

# Sustainability in Benicia

Presented by BHS Earthwise

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# Glossary

Climate Change

Environmental Justice

Methods to Sustainability

# What is Climate Change?

Climate Change is the long-term shift in weather patterns/temperature.

- Human activities
- Fossil Fuels
- Greenhouse Gas Emissions



# Energy

## Clean energy

Energy from natural sources

Solar

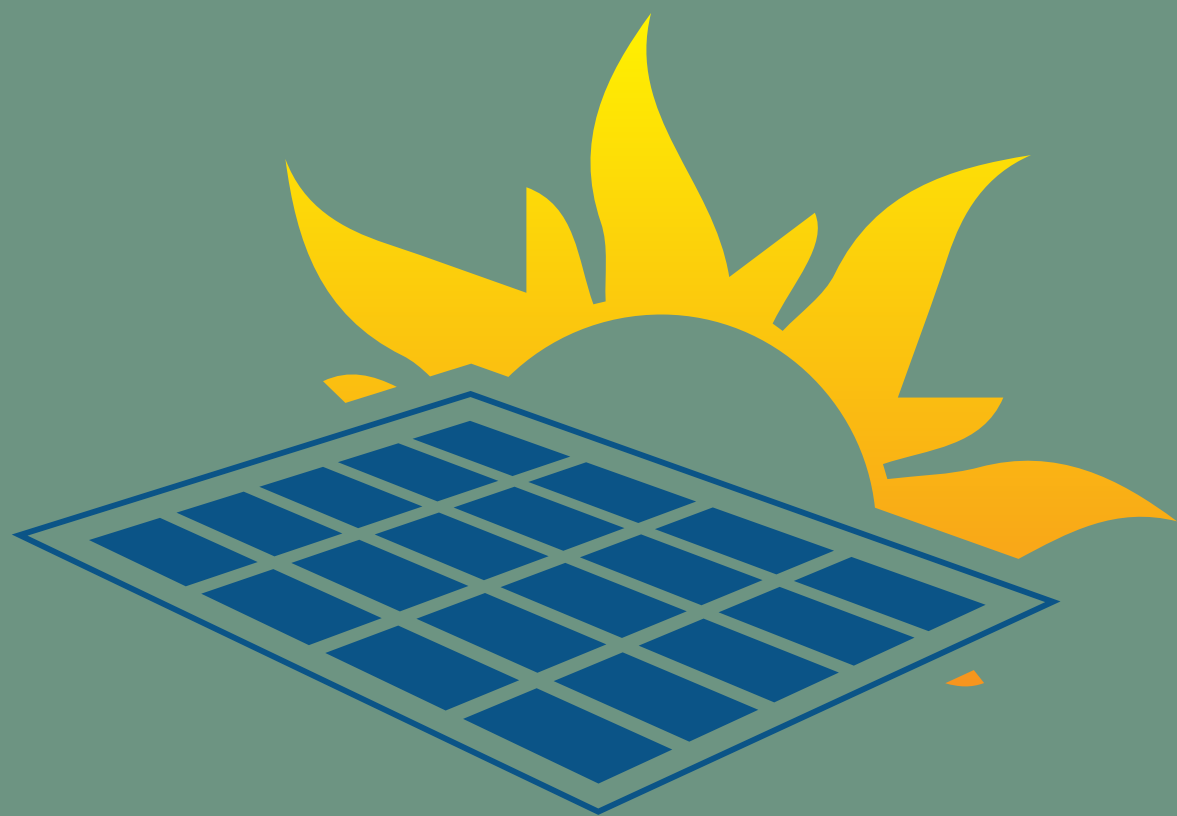
Wind

Geothermal

Hydropower

Ocean

Bioenergy



# Energy

## Energy Impact

### Producing **dirty energy**

Coal

Oil

Gas

Dams

Nuclear power

Unsustainable Bioenergy

Waste to energy

Air pollution

Water pollution

Thermal pollution

Solid waste disposal

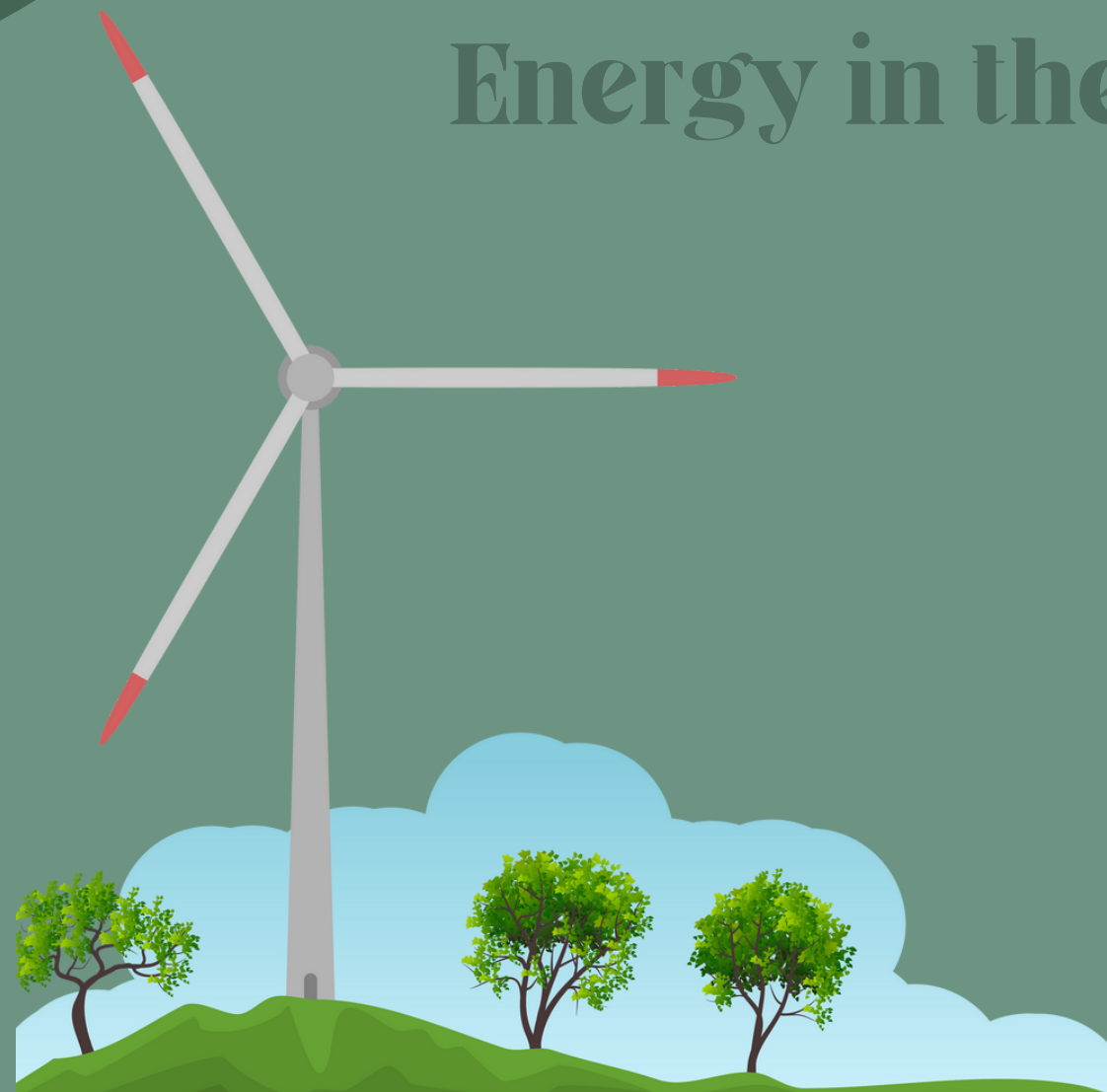
Burning fossil fuels

Greenhouse gasses

Oil spills

# Energy

Energy in the Bay Area



California uses

**65.2% Thermal and Non-renewable energy**

**34.8% Renewable Energy**

# Waste

## What is Waste?

**Unnecessary resource** of substance that is released in water, and, or air, which can affect human and environmental health in negative manners



# Waste

## Effects of Waste – Human

- Newly Developed diseases
- Asthma
- Birth Defects
- Cancer
- Childhood Cancer's
- Cardiovascular Disease
- Low Birth Weight
- Preterm Delivery





# Waste

## Effects of Waste – Environment

- Ocean Habitants consumption (Ocean contamination)
- Water Contamination (chemical intoxications)
- Land Degradation
- Air contamination due to Carbon Dioxide emissions

# Waste

## Waste in California

**Californians throw away  
6 lbs of trash every day**

**2200 lbs/year**

Goal (2020): 2.7  
lbs per person

BUT (since 2012):  
increase of 5.3 to  
6 lbs

And decrease of  
50% of recycling



### The State of Waste in California

Californians throw away 6 pounds of trash every day, equivalent to almost 2200 pounds every year, roughly the weight of a subcompact car...

