

Carbon Neutrality Task Force Meeting Minutes
Friday, February 4, 2022

Attendees: Cindy Paavola, Kathy Richards, Brandon Sager, Jim Thams, Mike Bath, Sarah Mittlefehldt, Jes Thompson, Randy Klitzke, Bethany Beavers.

Absent/Excused: Gavin Leach.

Guests: John Hodge and Justin Buchhop, Black & Veatch, Campus Energy Master Plan engineering consultants.

1. Welcomed John Hodge and Justin Buchhop. Each provided a brief bio of their past experience and their role in the development of the university's campus energy master plan.
2. Task Force Members introduced themselves to the consultants and each noted their interest in being on the task force. Update from Kathy Richards that Nicole Shoup resigned from the task force due to her current work load obligations.
3. Approval of Past Meeting Minutes
 - a. January 21, 2022-no corrections required.
 - b. Motion to approve minutes from January 21, 2022 was made by Jim Thams, seconded by Mike Bath. Motion carried.
4. Overall goals of the Carbon Neutrality Plan that were discussed.
 - Achieve carbon neutrality by 2050 in the most economical way possible.

John Hodge questioned what was meant by "most economical way" and explained that most carbon neutrality initiatives do not have a payback and he asked if there are spending limits. Cindy Paavola explained that the university will need to explain all expenditures in a very logical way that makes sense to campus and that makes sense with what we have now for infrastructure. The university understands that it will have to make investments. Jim Thams noted that the task force needs to be conscious of the impact that recommendations have to department budgets ie. hybrid vehicles. Cindy noted that the university prides itself in being the second most affordable university in Michigan and that, while NMU students are very concerned about the environment, not all can afford higher tuition or additional costs due to sustainability efforts. The university needs to be fiscally responsible. For instance, if equipment is in good condition, has reliable life remaining and is not doing detrimental harm to the environment, it should not be replaced prematurely. Funding could be put aside through the years so that when the equipment needs to be replaced based on its age and condition, the funds will be available for its replacement with a system that is more carbon neutral. The outcome of

the carbon neutrality plan is to develop an implementation schedule for proposed initiatives.

After much discussion, a recommendation was made by Randy Klitzke to change “economical way” to “financially responsible.” All agreed.

- Identify top opportunities for working toward carbon neutrality.
- Provide opportunity for academics to be involved with initiatives.

John Hodge asked for ideas on how to involve students in the process. The intent is to involve students as much as possible. Sarah Mittlefehldt has students now doing research in multiple initiatives as part of their grad project.

- Develop authentic carbon neutrality plan with transparent measurement and reporting system.

John Hodge asked if renewable energy certificates (RECs) would be considered as part of the carbon neutrality plan. Cindy Paavola noted that whatever we do, we are setting an example to our students; purchasing large quantities of RECs to reach carbon neutrality rather than looking at what can be done first might be considered an easy way out of making tough choices and doesn't set the example we want to set for students. The consensus was to do as much as we can at each stage and then consider zeroing out with RECs. John Hodge agreed that the university should not rule out RECs but consider them after doing all it can economically do with the available resources it has.

5. Reviewed the Northern 2030 Sustainability Plan Recommendation regarding Carbon Neutrality

Strive for Carbon Neutrality (*updated by Carbon Neutrality Task Force to be broader*)

- a. Renewable Energy Investment (transition to at least 35% renewable energy by 2030)
- b. Improvement of infrastructure and energy efficiency in existing and future facilities on campus
- c. Replace 50% of NMU's current transportation fleet with electric/hybrid vehicles by 2030, with complete transition by 2050

6. Reviewed the Criteria for Analyzing Initiatives Proposed for Carbon Neutrality Plan.

Top Priorities

- a. Financial Viability

- i. Consider Life Cycle Costs; Total Cost of Ownership
 - ii. Opportunity Cost
 - iii. Other Potential Financial Resources/Subsidies
- b. Tie to Academics
- c. Emissions Reduction Impact
- d. Measurability & Trackability
 - i. Probability of Success
 - 1. Behavioral Change/Extent of Campus Participation Required

