



University of Massachusetts Amherst Amherst, Massachusetts Transportation

SCHOOL

UMass Amherst, public four year university, 27,569 undergraduate and graduate students, Amherst Massachusetts.

ABSTRACT

This case study describes a project to study the feasibility of converting the buses of the Pioneer Valley Transit Authority bus system, the main public transportation system in the area surrounding the University of Massachusetts, to operate using biodiesel. The study resulting from this project would include a determination of the availability of biodiesel fuel in the Pioneer Valley as well as the costs that would be involved in converting the buses. A carbon



impact analysis would also be performed, taking into account such factors as carbon emissions created in transporting the fuel and the degree to which carbon emissions from the busses themselves would be reduced. In addition, work would be done to increase awareness of biofuels and their potential uses at the University of Massachusetts and in Five College Consortium.

GOALS AND OUTCOMES

Goals

- Completion of feasibility study
- Assuming positive finding in feasibility and carbon impact study, completion of a pilot project in which on bus would be converted to biodiesel.
- Implementation of awareness programs at each of the five colleges
- Conversion of PVTA buses to biodiesel, if this proves desirable.

Accomplishments and Outcomes

The Project is still in the planning and research stages, and work on the feasibility study is on track based on our timeline. We have gained the support of the UMass Campus Physical Plant, which has used a B20 biodiesel mix for many years. The Physical Plant controls many vehicles involved in maintenance on campus but not the PVTA buses operated by the University. Members of the Physical Plant have offered to allow us to use of a vehicle from their department for tests of biodiesel products.

Challenges and Responses

So far the UMass community and administration have been very receptive to the project. The Environmental Performance Advisory Committee has offered to support an effort to convert the PVTA buses to biodiesel should my feasibility study prove favorable.

Campus Climate Action: Your School's Carbon Footprint

As this project is still in the planning and research stage, we have not yet directly affected greenhouse gasses, but we anticipate that, if successful, an effort to convert PVTA buses to biodiesel would directly impact greenhouse gas emissions in the Pioneer Valley. If, as a result of the feasibility study, it becomes evident that such a changeover would not reduce emissions substantially, the project would indirectly address climate change in providing us with more information and allowing us to focus on an area of inquiry that would be more suitable.

Similarly, the awareness projects would help indirectly address the problem of climate change. We hope to inform people about biodiesel and through that process promote activity in the pioneer valley area toward sustainable transportation.

Commentary and Reflection

For those considering transportation based sustainability projects on their campus, I would encourage them to consider what will fit best with the current transportation modes on their campus. Some methods of improving sustainability in campus transportation can be better suited to some campuses than others. Also attempt to get as many people and groups involved in the project as possible. This will increase the resources at your disposal.

ENGAGEMENT AND SUPPORT

Leaders and Supporters

Sue Leschine, Professor of Microbiology and my advisor for the Campus Ecology Fellowship, has been extremely helpful in supporting my efforts in the project and advising me on useful sources of information in my research. The Environmental Performance Advisory Committee has also been instrumental in ensuring the success of the project by endorsing it from the beginning and offering continuing support.

Funding and Resources

This Project is supported through a Campus Ecology Fellowship grant of \$1,000. We anticipate using these funds a pilot project with a PVTA bus and supplies for awareness raising events. We are also currently seeking support of the pilot project from local biodiesel producers.

Education and Community Outreach

We plan to hold awareness raising projects at UMass and, if possible, each of the colleges in the Five College consortium: Amherst College, Mt. Holyoke College, Smith College, and Hampshire College. These events will be designed to raise awareness of green transportation generally and biodiesel in particular.

National Wildlife Federation's Campus Ecology Program

This project would not have been possible without the funding of the National Wildlife Foundation through the Campus Ecology program. In addition, attending the National Wildlife Federation's 75th Anniversary Young Leader's Assembly was extremely helpful in allowing me to discuss sustainability and my project with other Fellowship recipients. This helped me develop and refine ideas for the awareness portion of my project.

CONTACT INFORMATION

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MORE ABOUT YOUR SCHOOL

Campus Sustainability History

The Environmental Performance Advisory Committee is involved in many greening efforts throughout the University. Their website can be found at <http://www.umass.edu/epac/index.htm>.

Projects include initiatives to use sustainable foods in the dining halls and to encourage more recycling on the part of students. There is also a program to encourage student sustainability called the EcoRep program. Student EcoReps take sustainability courses and become environmental representatives to a certain dormitory floor information about the EcoRep program can be found here.

<http://www.umass.edu/ecorep/>

Image credit: Sarah Zuraw