

WCC Climate Action and Sustainability Plan Update

- January 2020

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Climate Action & Sustainability Plan
January 15, 2014





Hope... is not the same as joy that things are going well, or willingness to invest in enterprises that are obviously heading for success, but rather, an ability to work for something because it is good...

- *Václav Havel* 1986



Reflect/Write (3 min.) and Share (3 min.)

- What are you feeling about climate change?
- Is the world in a Climate Emergency?
- How quickly are you trying to reduce your personal carbon footprint?
- Where are you stuck?
- How quickly should the college reduce its carbon footprint to zero?



Percent Change in Greenhouse Gas Emissions 2018 vs. Baseline 2008 and Emission Reduction Target Goals

	TOTAL SCOPE 1	TOTAL SCOPE 2	TOTAL SCOPE 3	TOTAL SCOPE 1 & 2	TOTAL SCOPE 1, 2, & 3	TOTAL NET
CHANGE IN EMISSIONS PER 1,000 SQ. FT. PER FULLTIME ENROLLMENT	↑ 59.76%	↓ 33.55%	↓ 11.91%	↓ 14.30%	↓ 13.39%	↓ 13.39%
EMISSION REDUCTION TARGETS	↑ 31.50%	↓ 45.30%	↓ 27.49%	↓ 29.46%	↓ 28.71%	↓ 28.71%
	↑ 58.27%	↓ 34.17%	↓ 12.73%	↓ 15.10%	↓ 14.20%	↓ 14.20%
					10% by 2015	
					20% by 2020	
					40% by 2030	
					60% by 2040	
					80% by 2050	

Institutional Information

SIGN DATE
Mar 13, 2012

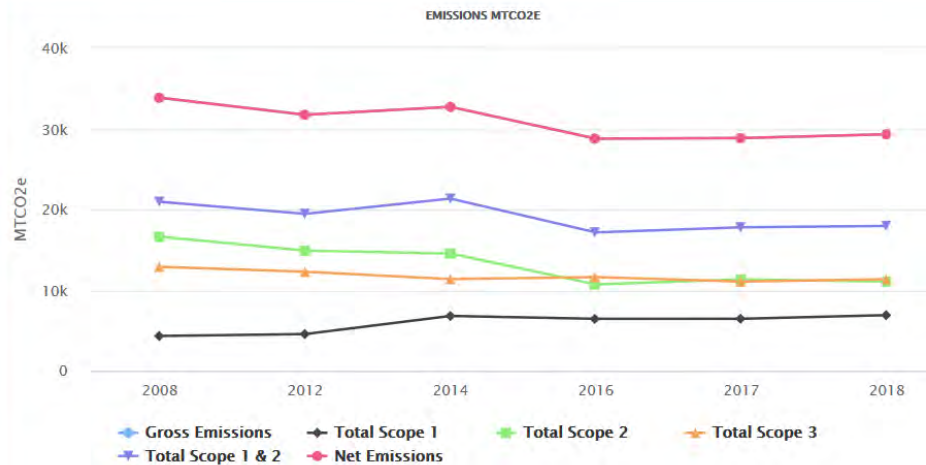
PRESIDENT
Rose Bellanca

IMPLEMENTATION LIAISON
Dale Petty

SUSTAINABILITY WEBSITE
[Link](#)



Emissions over Time



Membership - Ratings

STARS RATING	GRITS	SEED
Bronze	Yes	Yes

Select Data Series: Emissions MTCO2e

LINE/BAR

Update is DUE!



Washtenaw Community College



Climate Action & Sustainability Plan January 15, 2014



WCC Sustainability Council



Sustainability Council Leadership

Representatives from Faculty, Staff and Administration facilitate the Working Groups of Council or serve at large.

Mark Allen – Vice President, Facilities Development & Operations

Rebecca Andrews – Manager, Recycle Operations

William Ghrist – Manager, Energy & Systems Integration

Holly Herman – Manager, Landscape & Grounds Maintenance

Susan Ferraro – Director, Media Relations

Kelly Gampel - Multimedia Communicator

Peter Leshkevich – Director, Student Development/Activities

Matea Pejic – Student Development & Activities worker

Roger Mourad – Director, Institutional Research

Benjamin Hunholz – Director, Revenue Planning & Treasury Management

Ingrid Ankersen – Faculty, Graphic Design/Media Arts

Philip Geyer – Faculty, Computer Information Systems

Molly Ledermann - Professional Librarian

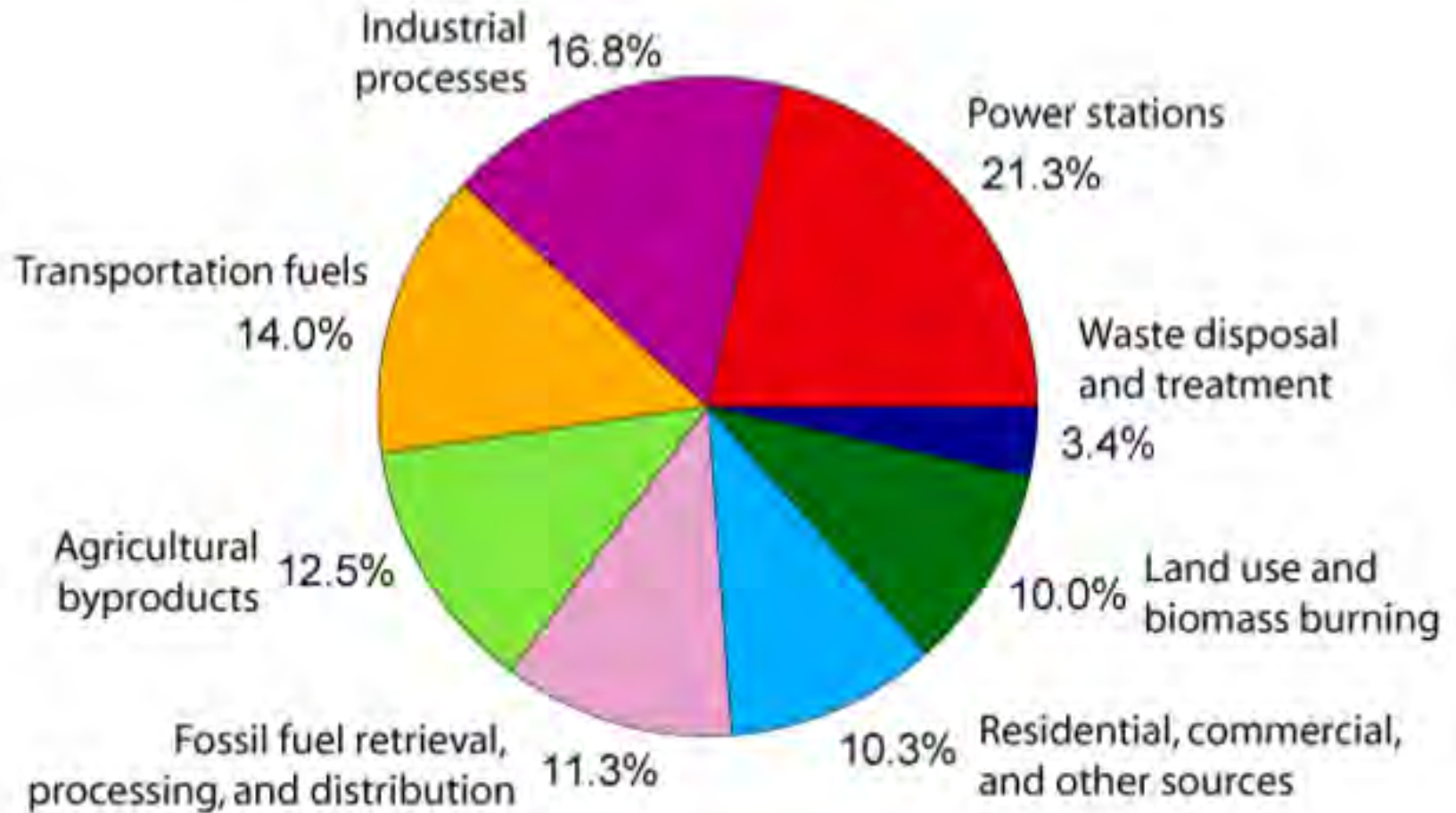
Smita Malpani – Faculty, Environmental Science

