

Climate on the Move

Ventura County's Carbon Footprint
Presentation and Discussion
October 19, 2015

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Thousand Oaks Library



Annacapa Consulting



City of Thousand Oaks – Vision 2064

- Continue commitment to being an environmental leader on topics such as climate change adaptation and reduction, zero waste, zero net energy, water use, and green house gas reduction and develop a Climate Action Plan, including allocation of necessary resources
– Council Adopted April 15, 2015
- Climate Action Plan

This Evening's Presentation

- A little background about the Ventura County Regional Energy Alliance (VCREA)
- A very brief introduction to climate change and California programs related to its impacts
- An overview of our regional carbon footprint – where do our greenhouse gas emissions come from? Where are our reductions coming from?
- What can we reasonably expect our emissions to be in 2020? In 2030?
- Where can we look for reductions to occur and what role does the public play?

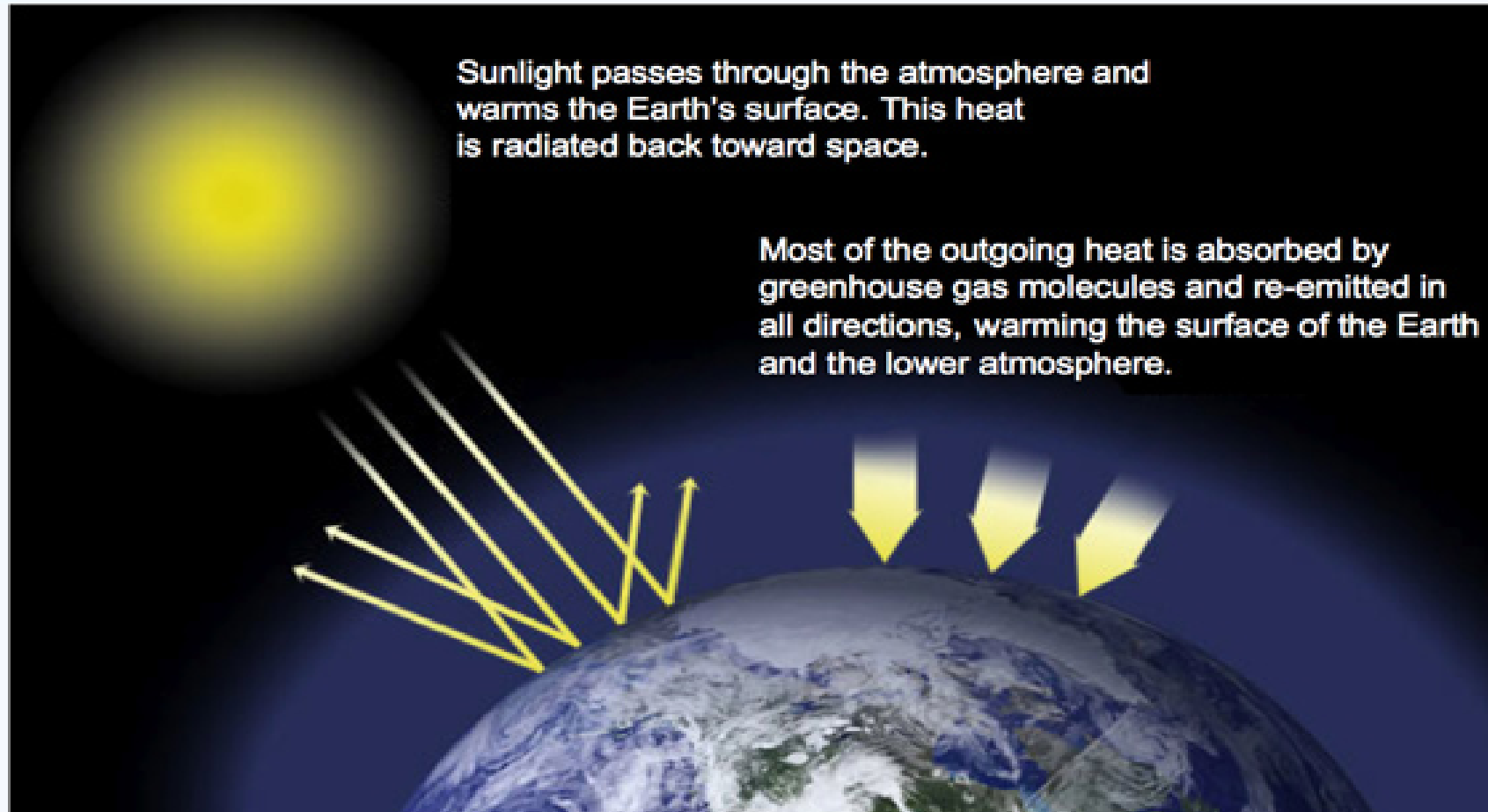
The Ventura County Regional Energy Alliance (VCREA)

- VCREA is a Joint Powers Agency (a cooperative body)
 - Formed in 2004 in response to the California energy crisis
 - Concerns over energy efficiency and reliability
 - Includes
 - all cities and the County
 - Ventura County Community College District, Ventura Regional Sanitation District and Ventura Unified School District
 - Southern California Gas Company and Southern California Edison
 - Partnership program funded by California utility ratepayers
 - Benefits? in 2013-2014, Thousand Oaks: \$127,074 for municipal energy efficiency projects; Ventura County: \$1.2 million

About Climate Change

- The earth has always had a thermal blanket, a layer of greenhouse gases and water vapor
 - At an average of 59° F it absorbs heat, warms the earth's surface and supports life
- Almost all climate scientists agree that the current warming trend is the result of human expansion of the thermal blanket
- Over the last century, burning of fossil fuels increased the concentration of carbon dioxide in the atmosphere.

