon0albany.org>
Sent: Fri, March 22, 2013 12:37 AM
Subject: [C0A] MCE, PG&E and ghp

Hello Neutralizers-

I attended the Sustainability Committee meeting last night. Unfortunately I had to arrive near the end of Marin Clean Energy's (MCE) presentation. Fortunately I was familiar enough with the subject matter (I believe) to still engage in a constructive manner.

The focus of my interest was the greenhouse pollution benefit from Albany joining MCE. This was piqued further by the Albany staff report's statement that nearly 60% of the power provided by PG&E is from sources with little to no Scope 1 pollution (meaning pollution directly from the activity, as opposed to pollution from the manufacture of equipment used by these sources).

I used my public comment to ask how the pollution factor for MCE's light green option compared to PG&E's factor. The light green option is the default into which all accounts are enrolled when a jurisdiction joins MCE unless a request has been made to enroll an account in another option or with PG&E.

Simon Loos of MCE wrote down the factors for me. The factor for MCE's light green option is 0.17 metric tons per megawatt hour (MT/MGh). I believe this is the factor for 2011. He wrote PG&E's factor as 0.18 MT/MWh.

This is small difference. So small I think it is probably in the noise of fluctuations from year to year.

There are differences in the power sources between MCE and PG&E. A substantial portion of PG&E's non-greenhouse polluting sources are large hydroelectric and the Diablo Canyon nuclear power plant. By contrast MCE uses renewable energy credits (RECs) for its share that is equivalent to PG&E's large hydro and nuclear. These RECs are issued by facilities generating power from biogas, solar and wind if my understanding is correct.

MCE has a deep green option as well that emits no pollution. MCE's current deep green opt-in enrollment is 2% of accounts. It was 8% at MCE's beginning when just one or two cities were in its service territory, but that has decreased with growth in MCE's customer base. However MCE noted 2% opt in for a totally non-greenhouse pollution option is typical of markets with this option across the country.

It was noted that PG&E also has such an option in the works. Again, there are differences between the two. MCE has long-term contracts with some renewable generators and presumably uses RECs for the entire remainder for the deep green option. It was stated that PG&E's non-emission option will be based entirely on RECs.

I was not familiar with PG&E's factor being as low as 0.18 MT/MWh, so I looked it up today. This is indeed PG&E's factor for 2011, which was just recently announced. You can see this factor and those back to 2003 at http://www.pgecurrents.com/2013/02/20/pge%E2%80%99s-clean-energy-reduces-greenhouse-gas-emissions/.

This is really an amazingly low factor. It is also much lower than PG&E was projecting just a few years ago. These projected factors are available in the table on page 3 of http://www.pge.com/includes/docs/pdfs/shared/environment/calculator/pge_ghg_emission_factor_info_sheet.pdf. Comparing to this table, PG&E hit its 2015 pollution factor target in 2011.

This gets to the question of what benefit Albany joining MCE would provide. It is clear that it will likely not provide much of a greenhouse pollution benefit. This is because PG&E is lowering its pollution factor faster than expected.

Why is PG&E doing this? I don't know. One answer could be competition from MCE and the soon to be operating San Francisco community choice aggregator (CCA). PG&E's imminent roll out of a greenhouse pollution-free option seems to further suggest competition is playing a role.

This creates a bit of a free rider problem for Albany. In other words the work of Marin and San Francisco setting up CCA's could already be providing Albany as much benefit with regard to lowering its greenhouse pollution as actually joining a CCA would provide. So why join MCE?

Well, I don't like to be a free rider for one. Second, providing Albany citizens with a power provider option so that there is competition in the market place is a good idea in principle. Of course, the rolling blackouts of early last decade showed how bad it can be in practice due to poor market implementation. This does not seem to have been a problem with the market that provides for both MCE and PG&E to supply power to customers, but this may be because the market is so small. I am not sure what would happen if a substantial portion of the accounts in PG&E's territory quickly transitioned to CCAs.

Still, as someone who went with Green Mountain as a green power provider during California's last attempt at creating a power market with competition, and was sorely disappointed when the market collapsed taking this option off the table, I think continuing to push for a functional market by participating in that market is a worthy goal. However this goal is removed from having a direct impact on Albany's greenhouse pollution.

Another aspect the MCE representatives cited in favor of MCE versus PG&E power was the absence of nuclear in MCE's supply and the much smaller amount of large hydro. That is not a big a factor for me, but likely will be for some to many. For me, Diablo Canyon exists. That battle was lost. Given that it exists and society put so many resources into it and it produces sorely needed greenhouse pollution-free power it should be utilized. This is not the same as saying we should build more. I am on the fence about that. Yes the most significant nuclear accidents have been horrible and horribly expensive, but climate change is likely to be worse.

