Creating an Energy Transition Plan for Michigan State University

Spring 2011

www.energytransition.msu.edu
Why do we need a transition plan?

• MSU is committed to a sustainable future

• MSU’s power plant is expected to reach its capacity for steam and electricity in the next 10-15 years

• Energy costs are rising and air quality and emissions legislation is quickly progressing, constraining fuel choices
A transition to renewable technology

• Non-renewable energy sources will eventually run out or be too expensive to use

• Renewable energy sources are thought to be the long-term solution

• However, today’s renewable energy technology is not sufficient to meet the needs of the university
Recent energy initiatives

• LEED based construction standards
• Fuel switching
• New HVAC practices and policies
• Retro commissioning teams
• More efficiently scheduling classes and events
• Sustainability Seed Grant
Collaborative research

- Energy Plug Load Study
- Community Preferences for Energy
- Community Decision Making
- Power Plant Decision Making
- Anaerobic Digester Study

Research briefs available at www.bespartangreen.msu.edu
Power at MSU

• The T.B. Simon is a co-generation plant that produces steam and electricity
  • Heats and cools buildings
  • Generates electricity
What fuels can each boiler at the T.B. Simon Power Plant use?

- **Coal**
- **Biomass**
- **Natural gas**

**Fuel compatibility of boilers**

**The four original boilers can burn coal and biofuels.**

**The fifth boiler uses only natural gas.**
Existing renewable energy projects

- Geothermal heating system at Life Sciences
- Solar panels at the Pavilion
- Solar panels at the MSU Surplus Store and Recycling Center
- Biomass used in the power plant
Preparing for an energy transition

• Assessment of current infrastructure
• Examine potential new technologies
• Consultant’s report is available at www.energytransition.msu.edu
Energy transition process

- The Energy Transition Plan will focus on optimizing variables such as:
  - capacity
  - cost
  - reliability
  - environment
  - health
Steering committee

- Students, faculty, staff and administrators with multiple areas of expertise

- Develop goals and strategies for public feedback and external review
Steering committee faculty

- **Wolfgang Bauer**, Physics and Astronomy, Institute for Cyber-Enabled Research
- **Jennifer Carter-Johnson**, College of Law
- **Thomas Dietz**, Sociology and Environmental Science and Policy Program
- **Brian Jacobs**, Supply Chain Management
- **Satish Joshi**, Agricultural, Food and Resource Economics
Steering committee faculty

• Leo Kempel, Electrical and Computer Engineering
• Elizabeth Lawrence, Human Medicine
• Tim Mrozowski, Planning, Design and Construction
• Kenneth Rosenman, Occupational and Environmental Medicine
• David Skole, Forestry
Public outreach and engagement

• Educate the campus on basic energy principles

• Inform community about the process and create opportunities for feedback and participation
  • Energytransition.msu.edu
  • Online feedback forms
  • Public forums
  • Social media polls
  • Key stakeholder presentations
Energy transition process

Set Goals → Feedback Process → Set Strategies

Feedback Process → Write Plan → Submit to BOT
Timeline and outcomes

• The steering committee will submit the plan to the Board of Trustees in early winter 2012

• If adopted the plan will set standards and govern future energy decisions

• The document will be reviewed and updated every five years
Feedback

Please direct questions and comments to the feedback form on

energytransition.msu.edu