NASA's Global Climate Change Web Portal



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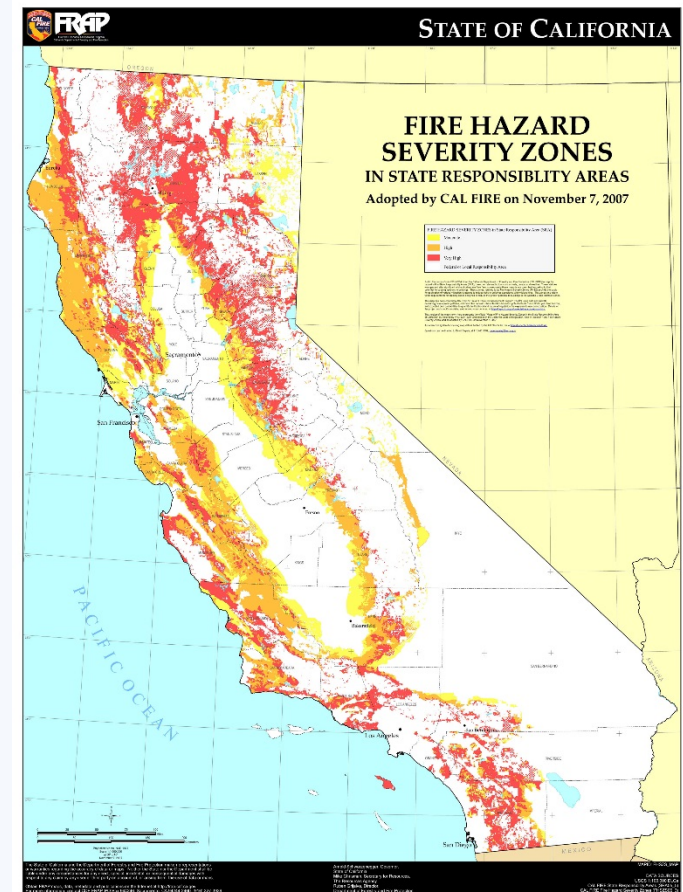
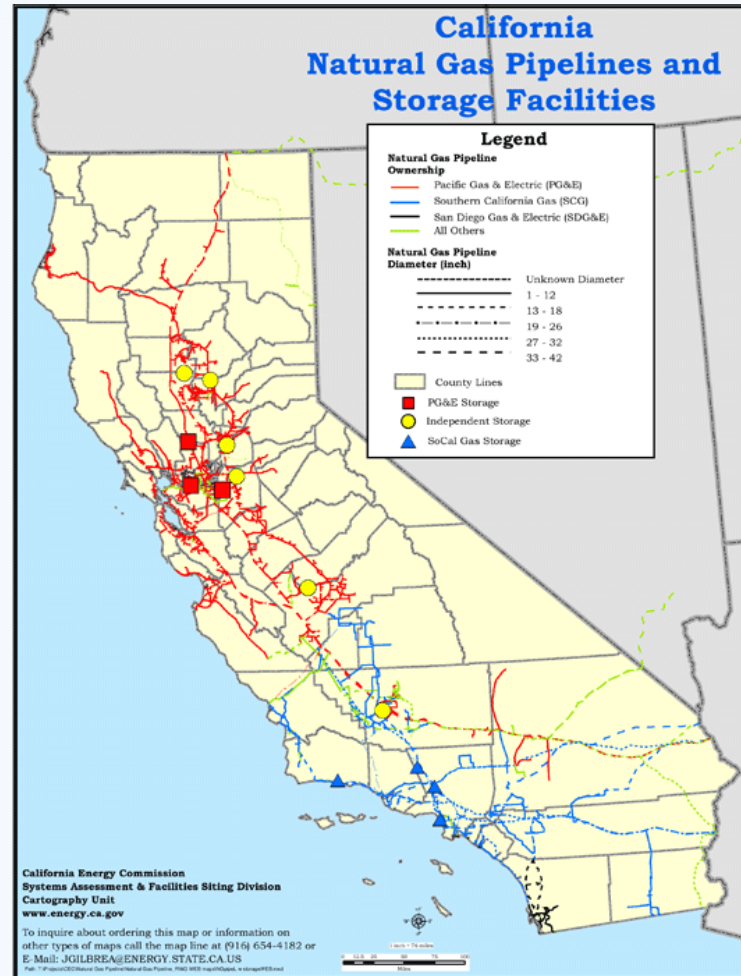
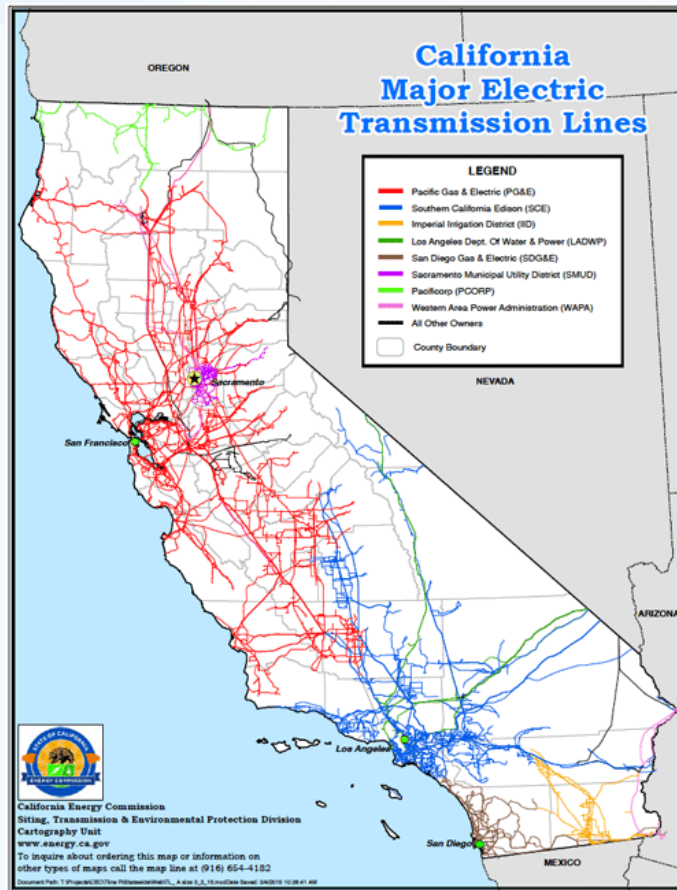
What does that mean for us in California? (1)

- California produces periodic scientific assessments of potential impacts – 2006, 2009, 2012 – fourth underway
- Assessments have concluded:
 - Temperatures in California will rise significantly during the 21st century.
 - A Mediterranean pattern of weather.
 - Increased wildfire risk.
 - There will be impacts on public health and well-being.

What does that mean for us in California? (2)

- Assessments have concluded:
 - The supply of water throughout the State will be impacted.
 - Increased demand for cooling in the summertime.*
 - Accelerated sea level rise and coastal flooding.**
 - Ecosystems are vulnerable to the effects of climate change.
 - Agriculture is also vulnerable.