Sandra McCarthy - Professional Librarian

Dale Petty – Faculty, Advanced Manufacturing Technology

Eli Zemper – Faculty, Washtenaw Technical Middle College

World Greenhouse Gas Emissions by Sector



WCC Greenhouse Gas Inventory

Emissions by Source % 2008

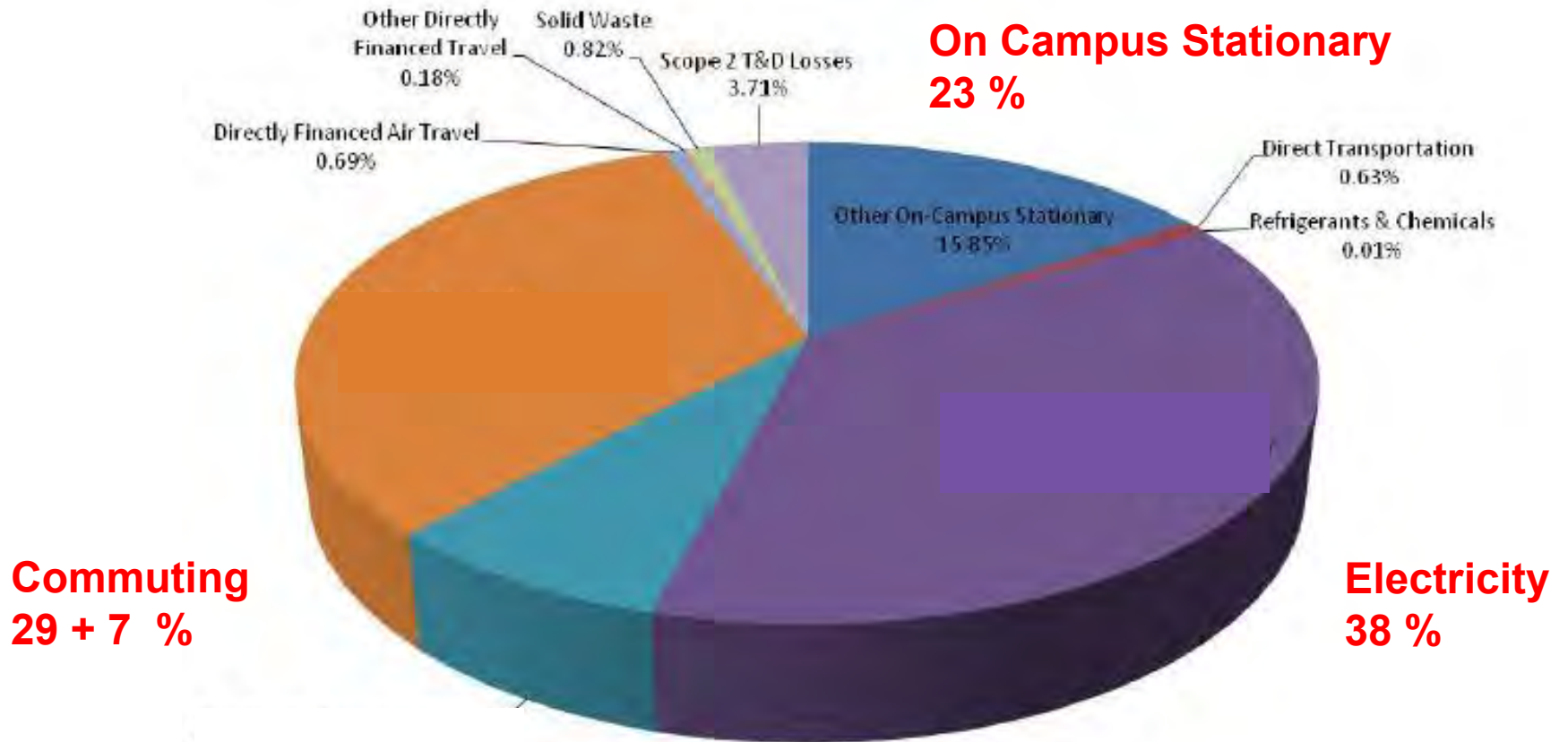


Table 1. Percent WCC Greenhouse Gas Emissions by Source - 2018

Source of Greenhouse Gas Emissions	% of Total
Purchased Electricity	37.64%
Student Commuting	29.54%
On-Campus Stationary (natural gas for heating)	21.45%
Staff Commuting	4.22%
Faculty Commuting	2.61%
Electrical Transmission & Distribution Losses	1.77%
Co-generation Steam (natural gas for micro-turbine)	0.77%
Co-gen Electricity (natural gas for micro-turbine)	0.67%
Direct Transportation (on-campus vehicles)	0.63%
Directly Financed Travel - Air	0.52%
Directly Financed Travel - Ground	0.22%
Solid Waste (landfill methane recovery)	-0.03%

Carbon Reduction Targets

- **COP 21 Paris Agreement:** Global average temperature to well below 2 °C, reduce CO₂ worldwide emissions by 25% by 2030 and reach net zero around 2070/
- In **2015 the United States** submitted its target to cut net greenhouse gas emissions by 26-28% below 2005 levels by 2025.
- **IPCC SR1.5:** Temperature rise below 1.5°C – reduce emissions by 45% from 2010 levels by 2030, reach net zero by 2050.
- February 2019, **UM President Mark Schlissel** announced the creation of a commission to set a path to carbon neutrality.
- **Washtenaw County Commissioners** declared a climate emergency in September 2019.
- November 2019, the **Ann Arbor city council** declared a climate emergency and set a community wide goal of 2030 for carbon neutrality.
- November 2019, the **City of Ypsilanti** - carbon neutrality date of 2035.



