

**STONY BROOK UNIVERSITY SENATE**  
**University Environment Committee**  
Meeting of March 9, 2022, 1:00 PM EST  
Online meeting (Zoom)

In attendance: Tom Wilson (chair), Dan Amarante, Ria Bhutra, Malcolm Bowman, Carlos Colosqui, Tiffany Friedman, Terence Harrigan, Heidi Hutner, Gary Kaczmarczyk, Joanna Kaczorowska, Tom Lanzilotta, Michelino Puopolo, Christopher Sellers, Fred Walter.

1:05pm Meeting called to order.

Chair Tom Wilson welcomed Terence Harrigan, Associate Vice President for Facilities and Services and Tom Lanzilotta, Campus Energy and Sustainability Manager for a discussion of the University's Clean Energy Master Plan (CEMP).

Discussion was guided by a set of questions (appended to these minutes) that had previously been sent. Discussion points included the following:

With regards to Issue 1:

The current driver of energy goals for the University is the NY Climate Leadership and Community Protection Act (CLCPA) of 2019. Renewable Energy Credits (RECs) are not currently available as most are going to utility companies.

The University is still working on an East Campus Energy Master plan, with an executive summary coming in a week. The University intends to prepare a combined Energy Master Plan for the whole campus.

With regards to Issue 2:

The University's plans include considering a menu of RECs (solar, wind, hydro) as they become available

The current Calpine Cogeneration Contract expires in March 2023. A 7-year contract renewal is currently at the State Controllers Office and would allow on campus renewable energy installation. The Cogen plant produces 41 megawatts and provides waste steam for heat. It is fired by natural gas with fuel oil backup (3 tanks, 300,000 gallons each, located on East Campus).

With regards to Issue 3:

The current Cogen contract allows installation of alternative energy generation at South P Lot, Tech Park, and the R&D campus. The new Cogen contract will allow installation of alternative energy generation anywhere on campus.

With regards to issue 4:

The New York Power Authority has issued RFPs for solar at 9 University locations:

Carport type solar on the following parking lots:

Administration overflow, South P, R&D Building 17, CEWIT, Southampton Lot A.

Rooftop installations:

R&D Building 17, Southampton Chancellor Hall.

Ground installations:

R&D cross country field (would not interfere with current use), Southampton East and West cottages.

Timeline for these installations is 2-2.5 years out. Going forward the University hopes to install additional solar. Funding mechanism is uncertain.

New buildings will be designed to meet LEED Silver or better energy efficiency specifications.

At present there are no plans to site solar where tree cutting would be necessary.

With regards to issue 5:

Most rooftops on campus are unsuitable for solar installations because of preexisting complex heating, ventilation, and air conditioning (HVAC) installations.

Tom Lanzilotta is working on an updated Clean Energy Plan that would provide 15-18 megawatts of clean energy to Campus. The campus current energy need is 230 gigawatt-hours per year with peak loads of 42 megawatts. Going forward there will be projects to increase efficiency of mechanical and HVAC systems, possibly including geothermal as an energy source.

With regards to Issue 7:

Christopher Sellers asked what is being done to incentivize Calpine to move toward renewable energy. Terence Harrigan stated that the University has had conversations with Calpine and they are aware of our interest. TH stated that we are in a better position if we continue with the CoGen model with increasing amounts of renewable energy.

With regards to Issue 8:

Malcolm Bowman asked where will the University plug in to new and renewable energy. Have we thought about power from Hydro Quebec. Terence Harrigan replied that the University was working for more renewable power and more diversity of the grid.

With regards to Issue 9:

Tom Wilson: if asked, the Senate could send people to serve on Administration committees to leverage in-house expertise and skill.

The University is currently working on an Energy Master Plan to update building equipment for more efficient operation.

With regards to issues 10 and 11:

The University is looking into electrifying campus vehicles as part of a Energy plan module on transportation. Campus buses currently run on biodiesel blend. The University is working with the executive Director of Transportation to evaluate Protera electric buses.

Terence Harrigan: The upcoming Energy Master Plan will go after upgrading components of buildings. Unfortunately there is not the funding to completely retrofit old buildings. Funding has to be apportioned between deferred maintenance and upgrades for HVAC, mechanical, electrical systems. We are looking to invest where we can gain the most.

