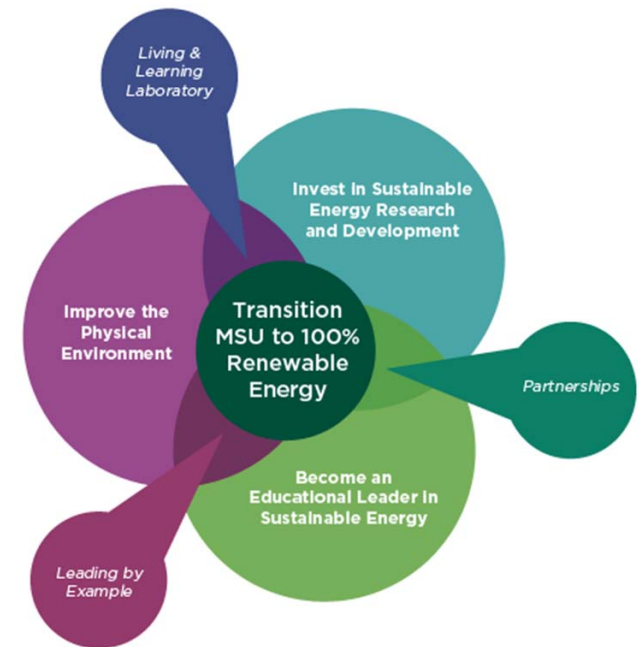


Energy Transition Plan

Jennifer Battle
Office of Campus Sustainability



Charge to the Committee

- Develop an energy plan that provides an overall direction and key milestones for MSU
 - Strategic vs. operational
 - Goals based on today's technology
 - Strategy recommendations



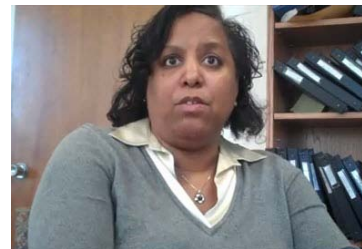
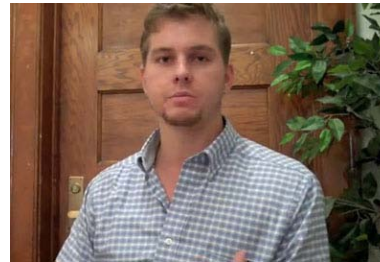
MSU's Main Challenges

- Capacity
- Cost
- Reliability
- Health
- Environment



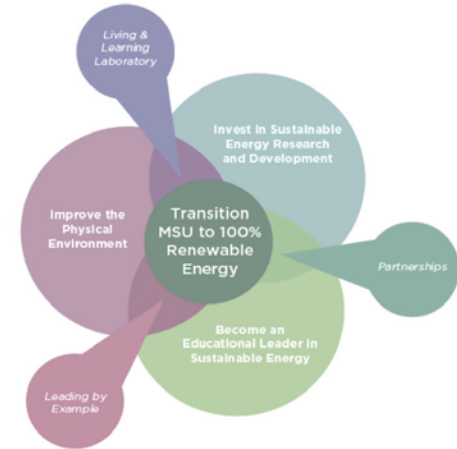
Energy Transition Plan Steering Comm.

- Students, faculty, and staff with a passion for the charge and expertise in environment, engineering, economics, health, and behavior



MSU ENERGY TRANSITION PROCESS

MSU is dedicated to moving towards 100% renewable energy



January

February

April

September

President Simon receives the Energy Transition Plan.

Board of Trustees will vote on the Energy Transition Plan.

2011

2012



Energy Transition site is launched with comment form.

Feb. 25 - First steering committee meeting.

Feb. 24 - First energy transition outreach meeting.

Apr. 23 - First of 10 Energy Portfolio modeling sessions begin and run through October.

Sept. 13 - First of 5 Energy Transition town hall meetings held.