I Calculated my Carbon Footprint
at <http://www.carbonfootprint.com>

Carbon Footprint Calculator

Welcome

House

Flights

Car

Motorbike

Bus & Rail

Secondary

Results

Your Carbon Footprint:

tonnes of CO₂

<input checked="" type="checkbox"/> House	3.074
<input checked="" type="checkbox"/> Flights	1.544
<input checked="" type="checkbox"/> Car	2.922
<input checked="" type="checkbox"/> Motorbike	0.000
<input checked="" type="checkbox"/> Bus & Rail	0.775
<input checked="" type="checkbox"/> Secondary	3.337

Total 11.652



To offset some or all of your carbon footprint, tick the sections you would like to offset in the list above, and click on the link to the right.

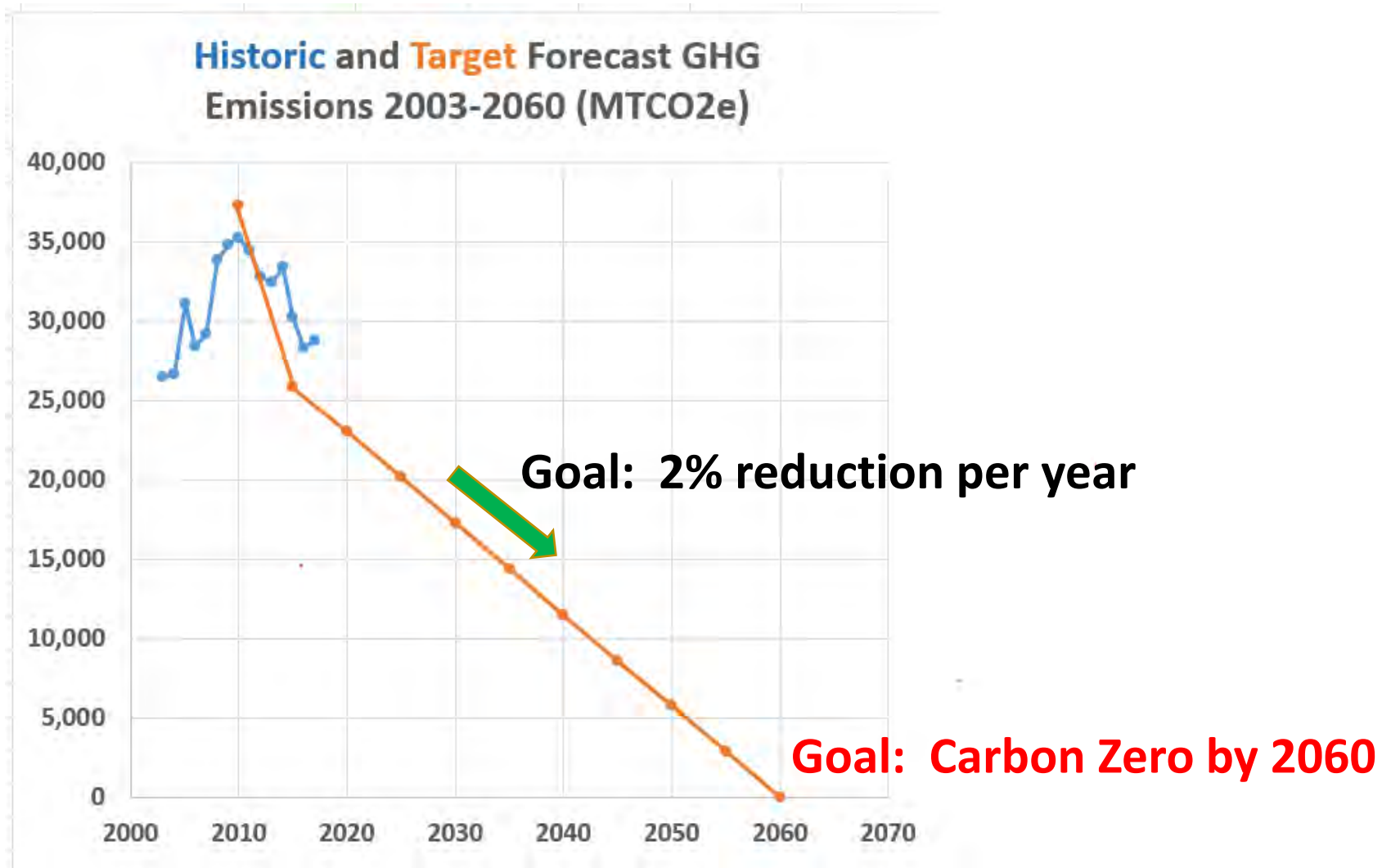
[Offset 11.652 tonnes](#)



