# Lane Community College Climate Commitment - 2050

Climate Action Plan Update June 11, 2014



#### What is climate commitment 2050?

- American College and University Presidents' Climate Commitment signatory
  - Signed by 684 college presidents
  - Commitment to:
    - Develop and implement a plan to become carbon neutral
    - Develop and implement a plan to make sustainability a part of the curriculum for all students
- Lane's commitment to become carbon neutral by 2050





#### 5 Strategies

Energy Efficiency Renewable Energy Transportation & Land Use Reduced Waste & Purchasing Adaptation Education Habituation

#### 61 Actions

Actions we can all take to help reach our goal

#### 1 Goal

Carbon Neutral by 2050

# What is climate commitment 2050?

- 5 Strategies
  - Energy Efficiency
  - Renewable Energy
  - Transportation and Land Use
  - Reduced Waste and Purchasing
  - Adaptation-Education-Habituation
- 61 Actions
- 1 Goal: Carbon Neutral by 2050



### What is carbon neutral?

Having no net greenhouse gas (GHG) emissions



- The systems that sustain life are degrading
  - 2014 National Climate Assessment

#### Overview

Climate change, once considered an issue for a distant future, has moved firmly into the present. Corn producers in lowa, oyster growers in Washington State, and maple syrup producers in Vermont are all observing climate-related changes that are outside of recent experience. This National Climate Assessment concludes that the evidence of human-induced climate change continues to strengthen and that impacts are increasing across the country.

2014 National Climate Assessment

#### Key Message: Wide-ranging Health Impacts

Climate change threatens human health and well-being in many ways, including impacts from increased extreme weather events, wildfire, decreased air quality, threats to mental health, and illnesses transmitted by food, water, and disease-carriers such as mosquitoes and ticks. Some of these health impacts are already underway in the United States.

2014 National Climate Assessment



Changes in the timing of streamflow reduce water supplies for competing demands. Sea level rise, erosion, inundation, risks to infrastructure, and increasing ocean acidity post major threats.

Increasing wildfire, insect outbreaks, and tree diseases are causing widespread tree die-off.

West Antarctic Ice Sheet is collapsing, kicking off what will be a centuries-long, unstoppable process that could raise sea levels by 15 feet.



Joughin, I., Smith, B.E., & Medley, B. (2014). Marine Ice Sheet Collapse Potentially Underway for the Thwaites Glacier Basin, West Antarctica. Science, DOI: 10.1126/science.1249055.

http://www.sciencemag.org/content/early/2014/05/12/science.1249055

Rignot, E., Mouginot, J., Morlighem, M., Seroussi, H., Scheuchl, B. (2014). Widespread, rapid grounding line retreat of Pine Island, Thwaites, Smith and Kohler glaciers, West Antartica from 1992 to 2011. Geophysical Research Letters, DOI: 10.1002/2014GL060140. http://onlinelibrary.wiley.com/doi/10.1002/2014GL060140/abstract



- "The accelerating rate of climate change poses a severe risk to national security and acts as a catalyst for global political conflict, a report published Tuesday by a leading government-funded military research organization concluded."
- "Secretary of State John Kerry signaled that the report's findings would influence American foreign policy."
  - New York Times, May 13, 2014





- All living systems are in long-term decline and are declining at increasing rates.
- 20% of the world's population consume 80% of the world's resources
- How will we cope in a world that will have nine billion people and that plans to increase Global World Product by 500% by 2050?





- Higher Education has an ethical responsibility
  - To help find a path toward sustainability
  - To train our future leaders
  - To model sustainability for our communities

Cortese, A., (2006). Higher education and sustainability. In Timpson, W. M., Dunbar, B., Kimmel, G., Bruyere, B., Newman, P., and Mizia, H. (Eds.), 147 Practical Tips for Teaching Sustainability: Connecting the Environment, the Economy, and Society (pp. xi-xiv).

Madison, WI: Atwood Publishing

#### Climate commitment timeline

2010 2008 2007 2009 2006 **Adopted Submitted** sustainability Climate core value **Action Plan Committed** to **Inventoried ACUPCC** Signed the Won 9th "tangible greenhouse **American** place in Inventoried actions": gas College and recycling greenhouse emissions University competition Recycling gas Presidents' out of 148 emissions competition **Adopted** Climate colleges sustainability Commitment and energy-efficient strategic universities appliance direction purchasing policy