Tom Lanzilotta: much of the low hanging fruit with 2-3 year payback has already been done.

Heidi Hutner asked about heat pumps, terence Harrigan replied that it is not cost effective to retrofit but might be a consideration for new buildings.

Dan Amarante asked about motorized solar panels. Tom Lanzilotta replied that the University had looked at about 10 solar installers and tracking systems were not deemed cost effective.

Malcolm Bowman proposed prizes for energy reduction, might be timely since new monitoring systems allow building by building monitoring. Tiffany Freidman said it is important to educate the community about the issues and steps being taken by the University.

Terence Harrigan said that automatic lighting controls are very effective. LED retrofits are helpful in that they lower both energy and maintenance costs. TH also said that curtailing operations on unused buildings in summer can be helpful.

With regards to issue 12:

Director of Utilities, Energy Management and Sustainability Michael Marino has moved on. Terence Harrigan agreed that a larger group of professionals is needed to support energy conservation at the University. There is a lot of highly technical work that need to be done.

Malcolm Bowman asked about transportation and bus safety. Terence Harrigan replied that is under the purview of George Volz and Kendra Violet.

Chair Tom Wilson thanked Harrigan and Lanzilotta for their time and information.

Tom Wilson invited consideration of meeting minutes from February 9th. Tiffany Freidman moved and Dan Amarante seconded approval of the minutes as presented. The motion passed without opposition.

Discussion of the pandemic and University response: the “Omicron plus” variant was mentioned, we will have to see whether that produces any significant effects.

Tom Wilson expressed hope that we might be able to have our May meeting in person.

Without opposition, the meeting adjourned at 2:32pm.

Respectfully submitted,  
Thomas Wilson

University Senate Environment Committee  
Stony Brook University  
SBU Clean Energy Master Plan  
Questions for Discussion 2/28/2022

Issue 1: The report evaluates ten goals for campus energy transition, set by different parts of state government. It finds six to be currently unmet:

- 2025 – 100% Renewable Energy (SUNY; in 2019 Chancellor’s State of the University Address)
- 2025 – Reduce Carbon Emissions (NENY)  
<https://www.nyserda.ny.gov/about/publications/new-efficiency>
- 2030 – 50% Renewable Energy (EO166, announced in 2017; supplanted by Climate Leadership and Community Protection Act (CLCPA))
- 2030 – 70% Renewable Energy (CLCPA, passed in 2019)
- 2040 – 100% Renewable Energy (CLCPA)
- 2050 – 85% GHG Emissions Reduction (CLCPA)

Question 1: Have earlier goals set by the Chancellor’s address and NENY been changed or supplanted by the legislative mandates of CLCPA?

Issue 2: After reviewing current campus energy usage, existing goals, and current and anticipated options, it argues that “investing in offsite solar PV [photovoltaic] alongside implementing onsite solar PV is the most promising means for SBU to achieve its renewable energy goals.” Authors declare that their plan may be “the first of its kind for any New York State agency and SBU leads by example through this initiative to identify pathways to accomplish the different goals.”

Two companies (Orsted and Eversource) have made a \$5M commitment to Stony Brook University to support offshore wind research initiatives and are building an operation and maintenance hub in the greater Port Jefferson area to support off-shore wind energy farms in Long Island. Orsted and Eversource are not mentioned in the CEMP.

Question 2: Have the recently announced partnerships between SBU and Orsted and Eversource changed the calculus of solar versus wind as a source for renewable energy for campus?

Issue 3: As a solution, the report calls, first of all, for “investing in offsite solar,” which so far as we can tell, means turning away from its own microgrid to LIPA to meet the greatest portion of SBU’s clean energy quota. That involves an assumption that LIPA will be able to meet its own 2030 goals for 70% reliance on renewables. At the same time, the report rules out any reliance on a wholesale market for renewable energy administered by NYSERDA, as too costly and uncertain. It also calls for the campus to retain its Cogen plant through 2050, primarily because of the lower costs continued reliance on it will involve.