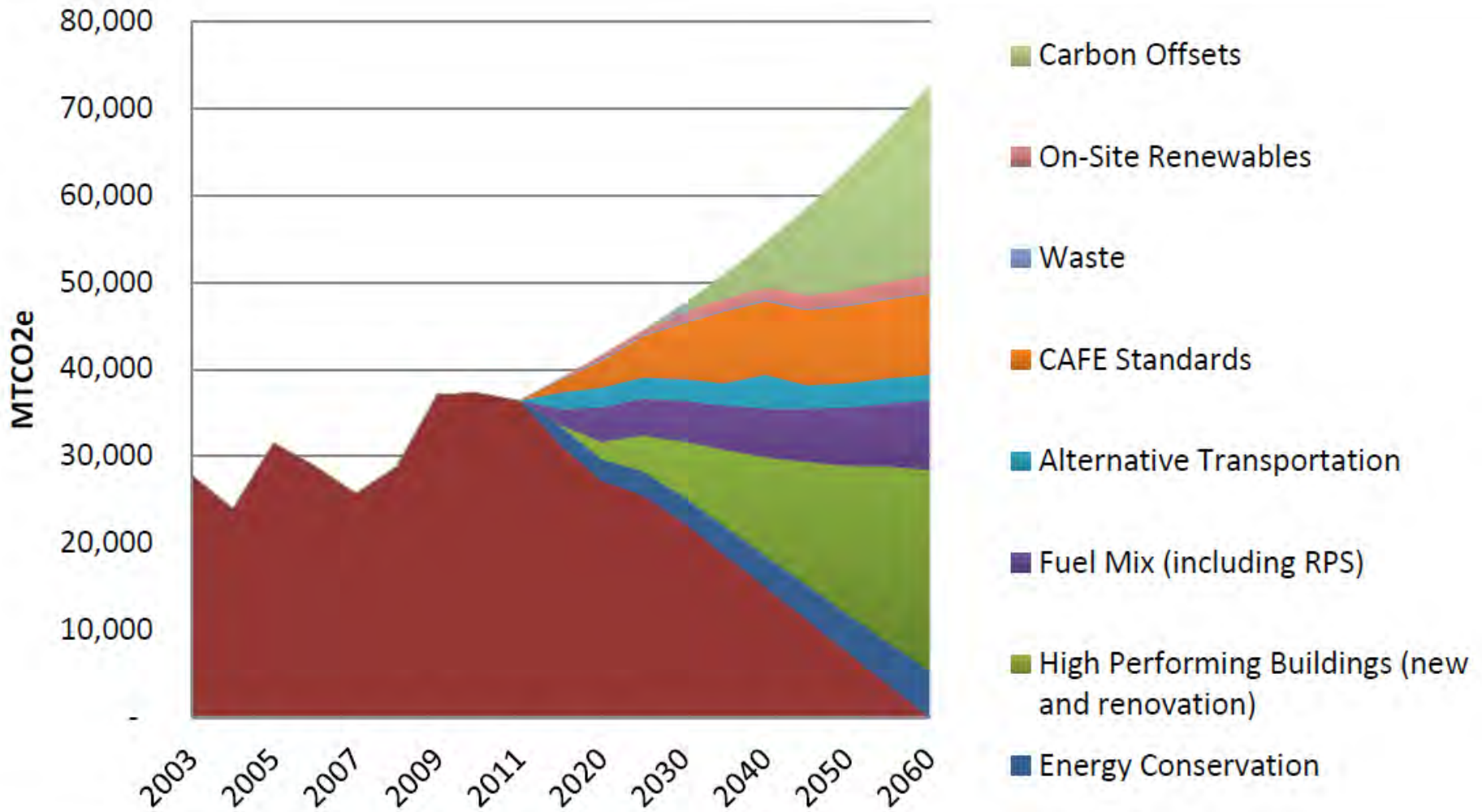




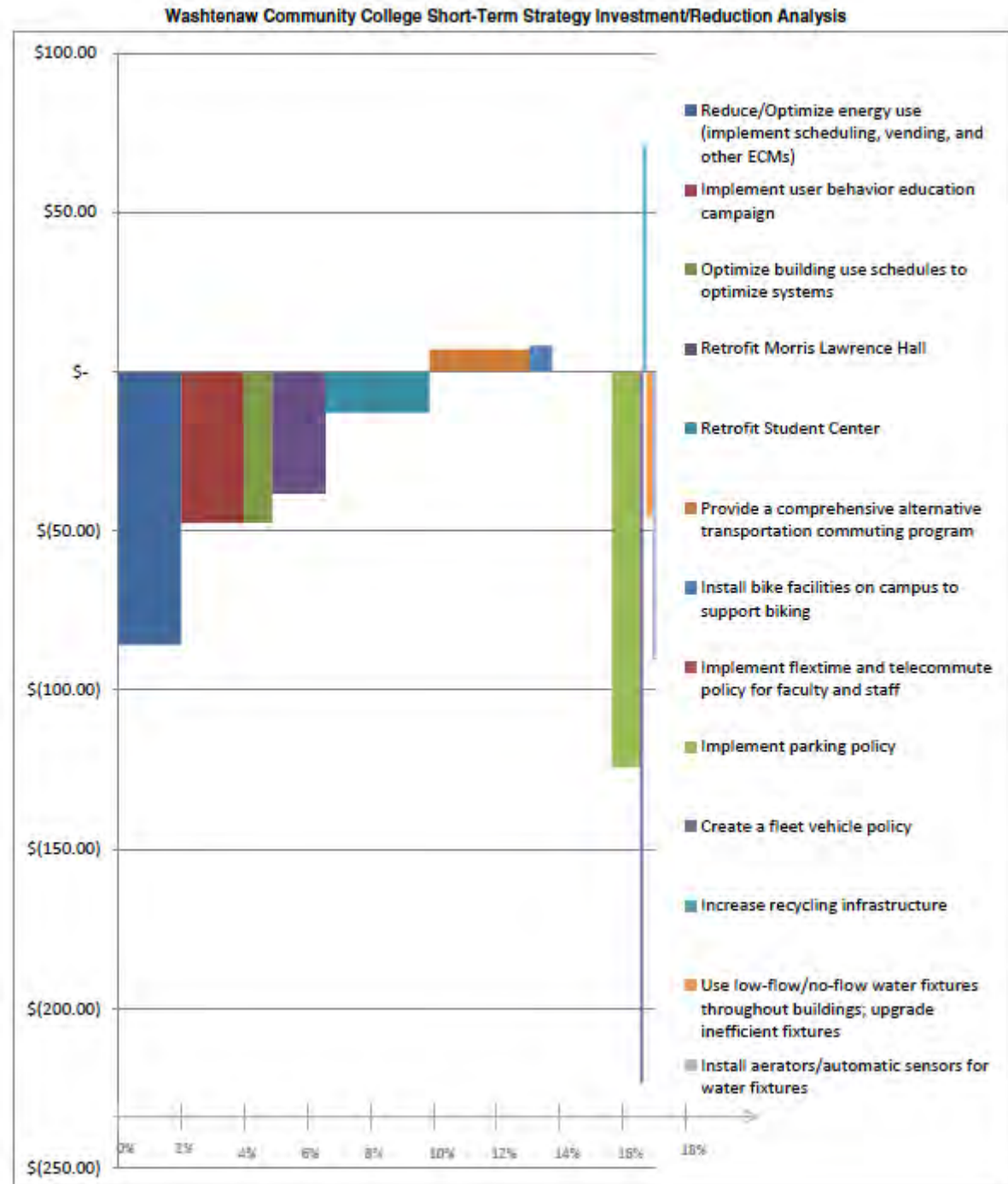
WCC Climate Action Plan - 2014



WCC Wedge Analysis (2003-2060)