January

April

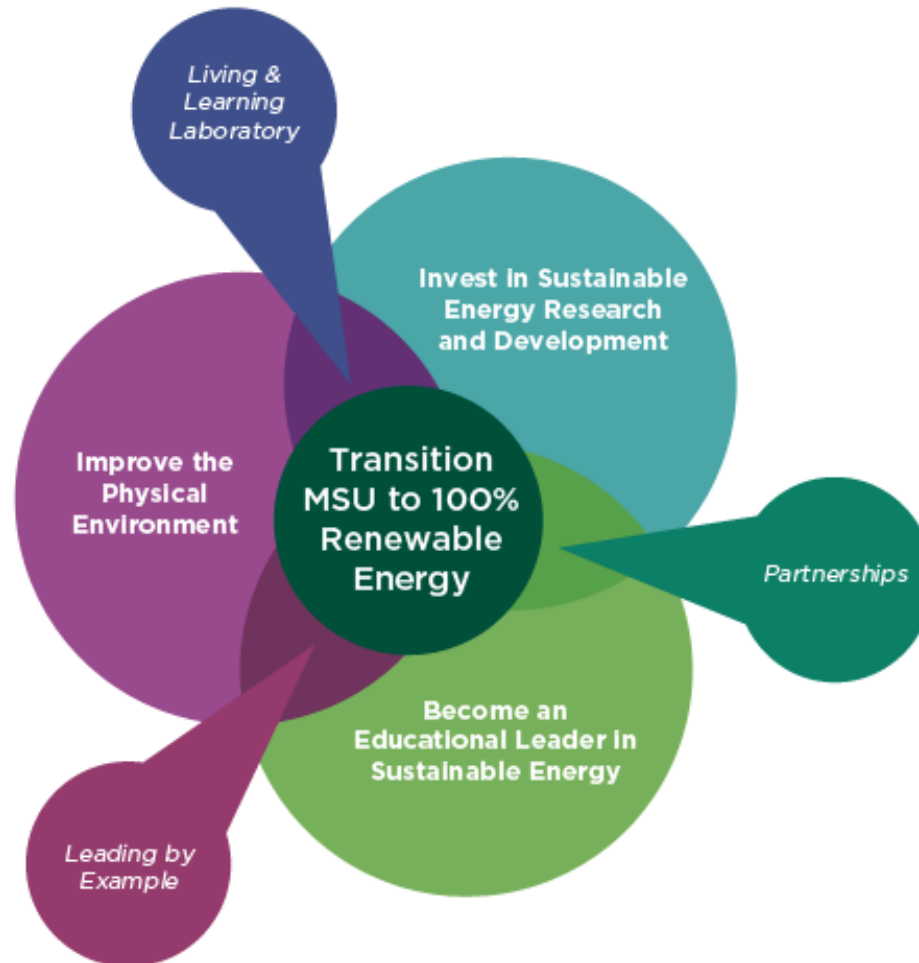


Integrated Energy Planning Model

- Model that integrated MSU-specific data
- Understand the effect of strategies on multiple factors, e.g. cost, environment
- Allowed committee to set targets based on what could be reasonably achieved with current technology