PIRG CALPIRG Education Fund

# Waste

## Waste in California

**70% of material in  
disposable facilities could  
have been recycled**

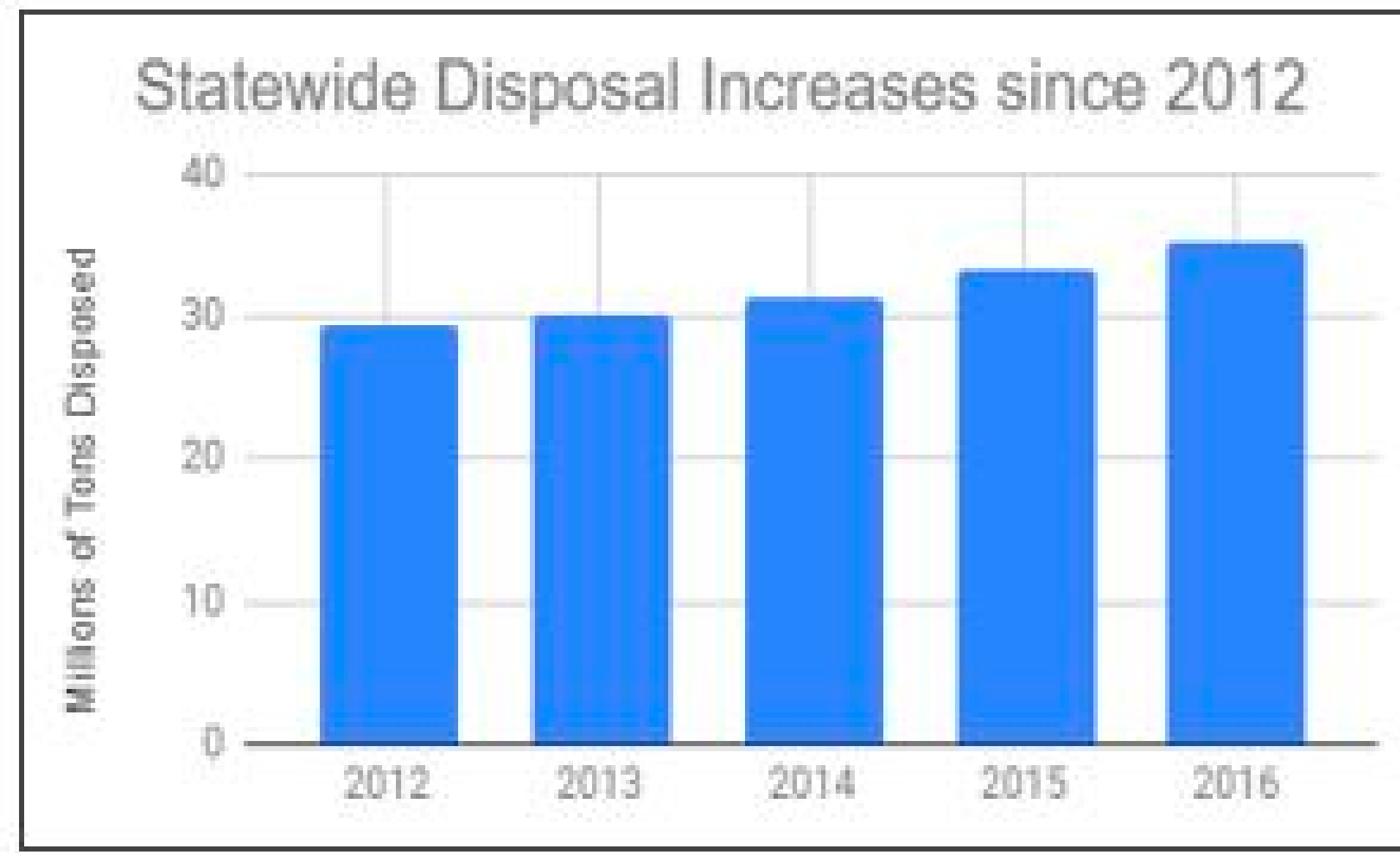
**21.8 million tons**

**Weight of nearly 52  
Golden Gate Bridges**