WCC Cost/Offset Ratio



Gross Emissions (GHG MTCDE)

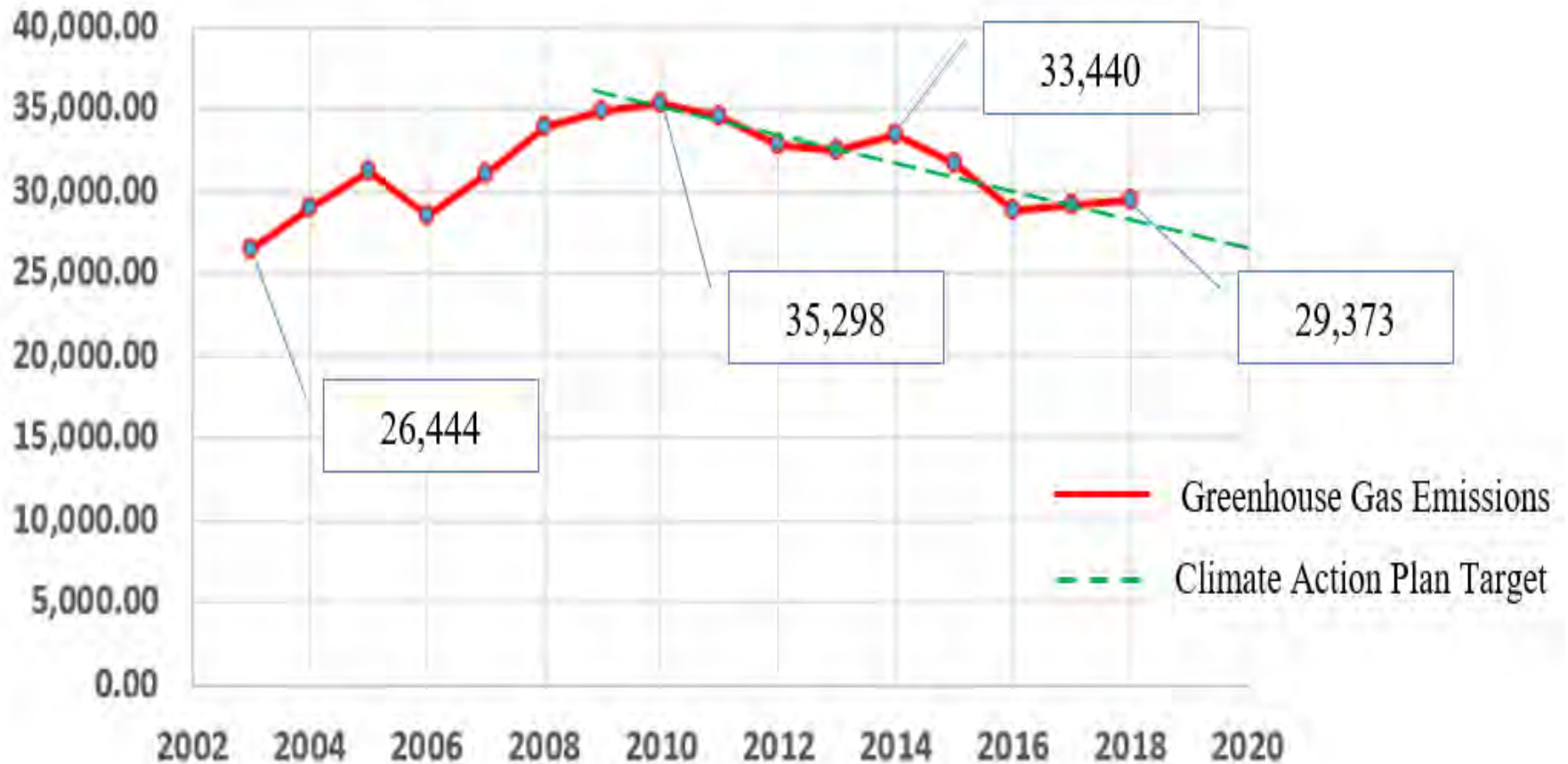
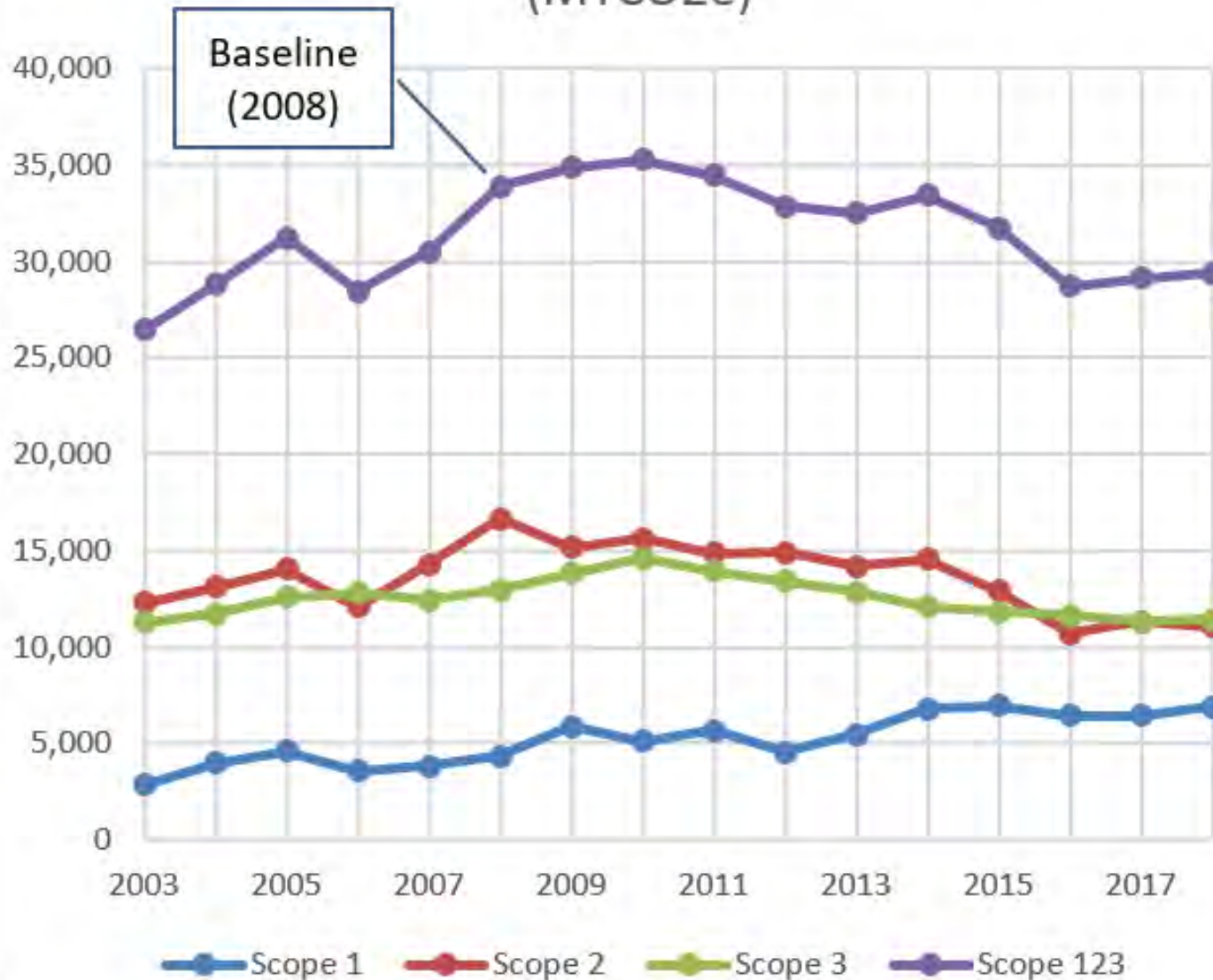