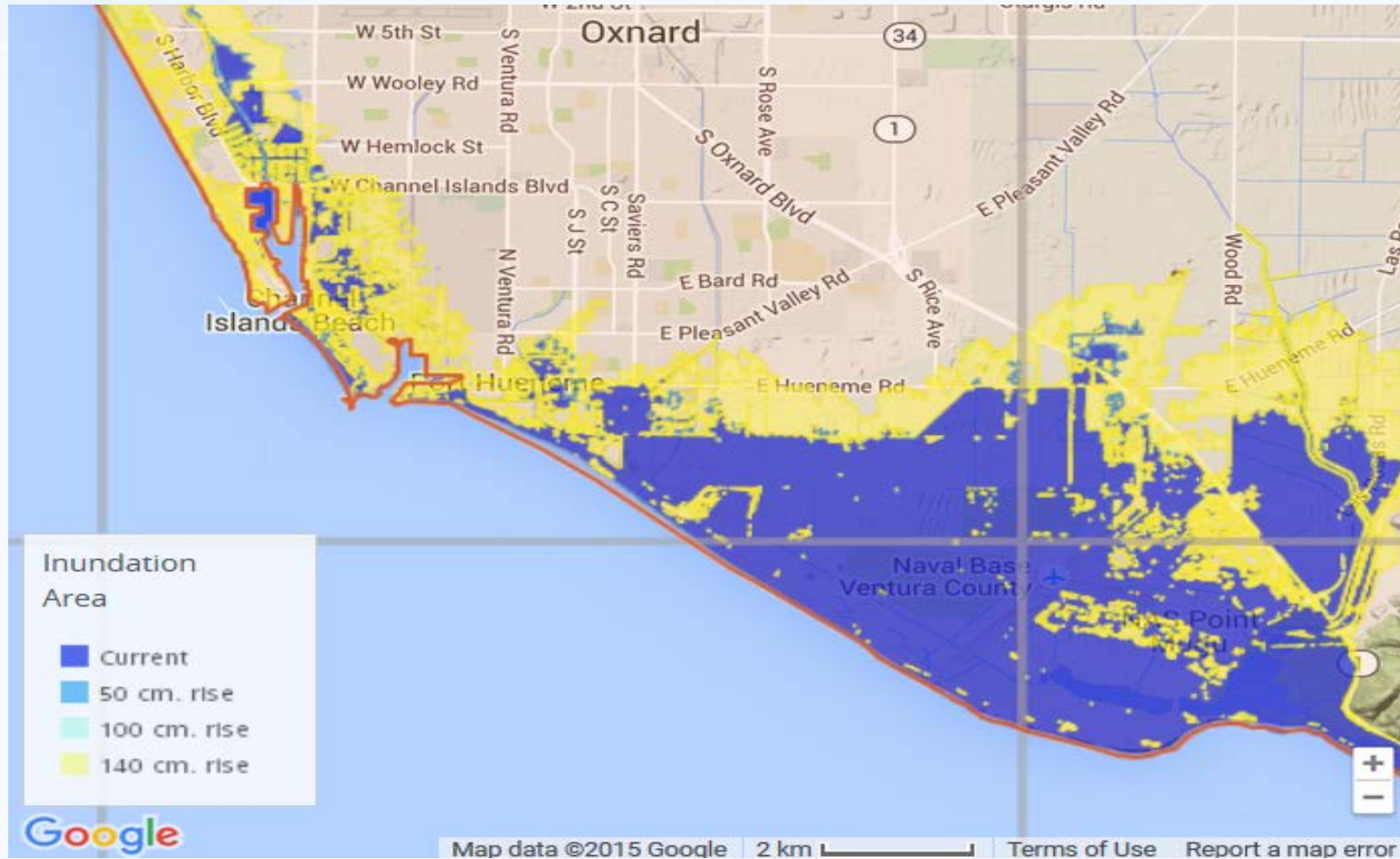
Energy and Fire - Patterns



<http://www.energy.ca.gov/maps/> and CalFire**

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Sea Level Rise & Storms – Patterns



100 cm = 40 inches

140 cm = 55 inches **

This can be overwhelming....

- Sometimes the message is a little like the hills are burning, the sea is rising, our human species is at risk, and all is lost.*



or



Here's how many of us feel a lot of the time



California's Response, Bipartisan and Consistent (1)

- AB 1493 (Pavley) – introduced in 2002, California sued EPA, implemented in 2009, regulates vehicle technologies
 - First legislation in the world to regulate GHGs from passenger vehicles
- 2006: Global Warming Solutions Act (AB 32)
 - Reduce GHG emissions to 1990 levels by 2020
 - Create a Scoping Plan to implement reductions
- California's Low Carbon Fuel Standard, established in 2007, reduces the carbon intensity in fuels

California's Response, Bipartisan and Consistent (2)

- 2008: Sustainable Communities and Climate Protection Act
 - Land use, transportation and housing policies must play their part
- 2015: 50% of energy from renewable sources by 2030
- And many others
- Reduction goals/targets:
 - AB 32
 - reduce GHGs to 1990 levels by 2020 (approximately 30%)
 - Reduce by 80% by 2050
 - Governor Brown April 2015
 - 40% below 1990 by 2030