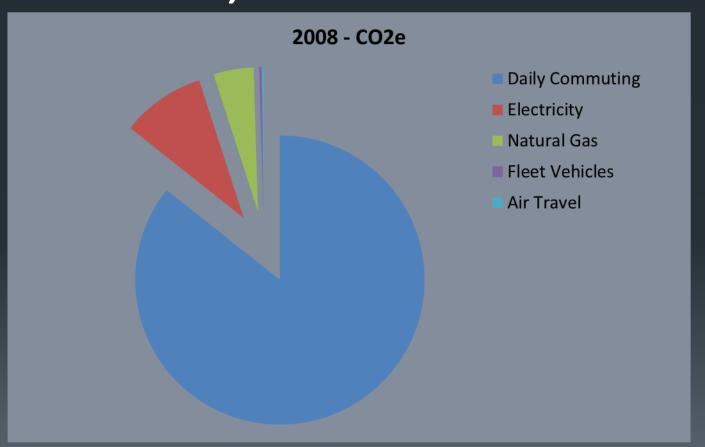
### Climate commitment timeline

2012 2013 2014 2011 **Improve** greenhouse gas emissions inventory Inventoried **Submitted Sustainability** greenhouse gas progress report Committee focus on **Implemented** emissions to ACUPCC climate action plan **Climate Action** projects Plan strategies **Implemented Implemented Climate Action Climate Action Improve** Climate Plan strategies Plan strategies **Action Plan strategies Educate** students and employees on **Climate Action Plan** 

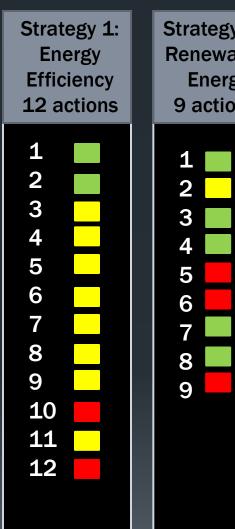
Sustainable

# Greenhouse gas inventory - 2008

#### 61,845 MT CO2e





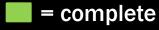


Strategy 2: Renewable Energy 9 actions

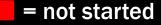
Strategy 3:

Strategy 4:

**Reduced Waste** 









	Strategy 1: Energy Efficiency			
	Actions	Complete	Status	
1. Alloc	Projects Funded by the Bond and a State Economic Stimulus cation			
lig	enter roof, Building 2 (roof, lighting efficiency, heat recovery system), Building 4 (roof, hting efficiency), Building 5 (roof, lighting efficiency, natural ventilation strategies), undry dryer heat recovery, exterior lighting controls, exterior lighting efficiency.	X		
2.	Health and Wellness Building	X		
3.	Building Automation System Strategic Upgrades		In process	
4.	Temperature Set-Points		On Going	
5.	Green Standard Checklist		On Going	
6.	Training and Education		On going	
7.	Roof Replacements			
a.	Replace the Building 11 roof in 2012	X		
b.	Replace the Building 6 roof in 2013	X		
	Replace the Building 17 roof in 2014 (Note: Future plans for Building 17 may eliminate e need for a new roof in 2014)		Not started	
d.	Replace the Building 15 roof in 2015	Χ		
8.	Central Plant Equipment Upgrade		In process	
9.	Improve Building-Level Utility Sub-Metering		In process	
10.	Retro-Commission Building 1 and Building 19		Not started	
11.	Heating Ventilation and Air Conditioning Mechanical System Upgrades		On going	
12.	Continue to Improve Lighting and Lighting Control Systems		Not started	



Strategy 2 - Renewable Energy		
Actions	Complete	Status
13. On-Site Generation – Solar Electric - 43 kW	X	
14. On-Site Generation – Solar Thermal	X	In repair
15. On-Site Generation – Geothermal - Buildings 24, 25, 26, 27	X	
16. Purchased Resources - 10% EWEB Greenpower; 25% EPUD Greenpower	X	
17. Update Solar Energy Master Plan		Not started
18. On-site Generation – Main Campus		
a. Continue with small annual solar installations that are funded by Lane's revolving loan fund.		Not started
<ul> <li>b. Include solar thermal in the upgrade to the main campus central plant. Lane's central plant uses natural gas fired boilers for campus heating water.</li> </ul>		Changed to geothermal
c. Invest funds from business energy tax credits into a solar station for the east parking lot.		Not started
19. On-site Generation – Downtown Campus	X	
20. Finish Connecting Solar Electric at Building 24	X	
21. Carbon Neutral Energy Purchased from Utility Providers - 25% EWEB Greenpower; 10% Northwest Natural; Develop long term strategy for 100%		Not started



