



**M** | planet blue  
UNIVERSITY OF MICHIGAN

Sustainability Town Hall

11.5.2015



WELCOME from PRESIDENT MARK SCHLISSEL





# GREENHOUSE GAS (GHG) REDUCTION

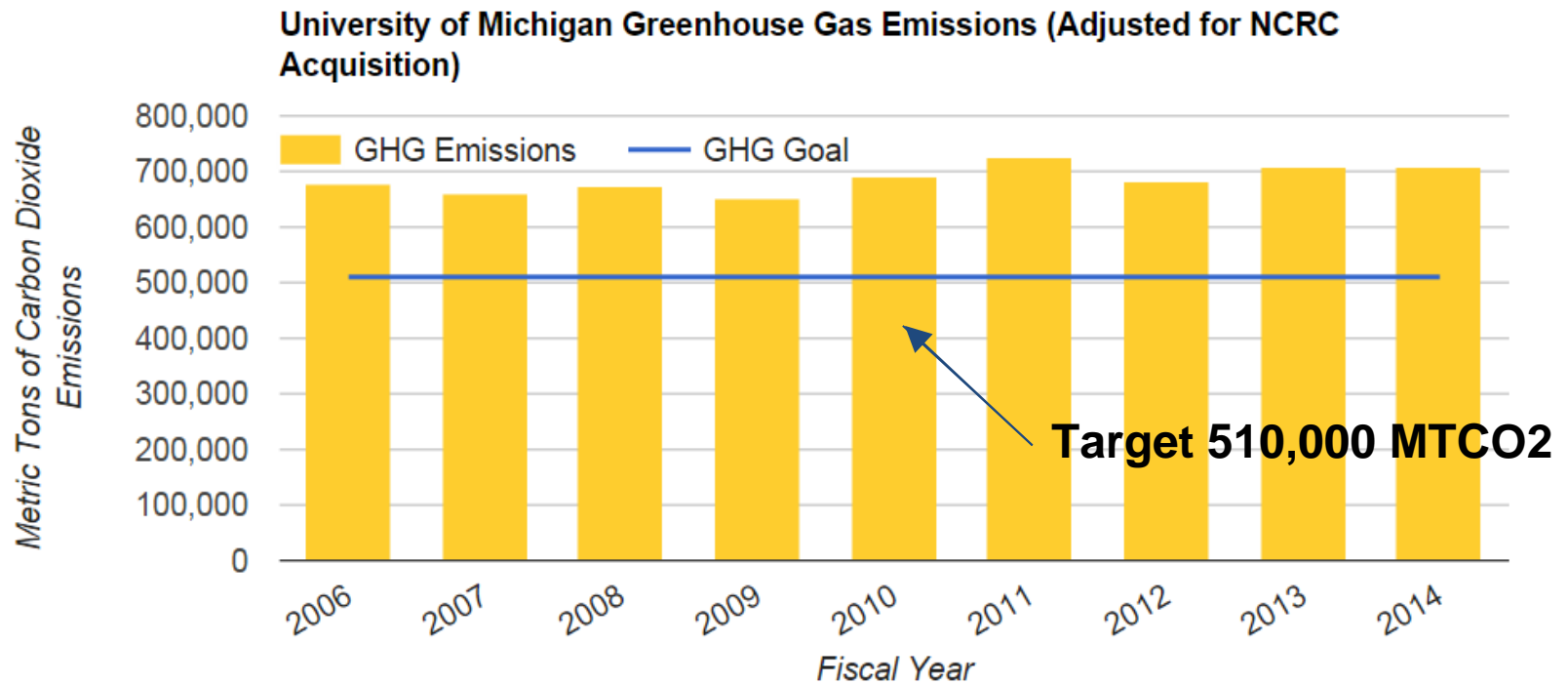
Rich Robben, Executive Director, Plant Operations Presenting

Dr. Mark Barteau Director University of Michigan Energy Institute Co - Chair

- Expand use of Cogeneration at the Central Power Plant
- Fund for Renewable Energy Demonstration Projects
- Extend Energy Reduction Efforts Across Campus
- Seek Additional Methods for GHG Reduction

# Greenhouse Gas (GHG) Reduction Goal

Reduce Greenhouse Gas Emissions by 25% from 2006 levels by 2025



# Expand use of Cogeneration at the Central Power Plant

Increasing the capacity of our combined heat and power plant will make a significant contribution toward the goal.