From the Globe

To the State

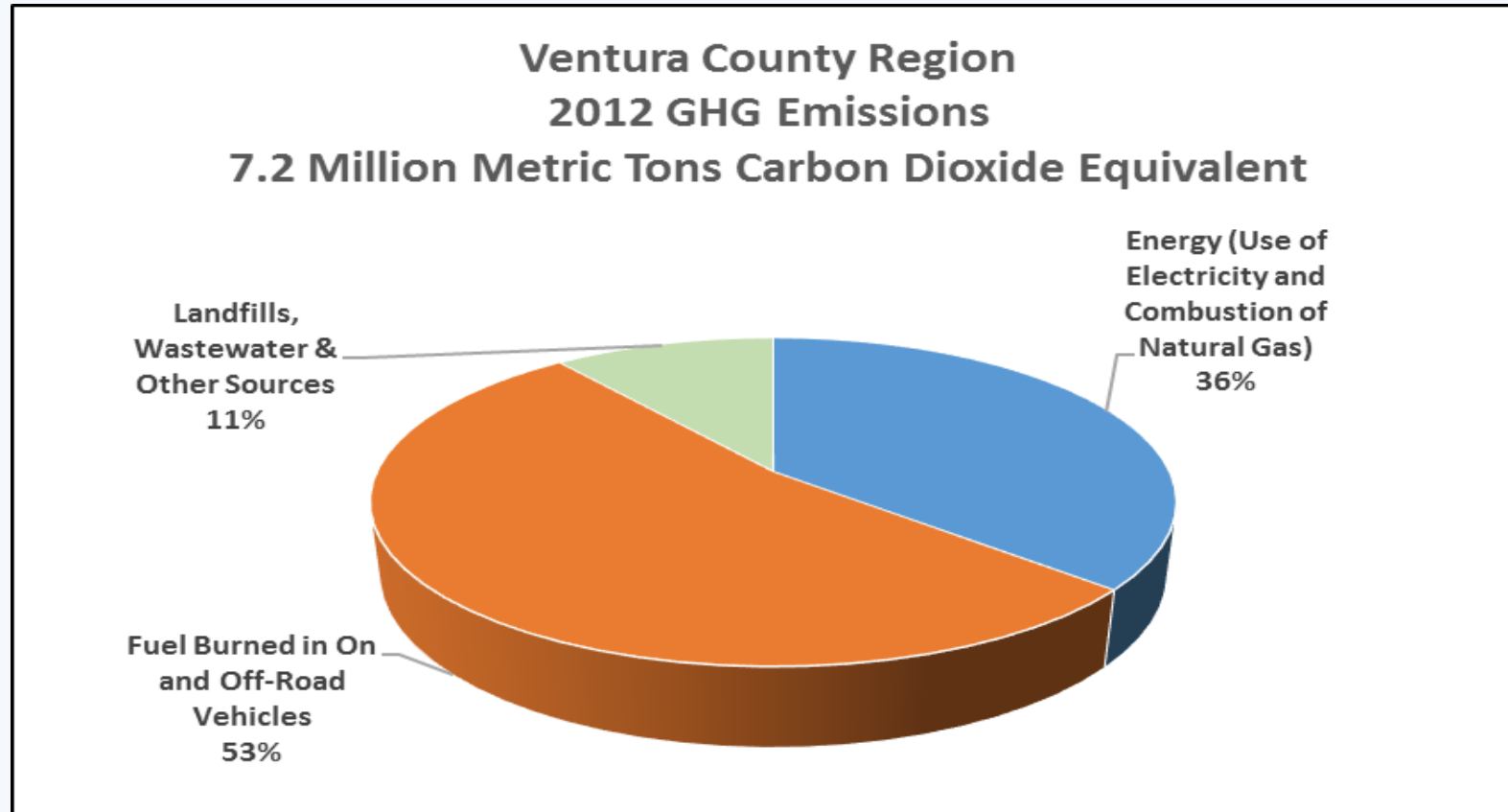
To the Region

To the City

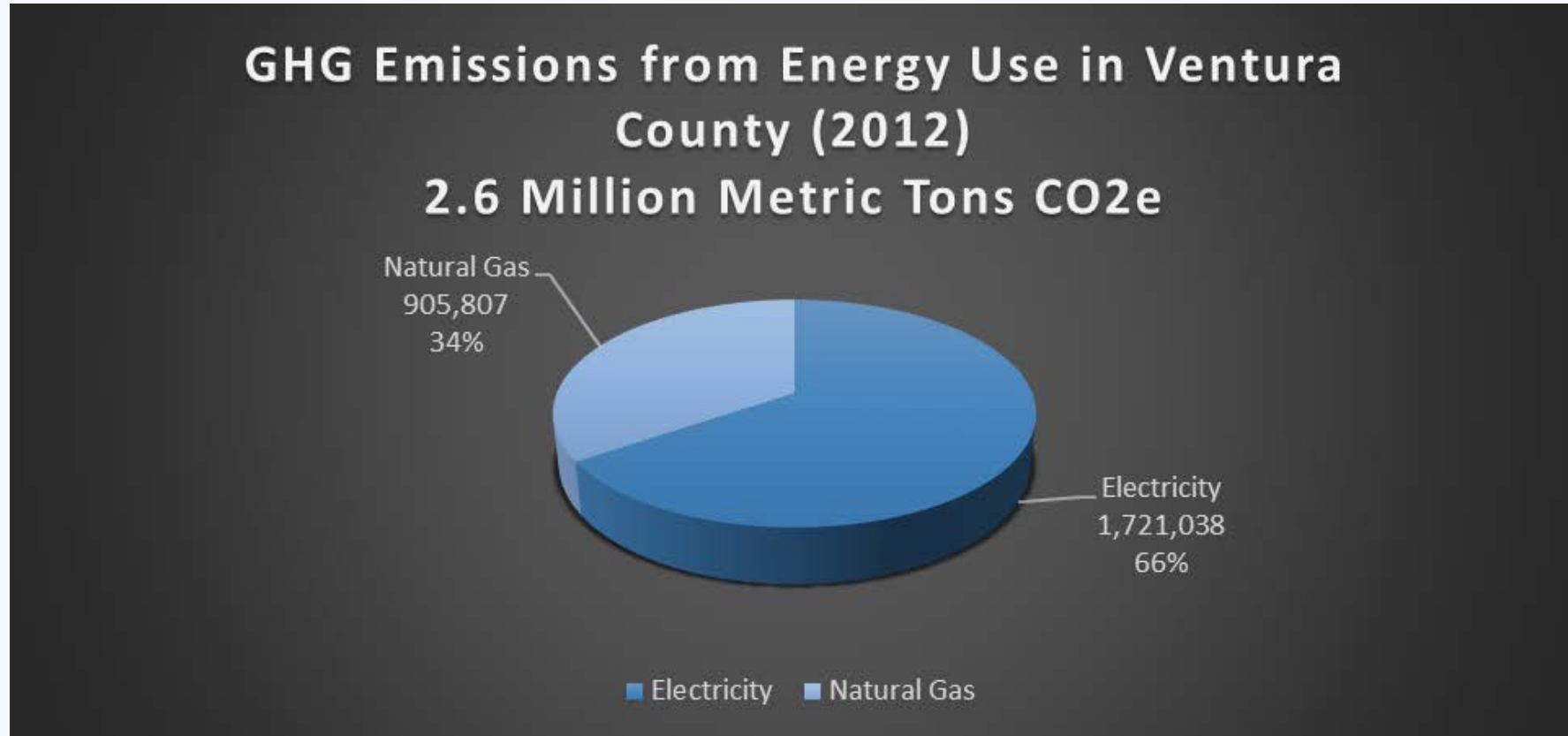
Ventura County Carbon Footprint

- *Funded by Southern California Edison, under the auspices of the California Public Utility Commission*
- *Paid for with ratepayer dollars*
- *Calendar years 2010 through 2012*
 - *working on getting data for later years ****