Making the Transition

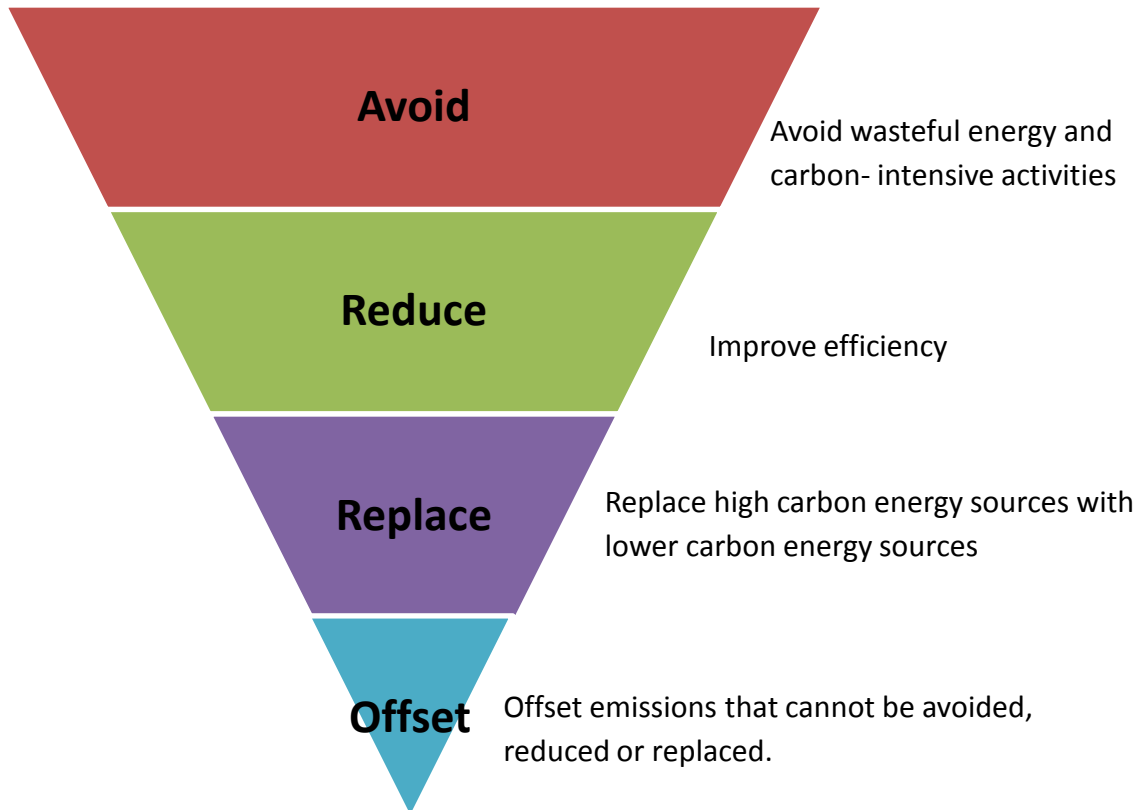


Goal 1: Improve the Physical Environment

	% Greenhouse Gas Emission Reduction	% Campus Renewable Energy
FY2015	30	15
FY2020	45	20
FY2025	55	25
FY2030	65	40



Priority for Strategies



Avoid

- Pursue aggressive energy conservation and re-invest energy savings for future energy needs
- Implement a smart growth strategy to minimize the amount of new square footage added to the campus
- Create a system that connects energy and space costs and incentives to end users



Reduce

- Implement more aggressive building energy standards
- Continue to monitor and improve energy efficiency standards
- Implement smart-grid technology



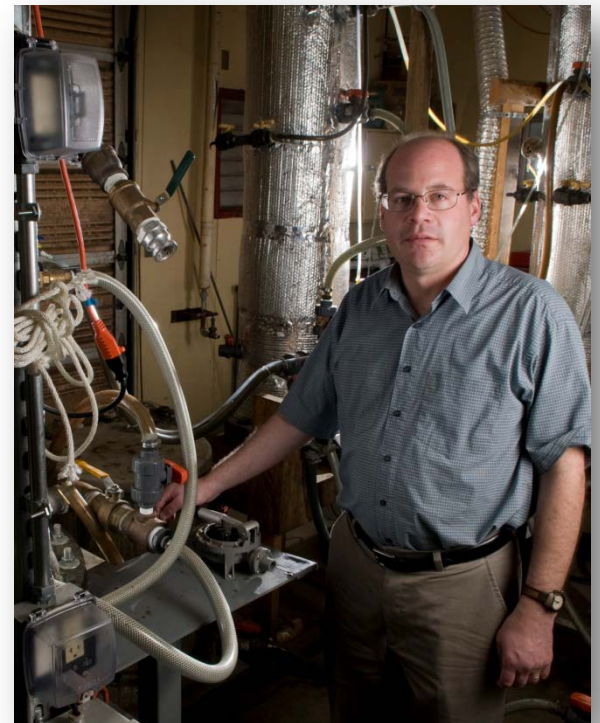
Replace, Offset, Other

- Maximize switching to alternative cleaner fuels (subject to availability, technical and regulatory constraints)
- Purchase green power
- Create a large-scale renewable project
- Utilize carbon offsets
- Educate the community on MSU's energy system and continue behavior change for energy conservation



Goal 2: Invest in Sustainable Energy R&D

- Using the campus as a living, learning laboratory
- Building on current research and expertise
- Funding for sustainable energy demonstration projects
- Streamlining systems for cross-functional collaboration



Goal 3: Become an Educational Leader in Sustainable Energy

- Educate stakeholders about MSU's long-standing commitment to and ongoing research in sustainable energy
- Share MSU's Energy Transition Plan process and lessons learned