- Replace purchased electricity from the local utility which is predominantly coal fueled resulting in higher GHG emissions
- Improve the efficiency of the electric and steam cycles through Co-Generation
- Technical analysis currently underway with expected construction completion in 2 years. (Board of Regents approval Necessary)



# Establish a Fund for Renewable Energy Demonstration Projects

Incentivize new and innovative approaches and connect to research capabilities on campus. This is envisioned as:

- Competitive Student and Faculty competition for demonstration projects.
- Expectation is the development of innovative renewable energy strategies to be implemented / demonstrated on campus
- Details of administration, rules, awards and other specifics still to be work out.



# Extend Energy Reduction Efforts Across Campus

The University will expand the Planet Blue Energy Management Program in the existing general fund buildings and to all auxiliary and other buildings.

- Expand Planet Blue Energy Management program to include all segments of campus.
- This includes the University Health and Hospital System, Michigan Athletics, Student Life and others.
- Support of efforts to reduce energy use on campus will include development and implementation of energy reduction projects.

# Seek Additional Methods for GHG Reduction

The University will seek additional large scale opportunities to provide renewable energy to campus. Some of these opportunities include:

## On Campus

- Photovoltaic Panel Arrays
- Small wind turbine generation
- Landfill derived clean natural gas for use in central power plant and satellite boiler plants
- Expand Cogeneration on North Campus
- Other Policies and Technologies TBD

## Off Campus “offset” projects

- Large Photovoltaic Panel Arrays
- Large Wind Turbine Generation
- Other Technologies TBD







## WASTE REDUCTION

John Lawter, Associate Director of Building Services & Grounds  
Tracy Artley, Sustainability Programs Coordinator for PBGS

*Reduce waste sent to landfills by 40% by 2025 from 2006 levels*

- Establish University-wide recycling/composting/waste bin and signage standards.
- Conduct a Detailed Waste Stream Study for the Health System.
- Implement a University-wide Organics Composting Program including expanding the “Zero Waste” Events Program.
- Work Toward “Zero Waste” Football Stadium

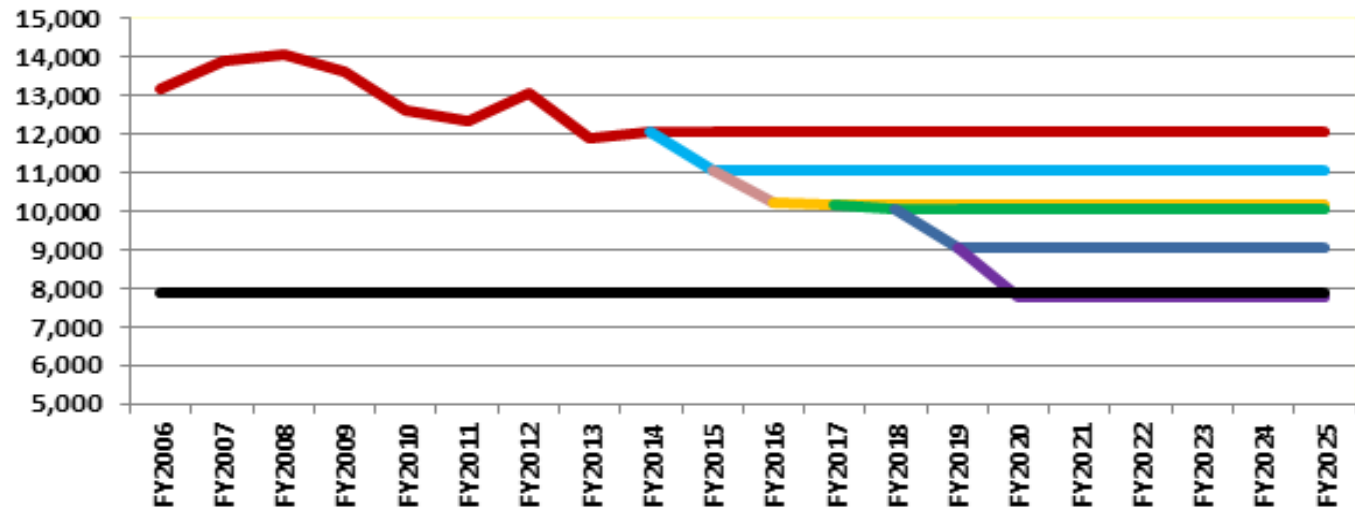
# Waste Reduction Goal

*Reduce waste sent to landfill by 40% from 2006 baseline by 2025.*

- Goal set in 2011 through the Integrated Assessment Report
- Stretch goal that will inspire and challenge the University to make fundamental changes in how waste is treated.



