

UNH Energy Task Force Meeting

2/4/16 9AM-10:30 AM

Morse 301

Present

Jennifer Andrews, Tom Kelly, Bill Janelle, Matt O'Keefe, Clay Mitchell, Sue Bennett, Adam Kohler, Colleen Flaherty, Tat Fu, Cameron Wake, Steve Pesci, Beth Potier, Dirk Timmons, Jennifer Andrews, Sarah Large

Resulting Action Items:

- Clay will draft testimony on behalf of the ETF regarding NH's net-metering cap and the current proposal/s for lifting it and reimbursing generators, and circulate it to members of the committee for review and feedback.
- Beth will act as liaison with Tom/Mica Stark to bring them into the loop.
- Matt, Dirk and Steve will re-group on the question of EV charging stations and lay out some "basics" to help the ETF gain a shared understanding of the potential costs, logistics, and outstanding questions/hurdles to be resolved. With this information, we can share realistic opportunities with the Foundation so they can advise any potentially-interested donors.
- Jenn will put the recommendations from the last WildCAP update into spreadsheet form for ETF members to respond to (e.g. status, questions, etc.)
- Cameron and Jenn will incorporate Cameron's students' recommendations from over the past several years.

Updates on Hydro and Renewable Portfolio:

- Hydro RFP posted yesterday afternoon: solicitation for proposals for group net metering agreements; we would agree to purchase a fixed amount from a renewable generator/s (solar, hydro, wind), and by signing agreements we commit to purchase specified rate, and we get a bit of the discount (from default rate).
 - Distributed to the Hydro Power Association

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- Sent it along to Kate Epton from NH Sustainable Energy Association; they have a lot of solar and wind projects
- No commitments yet
- Not ideal timing, because Eversource is at its net metering cap; might have to wait for legislators to raise cap before making any agreements if we get proposals
- Clay emailed around his own personal draft testimony about Senate Bill 333, which is a bill to lift the net metering cap
 - The bill currently plans to add 25 megawatts and push to the PUC to determine credit rate.
 - Rate should be higher than current rate because of net metering
 - Push back from utilities; they say it should be at average wholesale rate
 - Concern that when the bill gets to the House that there will be a push to amend the bill
 - If it's amended, it would go to committee for reconciliation with the Senate Bill, which discussions would not be public; we won't know what the discussion is or how the agreement came about.
 - Nevada's an example of how if this bill is amended or doesn't pass it could be very bad for solar companies and employees. They passed a retroactive law with very low rates. People that were in existing net metering agreements got the rug pulled out from under them. Huge job loss due to cut in solar/ incentive
 - Pieces of testimony
 - Clay will draft a version of "ETF testimony"
 - Tom Cronin/Mica Stark- (CPA): Beth will act as a liason to them to give them a heads up for what we are thinking
 - Might want to bring up President Huddleston's commitment to American College and University President's Climate Commitment
 - Mention RFP and UNH goals and standards
 - We have an aggressive target and has been positive, and it is important for us to raise the cap for UNH to reach their goals.
- Matt O'Keefe's follow up on UNH's RFP
 - Granite State hydro sent out to members; Laurie contacted Matt asking about it. She is the woman from UNH's small hydro account.
- RFP: deadline is end of February.
- Clay- sending around article; legislation decisions

Fleet Data: biodiesel vs. diesel; Increased communication to increase Biodiesel Use in UNH Fleets- Steve Pesci