Strategy 3 - Transportation & Land Use			
	Actions	Complete	Status
22. emei	Reducing Emissions from Daily Commuting (LTD group bus pass program, gency ride home, carpool matching, bike parking, solar station)	X	On Going
23.	Reducing Emissions from Fleet Vehicles	X	
24.	Preserving Forested and Wetland Properties	X	On Going
25.	Improve Methods for Measuring Emissions from Transportation		In Process
26.	Improve Access for Bicyclists		Started
27. Publi	Continue to Improve Accessibility, Convenience, and Sustainability of c Transit		Started
28.	Carpool		In Process
29.	Improve Access for Lower-Emitting Vehicles		In Process
30. Tran:	Expand Outreach, Marketing and Education About Climate-Friendly sportation Alternatives		In Process
31.	Greening the Fleet		Not Started
32.	Parking Fee/Financing of Climate-Friendly Transportation		Not Started
33.	Integrate the Climate Action Plan with Other College Plans and Policies		In Process
34. /	Air Travel - Track air miles and promote web-based conferencing		In Planning
35. (	Offsets		
	op a plan for purchasing or documenting offsets that will mitigate remaining emissions from ortation.		Not Started



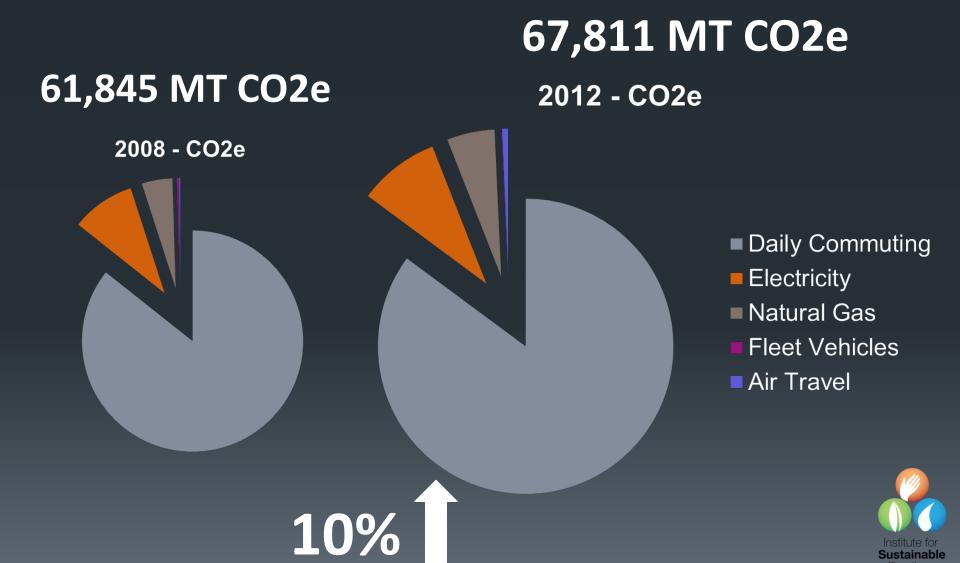
Strategy 4 - Reduced Waste and Purchasing		
Actions	Complete	Status
36. Composting	X	On Going
37. Surplus Property Reuse	X	On Going
38. New Recycling Center	X	
39. Built-In Recycling and Waste Collection in New Remodels		In Process
40. Energy Efficient Hand Dryers		In Process
41. Green Purchasing Policies	X	
42. Green Cleaning Chemicals	X	On Going
43. Incentives to Reduce Paper Use and Printers		In Process
44. Bookstore, Library, and Student Learning Center offering more paperless solutions	X	On Going
45. Expand Surplus Property		Not Started
46. Expand the Reusable Office Supply Exchange	Χ	
47. Provide Composting Collection Stations in More Locations	Χ	On Going
48. Encourage Green Purchasing Practices	Χ	
49. Develop and Implement Strategies to Reduce the Use of Common Disposables		
Ewer desk top printers in offices. Promote and encourage paperless processes.		In Process
b. Take Back The Tap	X	