Total County Emissions



Our Energy Emissions **



What we know

- *Strong confidence in our knowledge of residential emissions*
- *More difficult with non-residential emissions because there are requirements imposed by CPUC to maintain confidentiality*
- *One source of highly reliable information is data that is reported to the State under the Cap and Trade program*

2012 Data Reported to ARB under the GHG Mandatory Reporting Rule

Facility	2012 (MT CO ₂ e)
Amgen Inc., Thousand Oaks	23,211
California State University, Channel Islands, Cogeneration Unit, Unincorporated Area	106,985
E.F. Oxnard LLC, Oxnard	82,804
Houweling Nurseries, Cogeneration Unit, Unincorporated Area	24,412
Mandalay Generating Station Oxnard	135,517
Ormond Beach Generating Station, Oxnard	149,250
P&G Paper Products, Oxnard	330,803
Southern California Edison (SCE) – McGrath Peaker, Oxnard	904
Total	853,886



And mobile sources?

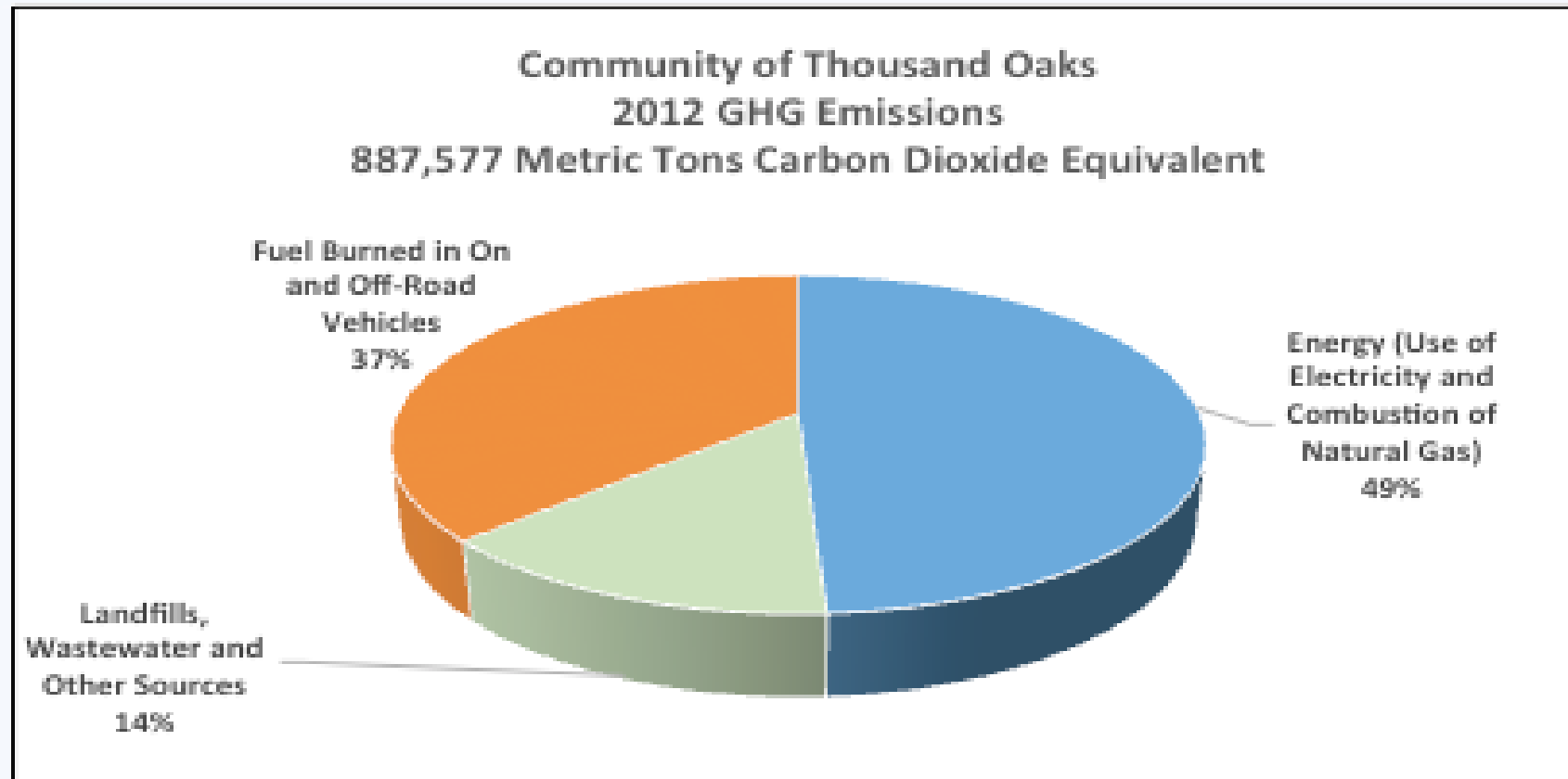


"Yeah, I see him too...But nobody wants to talk about it!"