- Has analyzed fleet miles and fuel data for FY15 and is 95% done with reports on departments fleets from 2009-2015
- Big picture trend
 - Slip in B20 use and we all mutually agree to work on this
- Fuel prices are fluctuating
 - Use DOT Fueling station; the diesel there is locked in at a set rate which is higher than external prices currently
 - Biodiesel- floating price at UNH;
- Petro diesel consumed = 40,000 gallons
 - If this had been biodiesel, could have offset money and emissions
 - Wasting \$30,000-40,000 a year is not insignificant
 - Cam's suggestion- President to write to the diesel users and explain and address the use
 - Tom- maybe have a larger overarching message from the president
- Spring focus on communicating to departments and diesel users to use biodiesel in their vehicles. That it saves money and emissions and that it is okay for their cars. The transportation busses/ fleets use it and have had no problems
 - ETF working on communicating with diesel users specifically, implement B20 cards, and have managers communicate to workers (top down message and enforcement is needed)
 - Making sure fleets have B20 fuel cards that work at the pump
 - Saves UNH money and contribute to save emissions and reach goals
 - Steve is working with SI on images/messaging on the pumps.
 - Put price on pumps!
- What is stopping people from using biodiesel: Worry that it doesn't work in their car and worried about gelling up in the winter; but this is addressed and there is a solution that works and has been applied at UNH with busses.
- Need top down communications
- Need to communicate with farm services; they have their own fuel stations but don't have biodiesel
- Price of fuel: biodiesel \$1.64/ gallon vs. diesel \$2.67/gallon
- We are using more fuel and driving more miles
 - Definitely driving more miles in our fleet and using more fuel
 - Total fleet miles driven: 1.79 million miles this year.
 - last year 1.3 million miles

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- We have more university cars in our fleet than previously
- Reports- B20, CNG, and combines fleet miles
 - CNG side made great progress
 - Received Storage capacity
 - Emergency power backup for C&G fueling station
 - Resiliency in state of emergencies; able to keep transit up and running.
 - 80% federal funded
 - Need to keep up messaging and making sure people are using and fueling the best that they can
- Dirk- purchasing the right vehicles; long term perspective/ people are looking at how much we save by upfront however those cars have higher costs over time (in gas) vs a more costly car upfront that has higher efficiency
 - Got double of life on C&G busses
- Busses/ UNH Transit
 - Adding additive in the tank with biodiesel having no gelling problems; Dirk is willing/ know someone who could connect with people on campus to educate others on the additive and its benefits
- Steve- struggle with life cycle costs; and convincing people the benefits
 - Single task focus; financial, environmental reason to work on this!
- User side- How do they decide?
- Side note: A current NH bill (HB460)- setting a fee system within automobile registration that would increase registration fee for people who have cars that get over 30 mile/gallon which is targeting more efficient cars in a negative way
- Frame this with fairness and are trying to replenish gas tax
- Another way to think about car tax is the use of the roads instead of miles/gallon.
 - charging based on mileage driven; since NH has annual inspections mileage is easy to record and this would be implementable
 - Pilot in Oregon or Washington, discussion in NH we have annual inspections
- Feebate suggestion at UNH- to encourage higher efficient cars

Electric Vehicles and Charging Stations on Campus

- Public use during day and at night charge UNH vehicles.
- There are many pros, as well as cons related to the public's perception
- Putting the charging station at parking services is out of the way for public users, but makes sense for university use
- know niche users and who to target

- Nancy Lowenberg- in the process of buying Prius plug in and was curious where the university stood on EV charging station as well as what where we stand on funding/ needed donations/ funds
 - Advancement is looking for how to get donors in on this
- There is a lot of sensitivity/concern around this.
 - **Need to get FAQ's and the equity issues of EV vs. fuel cars and people's perspectives on fairness to having university putting stations in.**
- How do you pay for EV? Required to charge hourly (instead of energy usage)
- Implementation:
 - Where for the stations?
 - How would we collect the money?
 - Where is the funding coming from?
- **Need balance between public usage and the UNH fleet charging at night. We need to make sure that it is well know that there is significant benefit for the University to having these charging stations**
- Are there any large electric vehicles? Like vans?- not sure
 - Nissan has a minivan type EV
- Due to price of gas decreasing car manufacturers not convinced to continue to make EVs

Should have EV group (Dirk, Steve, Matt) back together to familiarize with framework for if funding is available next steps can be identified smoothly. At what scale are we able to achieve?

Appropriating Vehicle Use; Frequency of high miles driven by department

- Matt- Are we having discussions about carpooling on campus for fleets?
 - Making sure that the car used matches the determined/ expected miles traveled and based on what you need and the number of people who are going in the car that they are assigned/use an appropriate/ matching car.
- Admissions travels a lot in the fall for recruiting; do they have an EV?
- Need questionnaire out to departments on time of year for large travel for work and if they have access to EV.

WildCAP- Next steps?