## University of Michigan Waste Diversion Options 0% Campus Growth - (Tons)



- Waste tonnage
- Improve recycling. Reduce recyclable content of WMS collected trash to 0%
- Expand pre-consumer
- Pre + Post consumer: Catered events and dining hall plate scraping
- Pre + Post consumer: All food waste from Unions and Res Halls
- All food waste from all of campus
- Goal

# Establish University-wide recycling/composting/waste bin and signage standards.

- Decentralized nature of U-M has produced a wide variety of bins and signage since recycling began in 1989.
- Consistent standards for collection bins, signs, labels and messaging will make preferred waste handling simpler.
- Scope Development
- Collaboration with **Culture Team**
- Stakeholder involvement is essential:
  - Faculty & Students
  - Major schools/colleges/departments
  - Interior Design
  - Custodial & Waste Management Operations
  - Athletics
  - Student Life
  - Health System

# Conduct a Detailed Waste Stream Study for Health System

- The U-M Health System accounts for nearly half of the University's solid waste generation.
- Unique waste stream creates a challenge as well as providing opportunities.
- Study will identify the types and quantities of waste generated by the Health System.
- Study will also provide recommendations on diverting these streams from the landfill.
- Health System to lead this effort.

# Implement University-wide Organics Composting Program

- Food waste composting began on campus in 1997.
- Great strides have been made to expand pre-consumer food waste composting to dining facilities and introducing post-consumer food waste collection as well.
- Efforts will focus on improving existing programs and expanding post-consumer food waste composting where feasible, including promoting an institutionalized and expanded zero waste events.
- Potential 30%-42% contribution to the waste reduction goal.

# Working Toward a “Zero Waste” Football Stadium

- Significant due to the visibility and educational opportunities.
- Athletics will lead.
- Convening a group of stakeholders that will begin working on the development of a Zero Waste prototype at the Stadium during the 2016 season.
- Potential additional stakeholders:
  - Waste management operations
  - Procurement
  - Vendors
  - Campus communications
  - Fan base