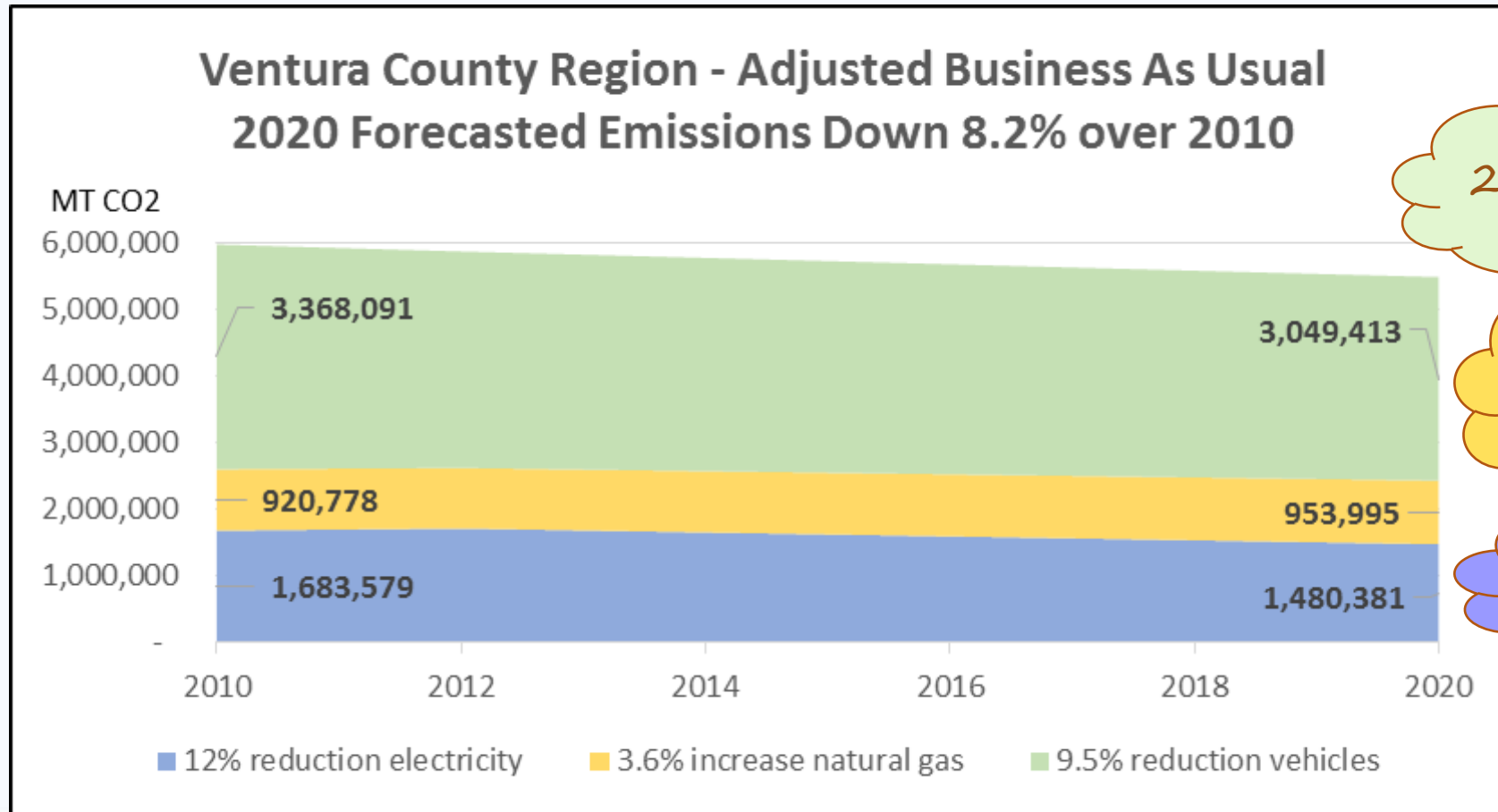
What do mobile sources include?

- All vehicles that move on our roads and highways
- Emissions from State highways account for 54% of all mobile source emissions
- This includes vehicles that travel through Ventura County on their way to somewhere else
- We do not have reliable information on what percentage that is
 - Also, a little outside the mandate of an energy alliance
- But we do know what the State is doing to reduce emissions
- And VCREA can work with other similar types of organizations to find solutions

What about Thousand Oaks?



The Big Picture – Where are we headed?