- 2020 is coming up fast! Time to reelect on our goals, what we have accomplished, and what we need to work on next
- Zero waste task force is forming and President Huddleston sent out announcement that he wants campus to be zero waste!
 - They have a group of 19 people; John Aber and Dave co-chairs
- Cam has had his student look at UNH's climate action goals and think about what else UNH could do to add to WildCap
 - New ideas on improving UNH
 - Cam has these ideas written up and the students provided ways to test their ideas
 - Cam connect with Jenn on these proposals

*****Reform the overview document Jenn handed out (Pages 3-4 of the WildCAP update, listing the recommended actions) so that there is a side bar for ETF people to comment on as well as a status column indicating status of goal*****

- In briefing hand out, do we have student population on figures? Can we add?-Tat
- Major finding
 - Emissions per square foot decreasing but average emissions are not.
 - Enrollment was increasing and now plateauing but building capacity is catching up.
- Need to capture J term capacity and summer campus usage and related increased emissions
- Is where the students living affecting emissions?
 - It is with regard to transit. More students living in Durham in private housing, so they are walking and biking.
 - So does this mean mileage traveled to campus decreasing?
 - **Bit Picture: The emissions from transportation are majorly Faculty and Staff!**
 - Student miles traveled hard to capture because unknown location traveling from
 - Zip code for students residency for school year usually listed as parents address
- Survey- comprehensive commuting and transit survey that the campus does every five years through survey center
 - New survey to go out this year! Funds have been approved
- Parking permits gaining some from this info
- Students commuting vs staff commuting. **Staff commuting is larger!**
 - Farther distance and single occupancy vehicles for staff/ faculty

- Parking permits; limitation on students if they live certain distance to transit but not for staff/ faculty limitation
- Long term what it comes down to- add combination of EV and incentives
- Data collection for fuel efficiency

Parking Passes- faculty/ staff

- Need incentive for not buying parking pass
- Raise price of parking pass?! That will get people out of their cars. Big push to consider this idea this year. In discussion.
- Cam Idea- Institution-based “Uber” or “Lift”? Someone should come up with a way for staff/ faculty to be able to check in the morning to see if someone near them is on their way to work?
- Registration cost- if have EV get this cost for parking vs. low efficiency have to pay more for parking.
 - Right, but higher cost is justified by weight of vehicle; if heavier, more impact on surface higher cost
- Dirk- have looked at zone parking, zone parking at sliding scale, but couldn't get momentum
- Salary based parking costs have also been thrown out as an option, over the years
- Faculty union has strong opposition to higher prices for parking
- “Shame” faculty? Raise the price on 10 year track faculty/ Union permit?
 - Doesn't work
- What is the actual cost of running organization and who is covering most of the cost?- Students
- Students wanting and realizing that they needed to pay more for the parking permit to cover their costs, but Staff/ faculty price not increasing.
- Does this mean UNH should prioritize maintenance on student lots, not faculty or staff, since the students are bearing the cost burden?
- Have students pushed administration on this issue at all? (Not really.)
- With reduction to bus trips, are you getting negative feedback from staff faculty?
 - Rochester, yes staff/ faculty affected by routes decreasing
 - Newmarket – majorly grad students and brought up some concern
 - MUB- grad students
 - Campus definitely because travel miles are reduced!

Life Cycle Costing

- Instrumentation centers on campus are looking for energy saving products, but require large investment; need to make sure that purchases are worth/ justified and need to do large sweep/ can't do single purchases on lab by lab basis.
- Funding that is focused on long term life cycle choices

Air Travel

- Require donation from department for each flight that would go to energy efficiency/ campus carbon reduction funds on campus? Some schools do this.
- Air travel data has been very difficult to capture because of the different ways it is purchased across departments; very often PCards are not used for this
- Have we pushed any teleconference choices/ communication out to departments about AV having these tools and saving air miles?
- Cam's has students who looked at this suggest to incentive people staying on campus and teleconferencing by buying food for people maybe get free parking spot for the day or certain number of days.

APPENDIX

RFP for renewable energy for UNH

The University of New Hampshire is soliciting proposals for Group Net Metering Purchase Agreement/s. For complete information about the solicitation, please refer to the following information:

Welcome to E-Sourcing, the new USNH web-based Bidding Tool hosted by Unimarket (UM). Any e-source solicitation on our web site OR for which you are receiving this email is being processed within this new tool. If this is your first opportunity to participate in a USNH RFX hosted by Unimarket, you will need to go through a short registration process to establish a UM account.