World Grant Ideal



A Living Document

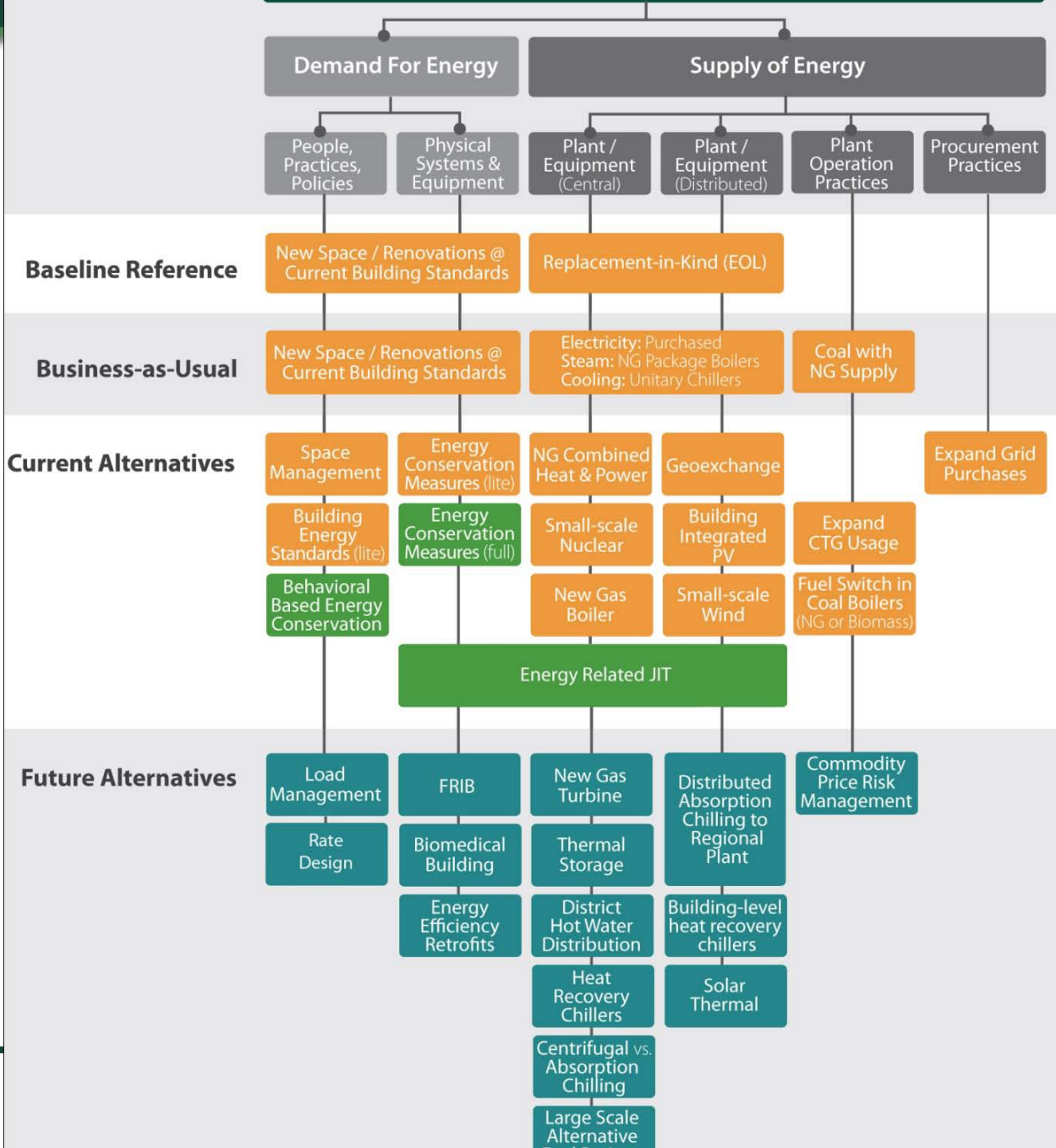
- If approved by BOT in April, plan will guide future energy decisions
- Implementation will begin immediately via an Energy Operations team
- Review of technologies, assumptions, goals, targets every 5 years



Integrated Energy Planning Model Demonstration



MSU Energy Management Options



energytransition.msu.edu

