WELLESLEY SUSTAINABILITY

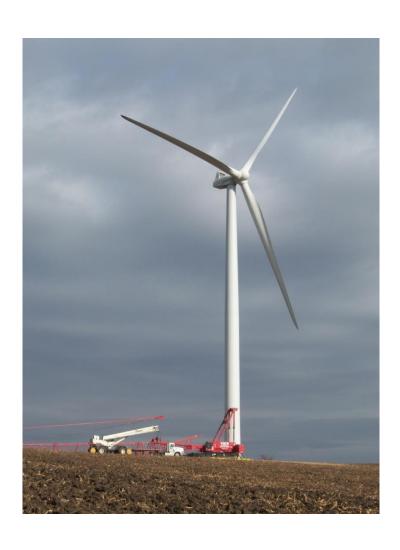
December 6, 2018



Introduction

- Sustainability!
- •Climate Change!
- •Global Warming!
- •Green!
- Is anyone listening...?
- Is this the right vocabulary?
- How do we connect? How do we make this real?

Wind/Solar Resources







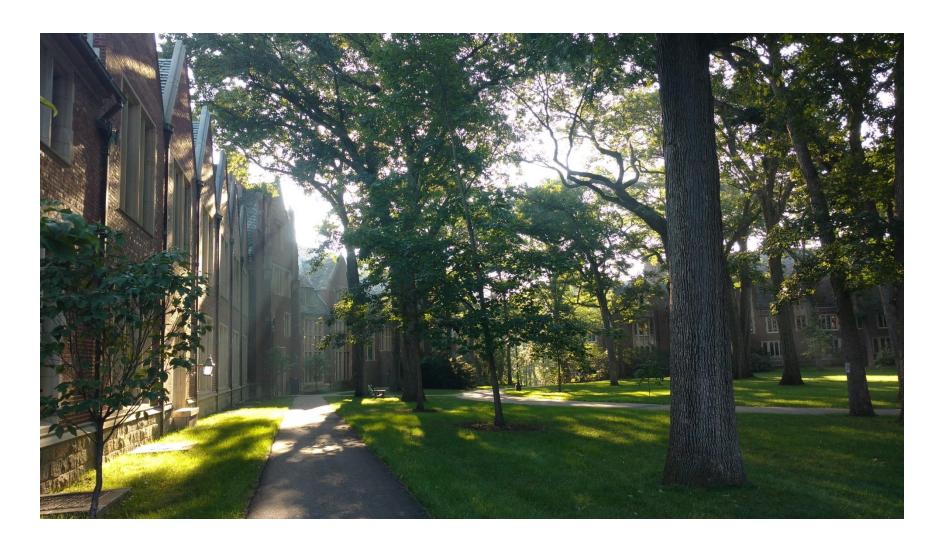
Bio-Gas Plant







Wellesley College



Introduction

- Maybe we should be asking...
- What am I breathing?
- What am I drinking?
- What am I eating?
- Where does all this stuff I have, come from?
- Where does all this stuff I have, end up?
- Where do people where I live, work?
- What are they doing?
- What are their living conditions?
- Where am I going to work and what will I be doing?
- What kind of living conditions will I have?

Introduction

- Sustainability Three impacts
 - Ecology/Environment
 - Economy of resources money, materials, energy, labor, etc.
 - Society

The conversation begins with these... We need to make this conversation "real"... not just "ideal"...

Responsibility

- Educational Institution responsibility
 - We are educating the next generation of
 - Leaders
 - Policy makers
 - Scientists & Engineers
 - Educators
 - Medical personnel
 - Innovators & Entrepreneurs
 - Business professionals
 - Writers, artists
 - Social Science professionals
- Knowledge is power; the power to change
- Our challenge is to "help make the connection"...
 To show how this can work... to make it "real"

"Out of Box" Thinking

- Need to encourage a revised "way of life" on Campus
 - How students live/study
 - How we work staff and faculty
 - How we educate our students, faculty, and staff
 - How we all use (and take for granted) resources
- All constituents have a stake in the viability of the institution
- All will be involved to develop the best approach(s) to the challenges of responsible resource use and operational cost reduction – Institutional Responsibility
- Operational/academic engagement all on "same page"

So, what do we do? ... Objective

- We need a Strategy which...
 - Supports what we say we want to do
 - Outlines what we do
 - Leads by example
 - Makes a real difference, right here... right now
- (...but doesn't break the bank...)
- Looking for Value Wise investment and spending for the long term.