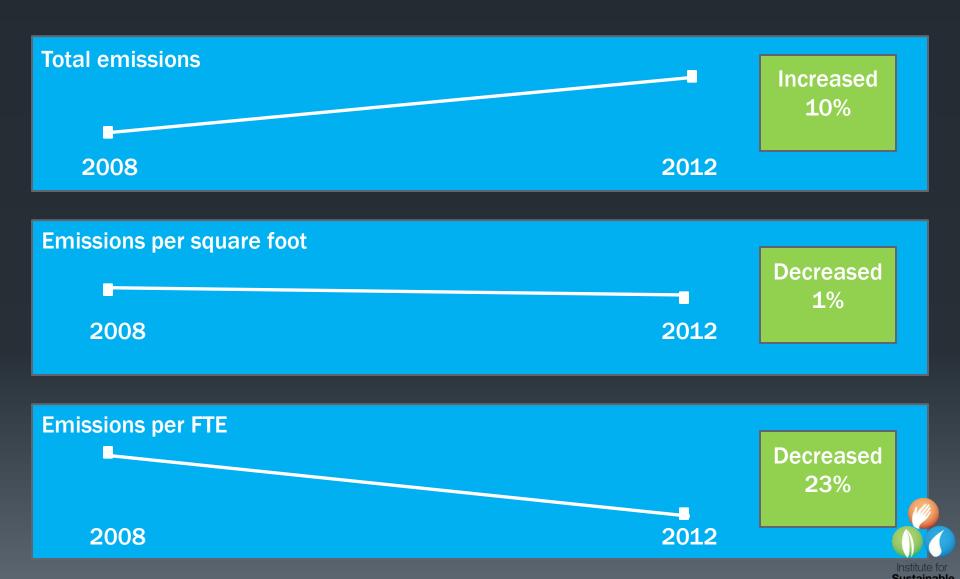
	Adaptation / Education / Habituation		
	Actions	Complete	Status
50.	Sustainability Degrees	Х	On Going
51.	Sustainability Suggested Course of Study		In Process
52.	Sustainability-Focused Courses - Develop application	Х	On Going
53.	Sustainability-Infused Courses - Training for 105 Instructors	X	
54.	Campus Learning Laboratory	X	On Going
55.	Events and Marketing	X	On Going
56.	Infusion of Sustainability Across the Curriculum		In Planning
57.	Sustainability-Focused Courses		
	a. Increase the number of sustainability-focused courses: Develop methods for encouraging faculty to submit applications for sustainability course status.		Not started
	b. Improve visibility of courses: Designate sustainability-focused courses in print and online catalogues.	Χ	
58.	Sustainability Education in Targeted Areas		Started
59.	Campus Learning Laboratory		
	a. Install a solar training lab on the main campus.		Upcoming Bond
	b. Construct a new downtown campus that acts as an energy efficiency and renewable energy training laboratory.	Χ	
	c. Improve the use of campus buildings as learning laboratories.		
	o Install a building automation system that students can view online.		In Planning
	<ul> <li>Install a web-based front end to the building level sub-metering system so that students can view real-time energy use.</li> </ul>		In Planning
60.	Events and Marketing		_
	a. Offer two to four events per year that are open to students, employees, and the community.	Χ	On Going
	b. Improve sustainability website and update it frequently.	Χ	On Going
	c. Hold a one day conference for Lane employees focused on implementing Lane's sustainability strategic direction and climate action plan in 2011.	Х	g
	d. Utilize a wide variety of communication mechanisms to promote and celebrate sustainable and climate friendly activities.	Х	On Going
61.	Graduation Requirement		Not started



### Greenhouse gas inventory - 2012



# Inventory trends



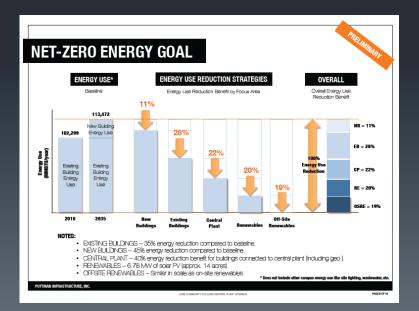
### What we did this year

- Central Plant Sustainability Study
- Workshop: Planning for 35% Building Energy Use Reduction
- Inventory Process Improvement
  - Transportation Habits Survey
- Sustainability Committee Focus
  - Health and Wellness Fair Healthy Transportation Habits Table
  - Earth Day Focus on Healthy Transportation Habits
    - Bike and Walk to Lane Event
    - First Annual Climate Summit
    - Film Screenings
    - Vendor Fair
  - Climate Action and Education Forum
  - Aspiring Leaders Training
- Forum on public transportation
- Weekly, Facebook, Twitter, Torch



# Future – Energy efficiency and renewable energy

- Develop a more comprehensive plan to:
  - Reduce existing building energy use by 35%
  - Design new buildings to use 45% less energy
  - Install Central Plant "Option E" (Recommended Scope + Geo 400)
  - Install 6.78 MW of solar PV (approx. 14 acres)
  - Partner with community on off-site renewables (EWEB Greenpower)





# Future – Transportation and land use

- Work with City and County agencies to have safe bike/pedestrian lanes installed from Eugene and Springfield to main campus
- LTD rapid transit to main campus
- Restructure transportation demand management program to charge for parking

# Future – Reduced waste and purchasing

- Develop plans to shift funding from landfilling expenditures to recycling expenditures, recycle more, and save money
  - Lane pays \$446/ton for recycling\*
  - Lane pays \$747/ton for trash\*
- Create sustainable purchasing policies

<sup>\*</sup>Includes labor, materials, dump/recycling fees, and revenue.

# Future – Education/adaptation/habituation

- Provide professional development for instructors
- Infuse sustainability into 10% of all courses offered
- Require sustainability competency for all graduates
- Conduct scenario planning for adaptation
- Engage in community outreach

### What you can do

- Advocate for sustainability
- Learn more
  - Go to AASHE 2014
  - Attend campus sustainability events
  - Join the Sustainability Committee
- Hold our feet to the fire in implementing our Climate Action Plan