So when it comes down to it, the reasons I see for joining MCE are somewhat indirect with regard to greenhouse pollution reduction. If joining was free, those indirect reasons would probably be enough. However there is a cost, which I would characterize as small, for the analysis needed in support of an application to MCE to join. The cost was cited as $20,000 to $50,000 if I recall correctly. This does not include staff time to pursue the process, which really is a zero sum despite the perspective I run into sometimes that staff is already paid for so they are free with regard to pursuing any specific task.

The Sustainability Committee voted unanimously to recommend the Council proceed with the next steps toward Albany joining MCE. The first step is asking MCE's Board for a determination if it would be willing to extend MCE's territory to include Albany. If the answer is yes, the next step is contracting for and managing the necessary analysis of Albany's power demand (as well as other information I expect). The next step is to package this analysis with the other necessary information into an application to join MCE.

I hope the Sustainability Committee is prepared to explain to the Council the benefit(s) of joining MCE given that it will not apparently make much difference with regard to Albany's greenhouse pollution.

What do you think?

Preston

From: Charles Blanchard <clb_home@pacbell.net>
To: Carbon Neutral Albany advocates and takes action to reduce Albany's greenhouse gas emissions. <cap@lists.carbon0albany.org>
Sent: Fri, March 22, 2013 1:13 PM
Subject: [C0A] MCE, PG&E and ghp

Preston - Thanks for initiating this discussion. Here is another perspective.

-- Charlie Blanchard

Albany's Climate Action Plan (CAP) consists of 25 measures (many are comprised of multiple subparts) whose greenhouse gas (GHG) reduction potentials were quantified, plus 15 measures that were not quantified. The quantified measures range from 5 to 2935 metric tons (MT) CO_2 equivalent each, summing to 15,770 MT. The largest potential quantified reduction (2935 MT) is measure BE2.1 (buildings energy efficiency programs). One of the unquantified measures is community choice aggregation (CCA), which would mean switching electricity service in Albany from PG&E to a CCA. Such a switch would be intended to increase the amount of electricity generated from renewable sources, and in that sense it would be complementary to reducing electricity demand and would not be a substitute for demand reduction. What is the potential GHG reduction from CCA? Marin Clean Energy (MCE), a CCA, presented information at the Sustainability Committee meeting of March 20. Based on this information and other sources, my best estimate of the GHG reduction of CCA (see calculation below) is 590 MT. For perspective, that would place GHG reductions from CCA ahead of 16 of the adopted measures and behind 9 others in the Albany CAP, between TL1.3 (constructing pedestrian improvements, 610 MT) and TL1.1 (bicycle infrastructure improvements, 415 MT). Ultimately, switching to a CCA would have to be decided by the community at large, presumably acting through the City Council. For now, what is needed is further study of the potential benefits and costs.

PG&E GHG emission intensity in 2011: 0.178 MT/MWh

(393 pounds per megawatt-hour [MWh], http://www.pgecurrents.com/2013/02/20/pge%E2%80%99s-clean-energy-reduces-greenhouse-gas-emissions/)

MCE GHG emission intensity: 0.171 MT/MWh (presented to SC 3/20/13)

Albany total electricity consumption in 2010: 65,353.1 MWh

(26,608.4 MWh residential and 38,744.7 MWh commercial, Albany GHG emission inventory update presented to SC by StopWaste.Org)

MCE participation rates: 20% opt out, 2% opt into 100% renewable

PGE 100% renewable participation rate: option is not yet available

Best-estimate GHG emission reduction of MCE relative to PG&E: 590 MT

$$0.78 \times 65{,}353.1 \times (0.178 - 0.171) = 357 \text{ MT}$$

$$+ 0.02 \times 65{,}353.1 \times (0.178) = 233 \text{ MT}$$

(Since future participation rates in PG&E's upcoming 100% renewable option are not yet known, the factor of 0.02 in the second equation should eventually be replaced by the differential between the MCE and PG&E participation rates in 100% renewable options)

Conservative GHG emission reduction of MCE relative to PG&E: 366 MT

$$0.8 \times 65{,}353.1 \times (0.178 - 0.171) = 366 \text{ MT}$$

(Assumes 20% opt out from MCE and no participation in either MCE or PGE 100% renewable options)