When you click on the bid link below you will be transferred to a screen where you can register to participate in this USNH RFX or login if you have already established a UM account. If you are registering for the first time, after you enter your company and contact details, you can join the RFX and be transferred to the RFX summary tab within the UM tool. You can return to your company's Supplier Dashboard within the

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UM tool at any time by logging in at <https://supplier.unimarket.com> with the login information you established during the registration process (Supplier email address and password).

Please click the link below to view and respond to the requirements for RFX #100100 Group Net Metering Purchase Agreement. Respondents are required to complete the Unimarket online registration or login to their existing account. Bid responses should then be submitted electronically via your Unimarket account.

Bid link: <https://supplier.unimarket.com/app/supplier/bid-request/view/rfq-uuid/ede9de6f-642c-4105-b664-58bd2fa76568>

If you have questions or require technical assistance please contact support@unimarket.com

Sincerely

Jackie Nyberg, Procurement Manager

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Clay Mitchell- testimony for SB 333

Email from Clay to ETF:

“Attached is my draft testimony for SB 333 as it heads to the House. I have tried to speak as an individual faculty member and not the ETF as a whole. The text in carrots is still under consideration for inclusion - not sure yet.”

Draft Testimony

<Date>

<STE HEADING>

Re: Senate Bill 333

Dear Members of Committee,

Thank you for the opportunity to testify on SB 333, an important issue related to the development of domestic sustainable energy. My name is Clay Mitchell and I am on the faculty at UNH. I teach Sustainable Energy and Environmental Policy. I also serve on the UNH Energy Task Force (“ETF”). The ETF advises UNH on a broad range of topics



related to energy and sustainability. In addition to other duties, we implement the campus climate action plan (WildCAP). Our efforts are supported by the action of students, staff and faculty. Together, we have reduced our impact on the environment and stabilized costs in many areas of the University budget and are <<well on the path to reach our greenhouse gas reduction goals of 50% by 2020 and 80% by 2050>>.

Currently, we benefit from renewable energy generated at our combined heat and power plant that is fueled primarily by methane gas transported to campus through the Ecoline from Turnkey landfill. In addition, we are also party to a group net-metered project with a New Hampshire hydro facility. <<Due to the structure of this project, we offset transmission and distribution costs by benefiting solely from the energy rate on the project; proving that even the fundamental concern regarding cost-shifting is limited. The power from this plant travels through a small portion of the utility infrastructure, it is more likely that this and similar projects are revenue-positive for the utilities serving them given their recovery of the full rate from customers receiving the power from the net metered project.>> In my research, we reviewed over 25 value of solar studies on net metering in the United States, the reports overwhelmingly found that net benefits outweigh net costs, even to non-participating customers of the utility given deferred investment, avoided cost of energy at times of production, etc. While we believe that a solution can be easily crafted through the PUC that will balance all stakeholder interests and enhance the role of our utilities in moving toward a clean energy future that is financially secure for NH, we recommend caution regarding any action that may limit the net metering rate prior to the PUC process.

Following our review of the benefits of net metering and domestic, clean energy projects in New Hampshire, we have decided to explore opportunities for enhancing our renewable energy portfolio through additional local net-metered projects. It is our hope to diversify these projects with a strong solar portfolio. As with all of our previous projects, we evaluate these options based on their ability to minimize the University's impact on our natural resources, develop and support a strong local economy, stabilize costs to the University and how they relate to our research and education missions.

For these reasons, I am writing you to support the removal of the cap from net metering pending PUC action. I also support an open, fair and objective process in the PUC to develop a long-range program for developing and supporting renewable energy in New Hampshire.

Without a release of the current limit on net metering, we cannot even contemplate additional projects at UNH given the energy load of the University. Our current portfolio of accounts under study that could be served by net-metered projects is in excess of 4 MW. These projects take time and require careful consideration given our diverse set of objectives and goals. With the current cap in place and with the proposed minor

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adjustment as found in the current bill, it makes our projects impossible to consider and will prevent a significant participant from coming to the market to provide the potential for strong investment in net-metered renewable energy projects. Finally, we are concerned that there are other institutions in similar circumstances as ours who are reluctant to engage.

Thank you for your time and your continuing efforts in serving the State of New Hampshire.

Very truly yours,

DRAFT

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