# BUILDING A CULTURE OF SUSTAINABILITY

Drew Horning, Acting Director, Graham Sustainability Institute

## Sustainability Culture Committee Recommendations



# Committee Membership

## **17 Students, Faculty and Staff, representing:**

Athletics

College of Engineering

Graham Sustainability Institute

Health System

Institute for Social Research

LSA - Psychology

Matthaei Botanical Gardens & Nichols Arboretum

Office of Campus Sustainability

Office of Global Communications

School of Information

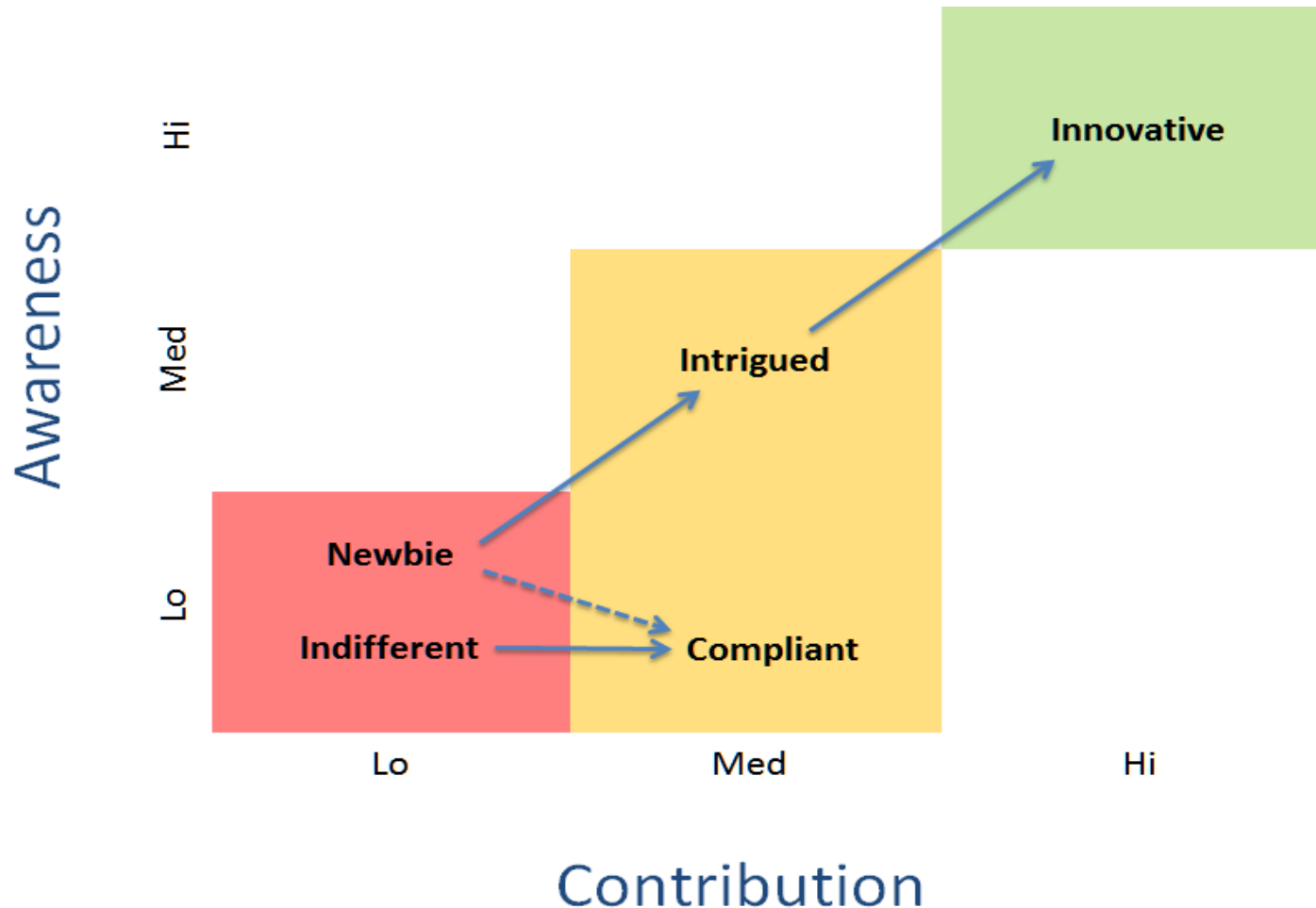
School of Natural Resources & Environment

Student Life

# What is a Culture of Sustainability?

*Awareness, dispositions, and behaviors that  
foster a more sustainable campus*

# U-M Community Member Sustainability Engagement



## Major Statements (Recommendations)

- **Establish zero waste athletics program**
- Build a net zero building for learning and research
- Redesign outdoor spaces to showcase sustainable landscapes



## Infrastructure & Policy (Recommendations)

- **Uniform and consistent recycling bins and signage**
- **Composting infrastructure for zero-waste events**
- **Institutional support for sustainable procurement**
- **Public transit access to all campus locations**



# Living-Learning Initiatives (Recommendations)

- **Renewed support for existing sustainability initiatives**
  - Planet Blue Student Leaders
  - Planet Blue Student Innovation Fund
  - U-M Sustainable Food Program
  - Student Sustainability Initiative
  - Planet Blue Ambassadors Program
- **Sustainability Learning Community Program in U-M Housing**



# Communications (Recommendations)

- **Planet Blue Communications budget**
- **Strategic messaging from the President and other executives**
- **Ensure new campus members receive info about best practices**
- **Staff awards to recognize accomplishments / encourage innovation**



## GETTING ENGAGED

Terry Alexander, Executive Director OSEH & Office of Campus Sustainability

In addition to issues addressed by the committees, other commitments were made:

- **Studying possibilities for enhancing transportation in Ann Arbor.**  
The university will fund the majority of a major study exploring new possibilities for transportation in Ann Arbor including how we can better connect our campuses.
- **Increased investment in stormwater management.**  
Improvements on campus will have a broader community benefit as well.
- Commitment going forward to establish a standing committee of faculty, staff and students to discuss goal progress and new projects/programs.
- **Engaging the U-M community**