Logistics

- a. Product Life Cycle/Proven Technology
- b. Maintenance Impact

Extra Benefits

- a. Local Economic Benefit
- b. Recruitment/Marketing Impact/Visibility
- c. Help Achieve Energy Independence
- d. Community engagement/social impact
- e. Things that are "distinctly Northern"

7. John Hodge shared the scope of work that Black & Veatch is working on to develop a Campus Energy Master Plan.
 - a. Reviewing the university energy data and developing a model of its energy usage.
 - b. Reviewing the university's facilities condition assessment and preparing a timeline illustrating the logical replacement of major equipment/systems.
 - c. Developing an understanding of what energy usage is projected to be used based on the campus master plan for new buildings and noted building demolitions.
 - d. Identify technologies to serve the university's energy needs. Some technologies may be available now and are well established and some may be in development. A gap may exist that will need to be addressed by future, unknown technologies.
 - e. Conduct a brainstorming session with the task force to capture all ideas for screening. Initially all options will be put on the table for consideration, however in the prescreening process some ideas will be found to be inappropriate for the location and climate of the campus, and some technologies may require significant development. Present technology options passing the prescreening hurdle to campus for feedback and get input to determine which options to be used in the economic analysis.
 - f. Perform economic analysis on selected options.
 - g. Develop implementation schedule on final selections. Schedule will show when to implement each option and its expected cost.

8. Ideas for acquiring student feedback were discussed including scheduling a forum and hosting charrettes in student high traffic areas such as Jamrich or Northern Lights Dining. Jim Thams noted that past design charrettes were most successful when there was a graphic display for the students to react to. ASNMU and EcoReps will be asked to help promote the events.
9. Potential energy sources were discussed including the use of Lake Superior water to cool university buildings and burning biomass in the Ripley Plant. Jim Thams will share a map with Black & Veatch indicating the property NMU owns along the lakeshore with its widest area being only 50 feet or less. Sarah Mittlefehldt asked to consider how burning biomass compares to the use of other technologies. John Hodge indicated that both ideas were worth reviewing further.
10. Next Scheduled Meeting: February 18, 2022, 11 am
 - a. Future Agenda Items
 - i. Prioritize areas of focus based on cost and impact
 - ii. Determine how progress will be measured for each goal
 - iii. Experience exchange with potential local partners-City of Marquette, Marquette Board of Light and Power
 - iv. Review of campus space use analysis process-Jim Thams
 - v. Review progress on assignments from Dec. 3rd meeting
 1. University-owned Vehicles: Jim Thams and Mike Bath will provide inventory and annual fuel usage.
 2. University-owned Grounds Equipment: Jim Thams will provide inventory and annual fuel usage.
 3. Trees: Jim Thams will work with Sarah Mittlefehldt to have a student group/class inventory trees on university property via GIS app.
 - vi. Review potential carbon emission reduction initiatives presented by Black & Veatch tentatively at the March 4th meeting.

Areas of Focus for Sustainability Plan and Carbon Neutrality Plan

SUSTAINABILITY PLAN

Waste Minimization/Diversion

Recycling

Composting

City Water Use Reduction

Storm Water Diversion

Education & Awareness

Employee Educator Program

Promoting Bicycle Use

Purchasing Policies

Sustainability Curriculum

Research

Food & Dining

Green Fund Application Review

Wellbeing & Work

Assessing Diversity and Equity

Communication

Local Partnerships

CARBON NEUTRALITY PLAN

Carbon Emissions-*Need Greenhouse Gas Inventory*

Energy Efficiency/Conservation-Electric and Gas-*Part of CEMP Process*

Sourcing of Electricity-*Part of CEMP Process*

Natural Gas for Ripley Plant-*Part of CEMP Process*

Natural Gas-Heating for Other Buildings-*Part of CEMP Process*

Refrigerants-*Part of CEMP Process*

Renewable Energy-*Part of CEMP Process*

Renewable Energy Credits-*Part of CEMP Process*

Air Conditioning-*Part of CEMP Process*

Natural Gas for Cooking-*Impacted by CEMP Process*

University-owned Vehicles

University-owned Ground Equipment

Trees

Building Construction

Space Utilization

Communication

Local Partnerships

Faculty/Staff/Student Commuting