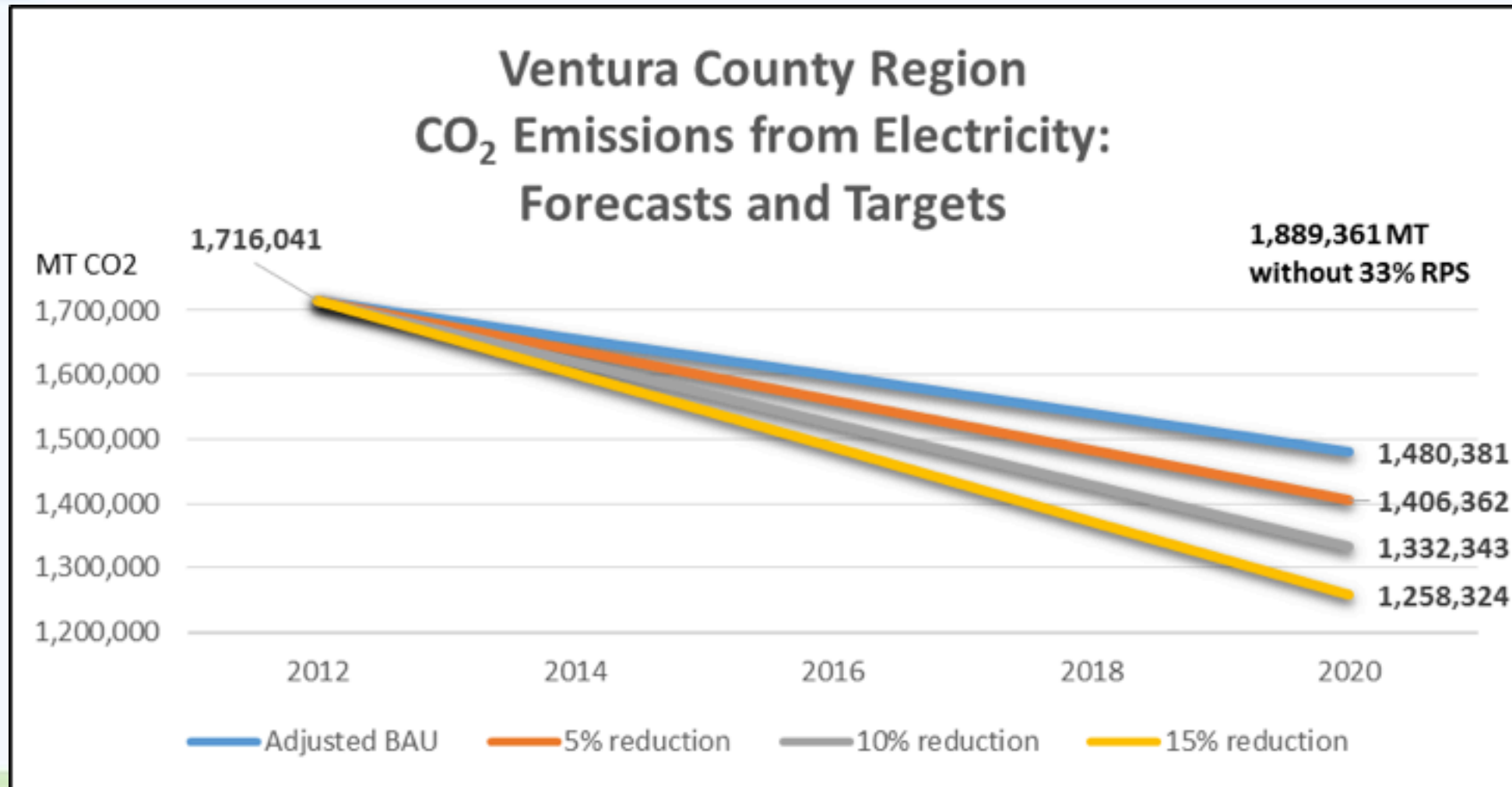


2,293,212

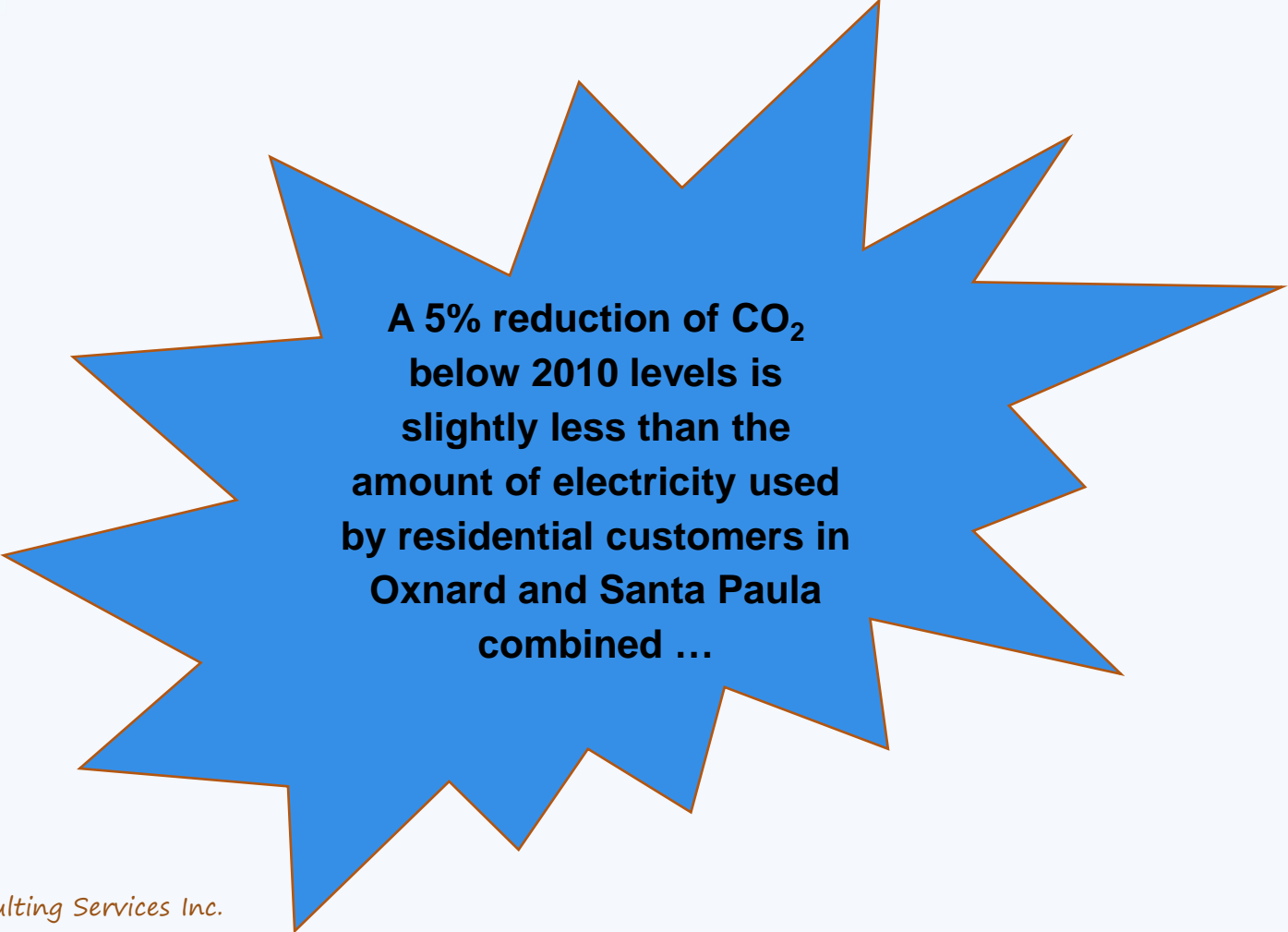
992,849

1,203,564

A Little More Detail: Emissions from Electricity Use

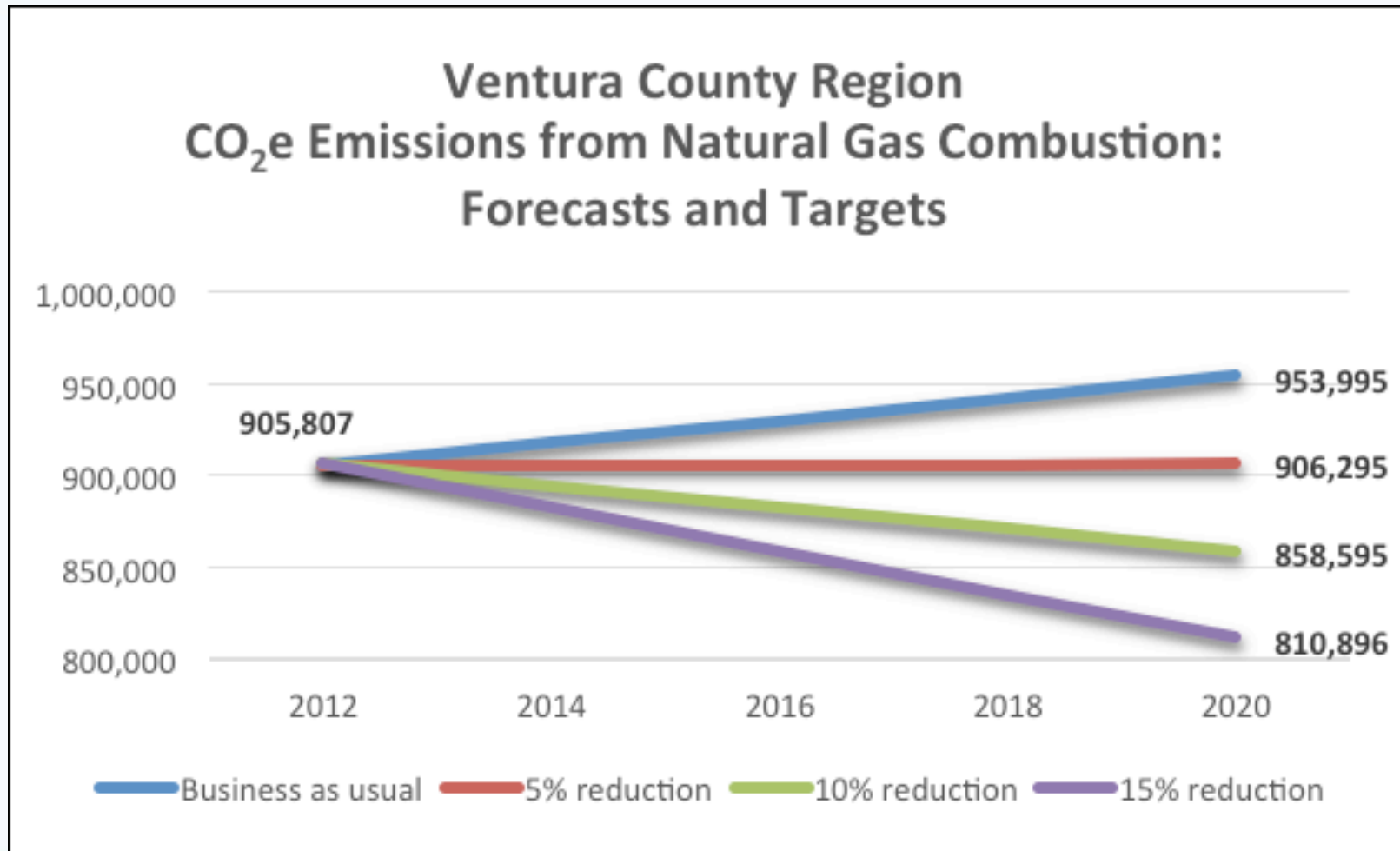


And what does that mean???



**A 5% reduction of CO₂
below 2010 levels is
slightly less than the
amount of electricity used
by residential customers in
Oxnard and Santa Paula
combined ...**

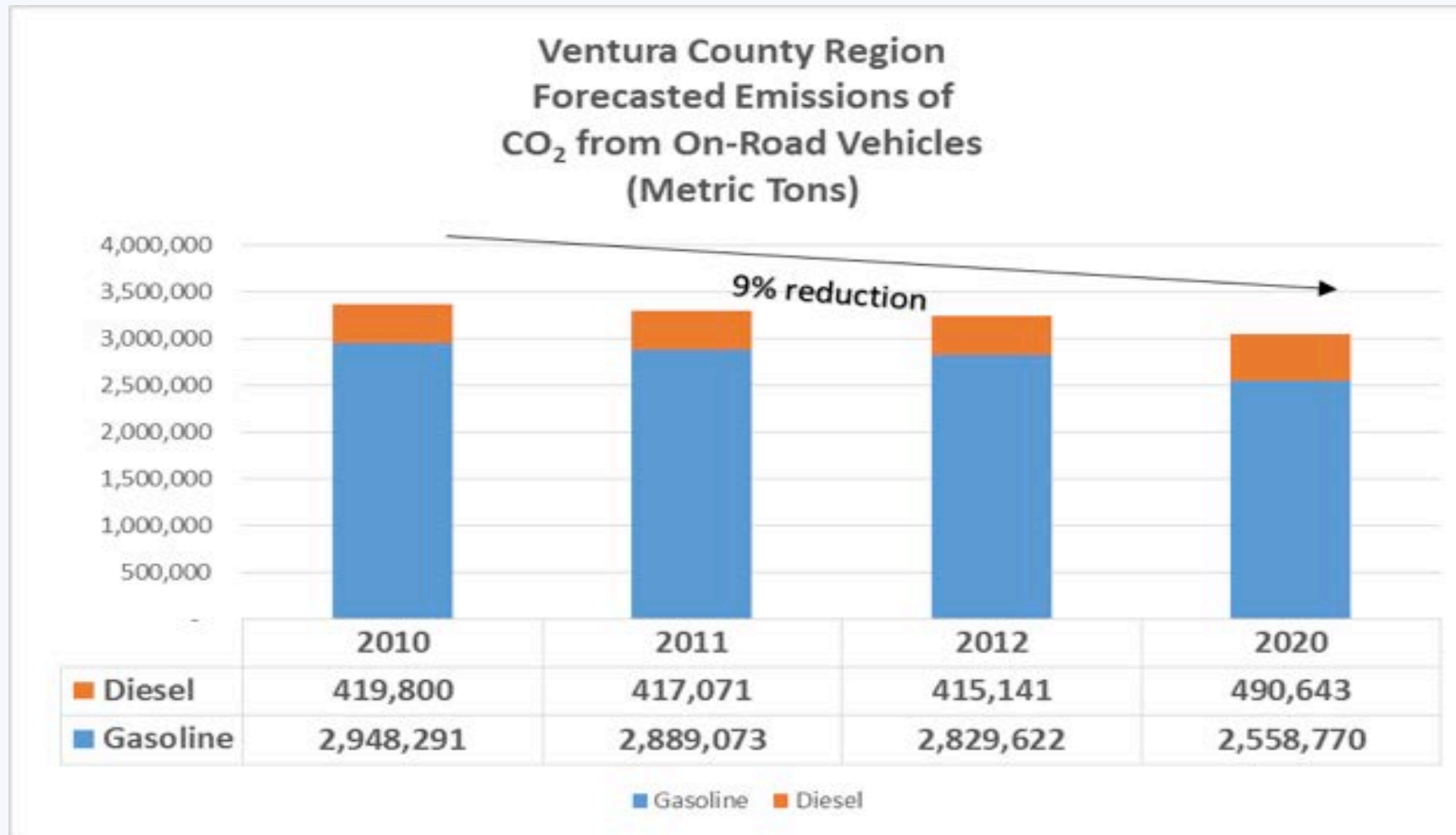
A Little More Detail: Emissions from Natural Gas Combustion



Again, what does that mean???

**A 10% reduction of 172,104 MT
of CO₂e in natural gas
combustion would be roughly
equivalent to all natural gas
used in Camarillo and Fillmore
in 2012.**

A Little More Detail: Emissions from Vehicles



Actions that governments can take to reduce GHGs

- *Green Building and Energy (Energy Action Plan components)*
- *Water*
- *Transportation*
- *Solid Waste*
- *Non-Traditional Measures*

Internalizing Our Issues



And she

What is my role?



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Something to Think About