Figure 1. Total Greenhouse Gas Emissions (metric tonnes CO₂ equivalent)

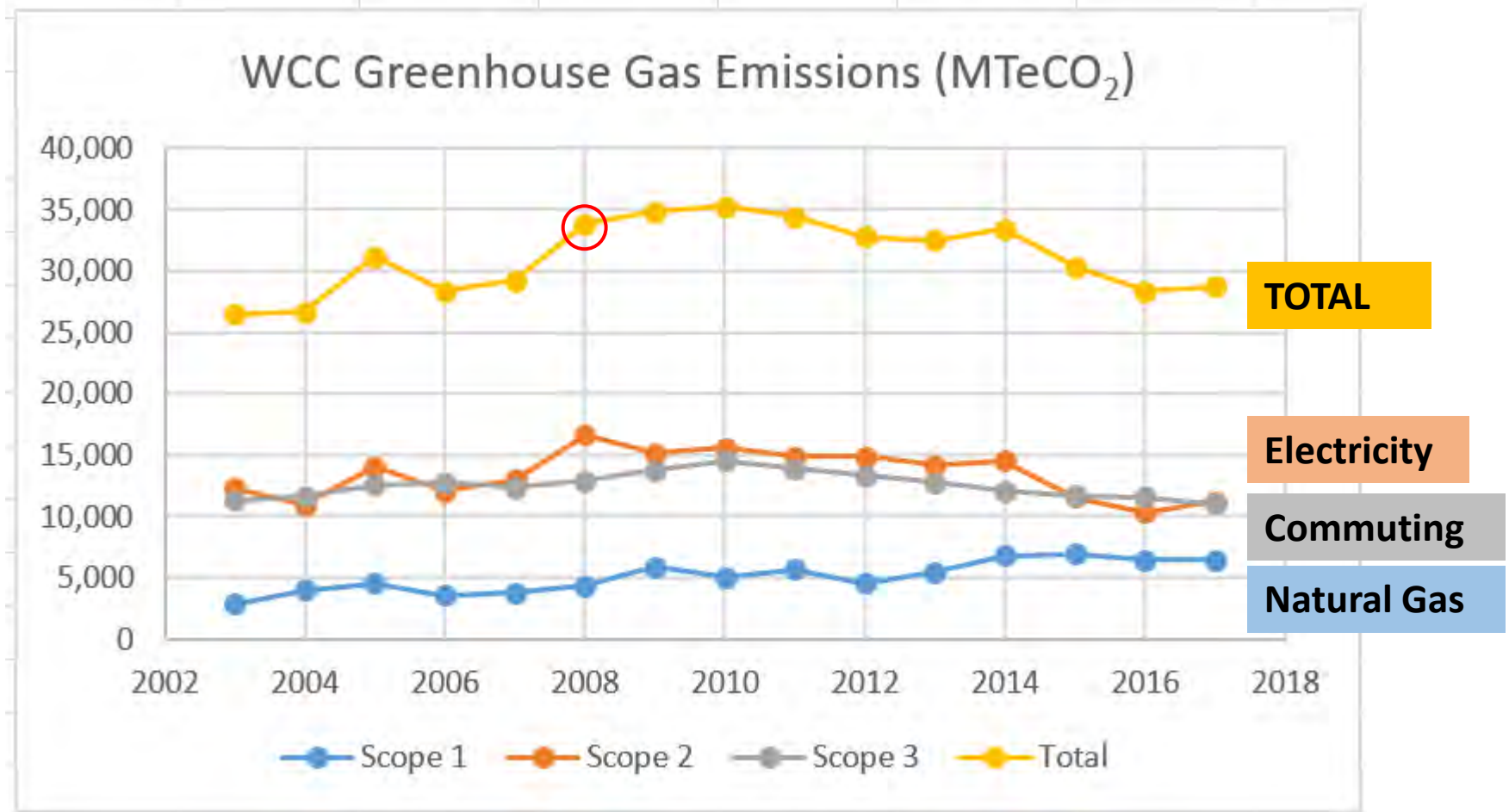
Scope 1, 2, 3 & Total GHG Emissions (MTCO₂e)