Leadership

- "Political Will" is most influential aspect of sustainability integration – Importance to the institution
- Strength of institutional leadership
- Location of supportive leadership within the institution
- "Fit" with Strategic Plan
- Institutional Value to work across the entire institution
- Institutional Sustainability Policy Statement

Wellesley College Initiatives

- Advisory Committee on Environmental Sustainability students, faculty, staff
- 2016 Strategic Sustainability Plan on-line
- Fossil Fuel Divestment Statement
- Academic Council GHG resolution
- GHG inventory
- AASHE STARS assessment/rating Silver
- Campus sustainability surveys twice/yr
- Green Office Certification faculty, staff
- Green Res Hall room certification students
- Sustainability Guiding Principles being published
- Wellesley College Green Building Standards LEED Gold eq.
- Strategic Energy Planning in progress

Four Key Strategies

- Behavior and resource Use Reduction
 - Energy
 - Water
 - Waste/recycling/composting
 - What we bring to campus
 - What we purchase creates waste to be addressed
 - Food, etc.
- Transportation options
 - Bike sharing students
 - Zip-Cars students, faculty, staff
 - Inter-campus shuttles
- Energy Efficiency and Renewable Energy Initiatives
- Central Heating/Cooling Plant upgrades

Behavior/Use reduction

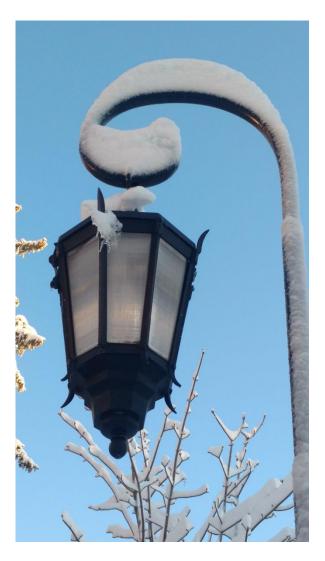
- WAIIT Students, Faculty and Staff
- Not just a "student initiative"
- Staff and Faculty on campus for many more years than students – long term impact
- Education, training, and incentives.
- Green Office Program certification and revisits (to keep certification)
- Green Res Hall Room Program similar to above
- Focus on plug loads (up to 50% of electricity use in Res Halls)
- Reduce/Reuse/Recycle/Repurpose
- Compost
- Lots of info for faculty, staff— see OS web-site at: http://www.wellesley.edu/sustainability

Even the most Energy Efficient Lamp saves the most energy when turned off!

Jorgen Norgard, PhD - Technical University of Denmark

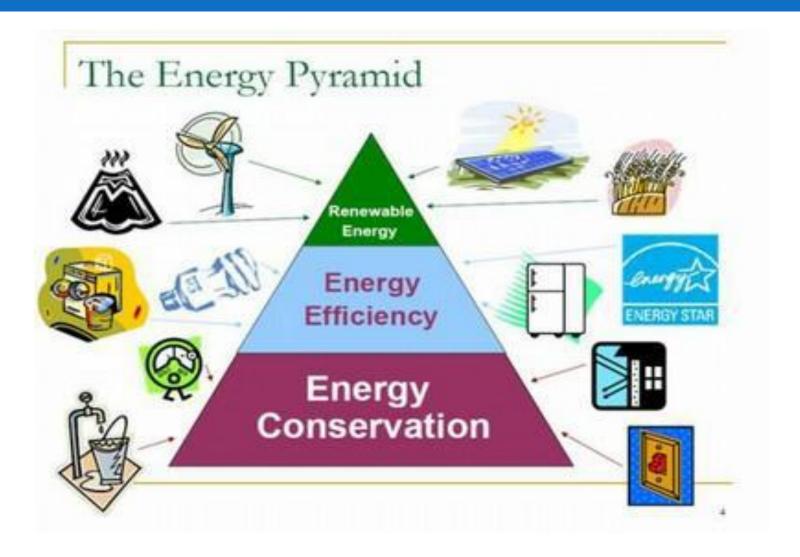
Energy Saving Philosophy

Energy Efficiency









Energy Strategy

Building Energy Efficiency Study

- 65 buildings, (approx 2M gsf) assessment completed.
- 187 energy conservation measures with good ROI identified.
- Approx \$5-7M investment required.
- Close to \$1M annual utility savings expected, and
- Approx. 2000 mT GHG savings at 10% reduction

Campus sustainability standards/statements

- WC Green Building Standards all new buildings and major renovations to be LEED Gold standard (or equiv)
 - 3 LEED certified buildings so far i.e. Alumni Hall (G), Whitin Obs (S), Schneider (S)
 - 2-3 other projects are planned/pending PNW, New Science, L&E wings, etc.
- Carbon reduction goals
- By 2026, reduce GHG by 37% (from 2010 levels 32.7mT CO2e): Target = 20.6mT, and
- By 2036, reduce GHG by 44%: Target = 18.3mT

Current Emissions

- GHG Emissions in 2016 = 27.72 mT
- GHG Emissions in 2017 = 27.31 mT



Energy Use Now (2017)

Usage now

- 26.58 Million kWh of Campus use (3.3 MW average demand, 5.2 MW Peak)
 - 1 kWh = Ten 100w lightbulbs burning for one hour
 - Campus electricity use is equiv to 30,340
 100w lightbulbs burning year 'round
- 245.3 Million lbs. of 125 PSIG steam for heating and cooling
- Approx 490,278 mmBTU energy used.

Ultimate Goal

 Sustainability is, "just the way we live and work on campus!"

For More Info - Contacts

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QUESTIONS?