While Cogen plant will continue to be operational through 2050 according to the plan, renewable Energy Credits and offsite renewable energy procurement are expected to be used to meet the long term goals. The plan does not provide details about the current or future contracts for the cogen plant. Since the current contract hindered our ability to have other on-site energy sources, SBU must make sure that such restrictions are not part of the new contract.

Question 3: When will the CoGen contract no longer restrict alternative energy at all? Does the current contract restrict alternative energy deployment everywhere on campus or are there areas (South P lot, the R&D campus) where deployments can happen sooner?

Issue 4: While it also calls for investment in onsite solar, the short term investments envisioned there prior to 2030 seem confined to those already planned. SBU plans to install 2 MW of onsite renewables by 2025 and an additional 2 MW by 2030.

Skidmore College’s (Saratoga Springs NY) 2.6 MW solar array takes up 8 acres and comprises 6,950 panels:

<https://dynamicenergy.com/dynamic-energy-completes-2mw-solar-project-skidmore-college/>

this would imply that a solar field provides about 325 KW capacity per acre. A carport system would probably be half that capacity. South P-lot is 750 x 1,850 feet = 31.8 acres x 162 kw/acre = 5 MW just there, just carports,

Question 4a: Where and what type of onsite solar panels are currently planned for the 2 MW 2025 and 2MW 2030 installations? What is the envisioned funding mechanism?

Question 4b: If solar fields restrict future use of space, how about building roofs?

Question 4c: There are non-financial advantages of self-sufficiency. If bond money is available, such as the Governor’s proposed Environmental Bond act, could we build and own the systems ourselves rather than for example employ a public/private partnership with a for-profit solar company?

Question 4d: Can a priority be made to construct and encourage solar facilities on current hard surfaces - building roofs, carports, open fields - as opposed to clearing forests for solar farms?

Question 5: For the “off-taking from an offsite solar PV” will SBU engage in a Power Purchase Agreement? If the offsite solar project puts electricity onto the grid directly, how will the accounting be performed?

Question 6:: What are we doing to make active arrangements as opposed to working through NYSERDA and NYPA?

Question 7:: The report estimates a cost of \$89 million between 2030 and 2050 for achieving the stated long-term goals (\$4.5 million per year). Current campus energy usage exceeds \$52 million year. Could additional smart investments in clean energy and conservation be revenue positive by lowering total cost of energy provision?

Question 8: Most of the analysis is drawn from figures provided by NYPA. Is there a way to access the NYPA data directly?

Issue 9: Technology, the political landscape, and opportunities (partnership with offshore wind companies) are changing rapidly. Stony Brook has so much expertise and skill that could be brought to bear in deciding upon future plans in this critical area. The University should be nimble as things change and could be a leader in modeling the best and most forward thinking solutions.

Question 9: What is being done to build on the foundation of this valuable report, keep our plans current, and leverage available expertise?

Issue 10: The plan for solar panels along with the cogen plant that forms the campus (micro)grid could potentially provide an opportunity for researchers in the university to study the grid and develop better methods/technologies for future grids. While helping the university secure more research funding in this area, the campus could serve as a model for the future deployment of similar systems.

Question 10: What would be the general costs of installing energy storage systems in buildings? Would it be possible to install smart microinverters (e.g. Enphase IQ8) to complement energy storage systems and provide backup power to critical systems such as living organism support, sample freezers, etc? Could such systems be part of the design of the new Engineering building?

Issue 11: Conservation including building efficiency is specifically addressed in this report.

Question 11a: What is the energy conservation and compliance status of our current buildings?

Question 11b: For those buildings that are not in energy compliance, are there renovation plans?

Question 11c: Is there a specific goal/time frame to have all buildings up to current energy codes?

Issue 12: The organizational chart for Utilities, Energy Management, and Sustainability:  
[https://www.stonybrook.edu/commcms/facilities/\\_pdf/FSDivisionOrgChart.pdf](https://www.stonybrook.edu/commcms/facilities/_pdf/FSDivisionOrgChart.pdf)

Lists 40 positions in the Power Plant, 36 positions in HVAC, 18 positions under Utilities, but only 3 positions for Energy Management and Sustainability.

Question 12: Could additional personnel investments in Energy Management and Sustainability actually reduce overall costs for the University and assist in attainment of the CLCPA mandates?