CO₂ Reduction Progress

Actual: 15% reduction (from 2008 level) by 2018

Goal: 20% reduction (from 2008 level) by 2020



MT eCO2 by Category (2008-

Carbon

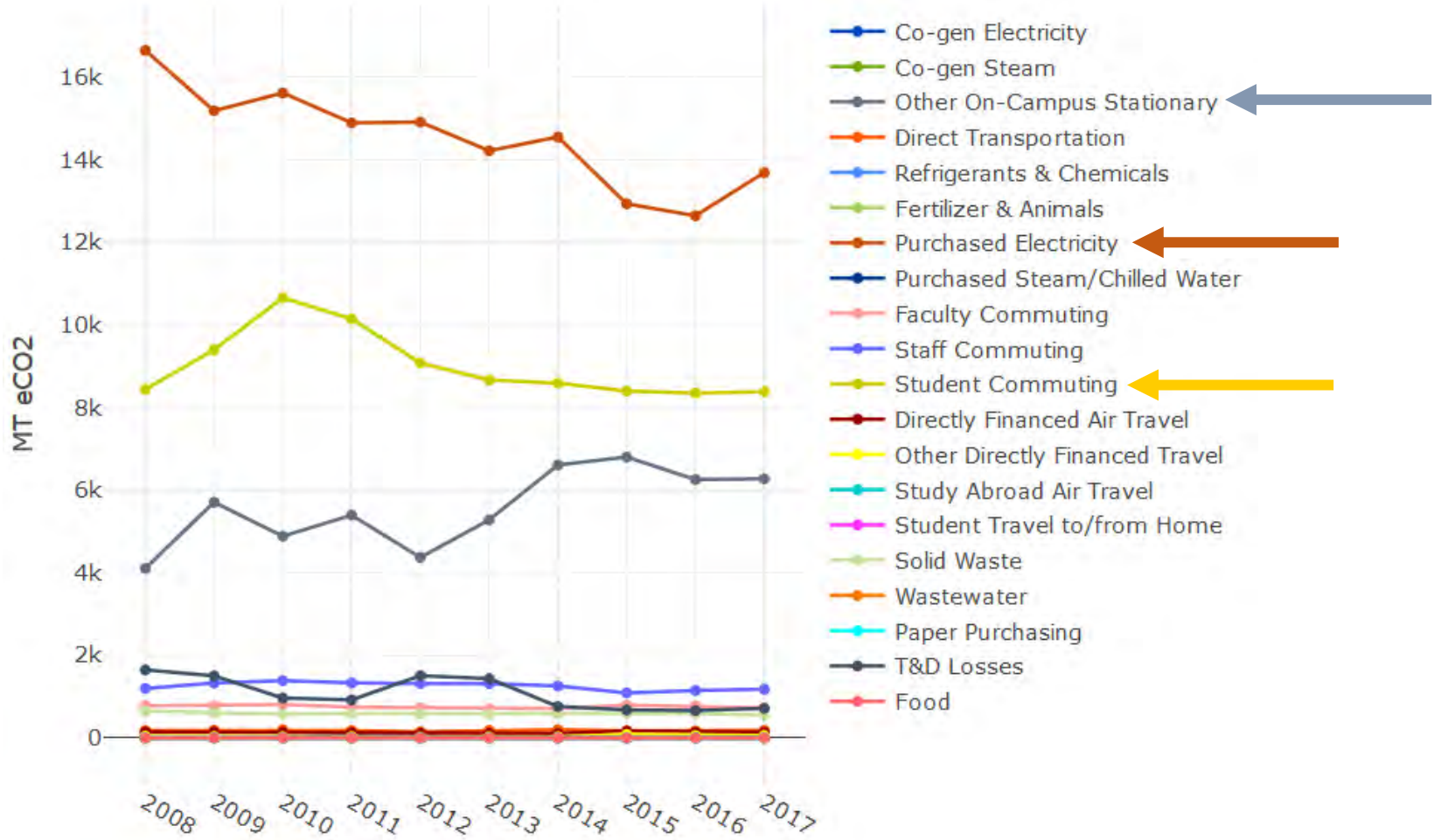


Table 3. WCC Greenhouse Gas Emissions by Source Category for Fiscal Year 2018

WCC 2018 Greenhouse Gas Emissions by Category						
	Source	Quantity	Unit	Metric Tons CO2 Equivalent	Percent of Total	% Change from 2008
Scope 1	On-Campus Stationary (natural gas to heat buildings and water)	118,432	MMBtu	6,299	21.5 %	54%
	Cogeneration: Natural Gas (Micro Turbine)	7,968	MMBtu	424	1.4 %	
	Direct Transportation (campus vehicles)	Gasoline: 12,971 Diesel fuel: 6,366	US gallon	184	0.6 %	4.1%
	Refrigerants & Chemicals	Not tracked		-	-	
	Scope 1 Total			6,907		59.8%
Scope 2	Purchased Electricity	19,061,064	KWh	11,055	37.7 %	-33.6%
	Scope 2 Total			11,055		-33.6%

Second Nature Climate Commitment (Associates Degree Colleges)

	% Change in Net Emissions	Net Emissions per 1000 sq ft	Net Emissions per FTE
Associate College Average	-8.0	22.8	2.7
Range	-99 to 143	5 to 64	0.3 to 7.2
WCC	-13.4	24.0	3.7
WCC ranking	36/79	53/79	63/79

Second Nature Climate Commitment (Associates Degree Colleges)

	Total Offsets (MTCO2e)	RE Energy Gen. (kWh)	Carbon Neutrality Date
Associate College Average	177	308077	2046
Range	0 to 7634	0 to 11,253,000	2020 to 2099
WCC	0	0	2060
WCC ranking	bottom 83%	bottom 63%	bottom 14%

Reflect/Write (3 min.) and Share (3 min.)

- What questions need to be asked?
- What questions do you have?

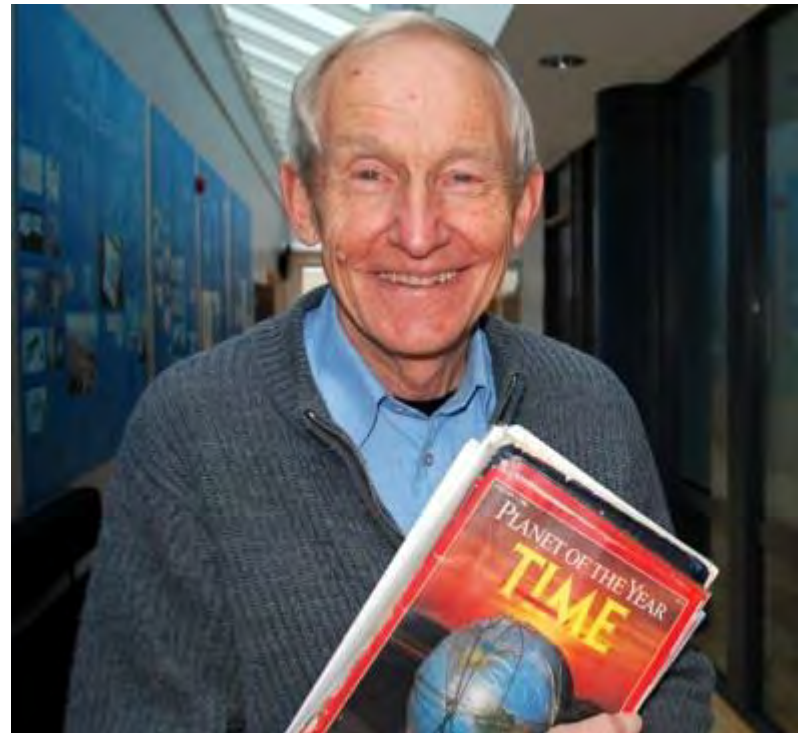
Reflect/Write (3 min.) and Share (3 min.)

- How quickly should the college reduce its carbon footprint to zero?
- What deep mitigations should the college make?
- How will we finance it (what can we do without)?
- Other?

The Ecological Truth

“Socialism collapsed because it did not allow the market to tell the economic truth. Capitalism may collapse because it does not allow the market to tell the ecological truth.”

- Øystein Dahle,
former Vice President of
Exxon for Norway and the
North Sea



Model Sustainability in Everyday Actions

- Car pool
- Take the bus
- Ride a bicycle
- Wear a sweater
- Appreciate seasonally appropriate HVAC
- Recycle properly
- Re-use, reduce, repair
- Educate and Appreciate



Deep Mitigations

2017/18 energy budget	\$ 2,525,546
2017/18 operating budget	\$ 100,293,750
Gross Emissions	
Terrapass offsets per yr (\$11/ton)	\$ 300,000
Terrapass offsets \$/FTE Faculty/yr	\$ 573
Terrapass offsets, \$/FTE Faculty & Staff/yr	\$ 272
Terrapass offsets, \$/FTE Faculty, Staff & Students	\$ 33
Electrical Emissions Only	
DTE Migreencurrents – 19×10^6 kWh at \$ 0.028/kWh	\$ 532,000/yr
Solar panels 14,000 kW	\$ 42,000,000
thermostat setback - saves 2-3% per degree (less at lower temps)	
Two way bus pass	Additional \$75,000/yr?

System Capacity: 10639.7 kWdc (55999 m²)



RESULTS



14,448,072 kWh/Year*

System output may range from 13,932,276 to 14,855,508 kWh per year near this location.

Click [HERE](#) for more information.

System Capacity: 3388.5 kWdc (17834 m2)

Map

Satellite



RESULTS



Print Results

4,601,379 kWh/Year*

System output may range from 4,437,110 to 4,731,138 kWh per year near this location.

Click [HERE](#) for more information.

System Capacity: 98593.8 kWdc (657292 m²)



RESULTS



130,066,560 kWh/Year*

System output may range from 125,423,184 to 133,734,437 kWh per year near this location.

Click [HERE](#) for more information.

DETROIT, March 28, 2019 /[PRNewswire](#)/

- -- **DTE Energy today announced a bold new goal to reduce carbon emissions 80 percent by 2040** – accelerating by a full decade the carbon reduction commitment it made to Michigan residents and businesses just two years ago.
- In the company's Integrated Resource Plan (IRP) being submitted to the Michigan Public Service Commission on Friday, DTE outlines the steps it will take over the next five years, and beyond, to transform to a cleaner generation mix – adding more renewables, increasing energy efficiency for its customers above state requirements and retiring coal plants sooner than previously announced.
- **DTE also announced it will reduce carbon emissions at least 50 percent by 2030**, surpassing its previous carbon reduction commitment of 45 percent by that timeframe.

Pick up a Flyer

Help WCC be More Sustainable and Reduce Our Carbon Footprint

Getting to Campus

Walk to campus more and drive less <http://www.wbwc.org/>

Bicycle to campus more and drive less <http://wheelsinmotion.us/> <https://www.facebook.com/Recycled-Cycles-Bike-Shop-LLC-580860975347002/> <http://www.treefortbikes.com/> <http://www.human-electric-hybrids.com/>

Take the bus to campus more and drive less <http://www.theride.org/>

Carpool to campus more and drive solo less <http://www.mirideshare.org/>

Drive a low emission/high gas mileage vehicle to campus (small car, hybrid, motorcycle, scooter) <http://www.genze.com/>

Combine trips to campus to drive less

Keep your tires inflated to the proper level <https://www.youtube.com/watch?v=QTst6ZdIVtg>

Keep your car tuned up and replace filters on schedule

Don't leave your engine running <http://nationswell.com/car-idle-damaging-to-environment-health-wallet/>



While on Campus

Re-use and fully use paper, pens, folders and other office supplies before buying new

Eat food that has the least disposable packaging

In the summer, wear appropriate clothes for 76° building temperatures

In the winter, wear appropriate clothing for 68° building temperatures

Minimize printing when possible

Recycle all containers <http://facilities.wccnet.edu/regre/recycle-operations/>

Recycle all paper and cardboard <http://facilities.wccnet.edu/regre/recycle-operations/>



Homework !!!

- What is one thing you are willing to start doing in the next month to live more sustainably at a personal level?
- What is one thing you are willing to start doing in the next month to help WCC be a more sustainable campus?
- What is one thing you are willing to explore or start doing in the next month with others to make your home or community more sustainable?

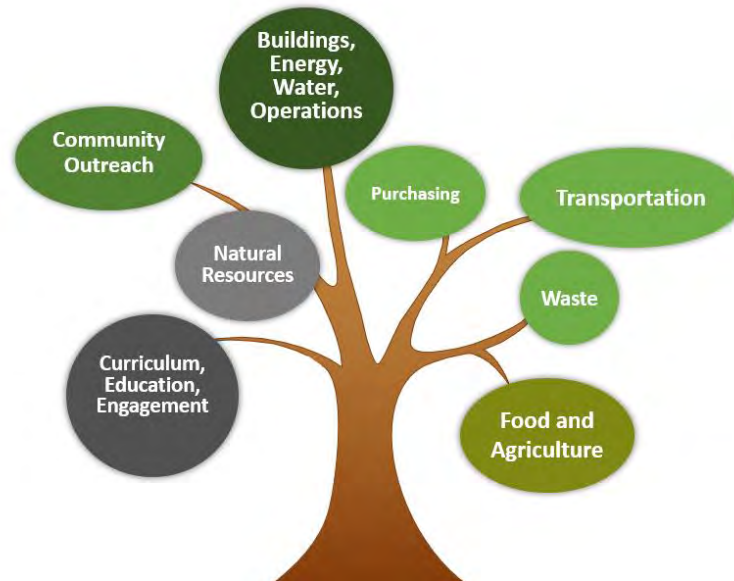
Get Involved!

Contact the Sustainability Council:

Go to WCC Sustainability Website:

<https://www.wccnet.edu/engage/sustainable/>

Use the [Contact Us](#) link.



Replenish Yourself !



"When the spirits are low, when the day appears dark, when work becomes monotonous, when hope hardly seems worth having, just mount a bicycle and go out for a spin down the road, without thought on anything but the ride you are taking."

- Arthur Conan Doyle, Scientific American, 1896