# Waste

## Waste in California



*Data provided by CalRecycle*

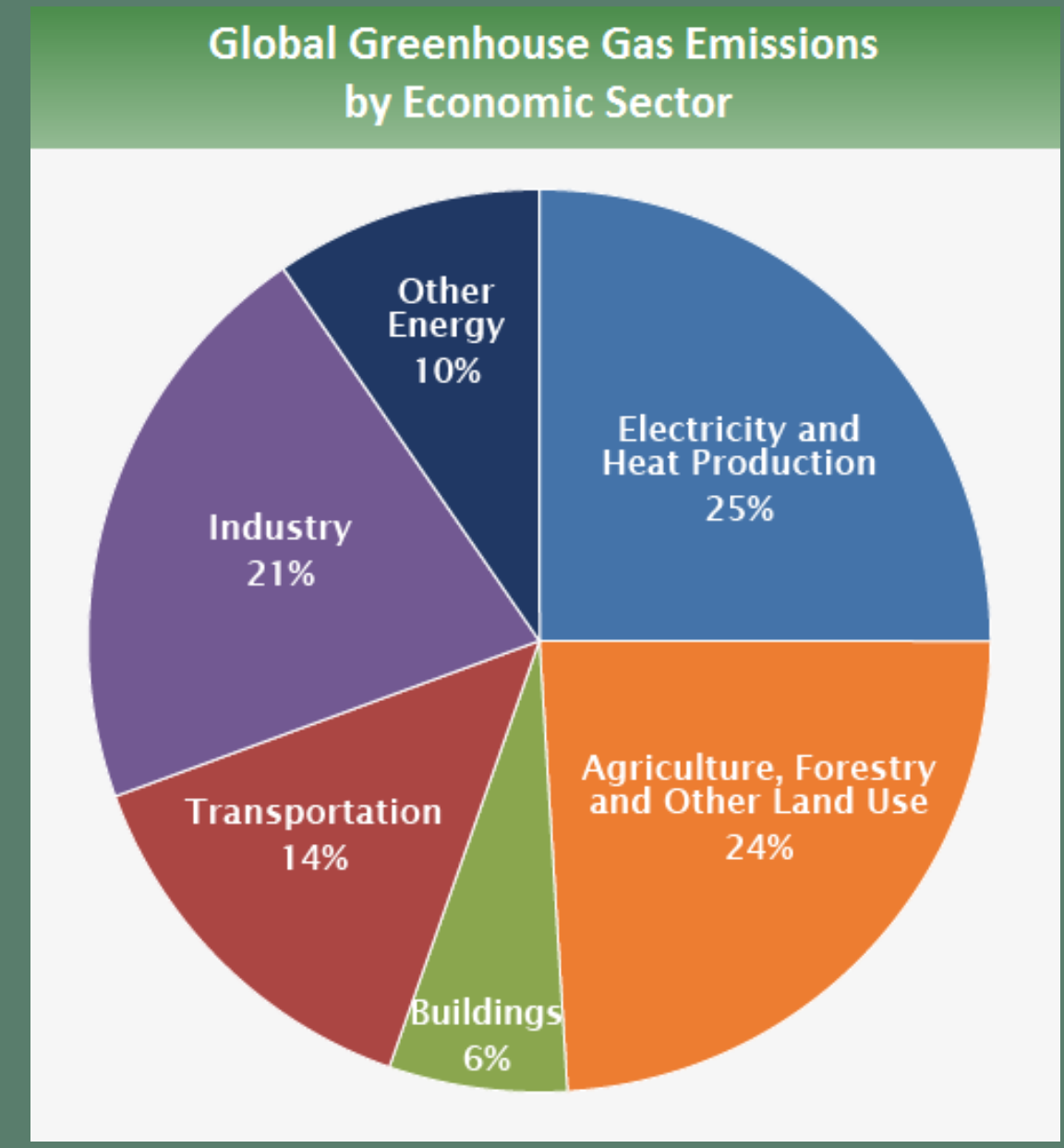
# Air Pollution

## Transportation

Transportation with gasoline/diesel

Greenhouse Gas

Earth's Atmosphere → Warming



# Air Pollution

## Health Impacts

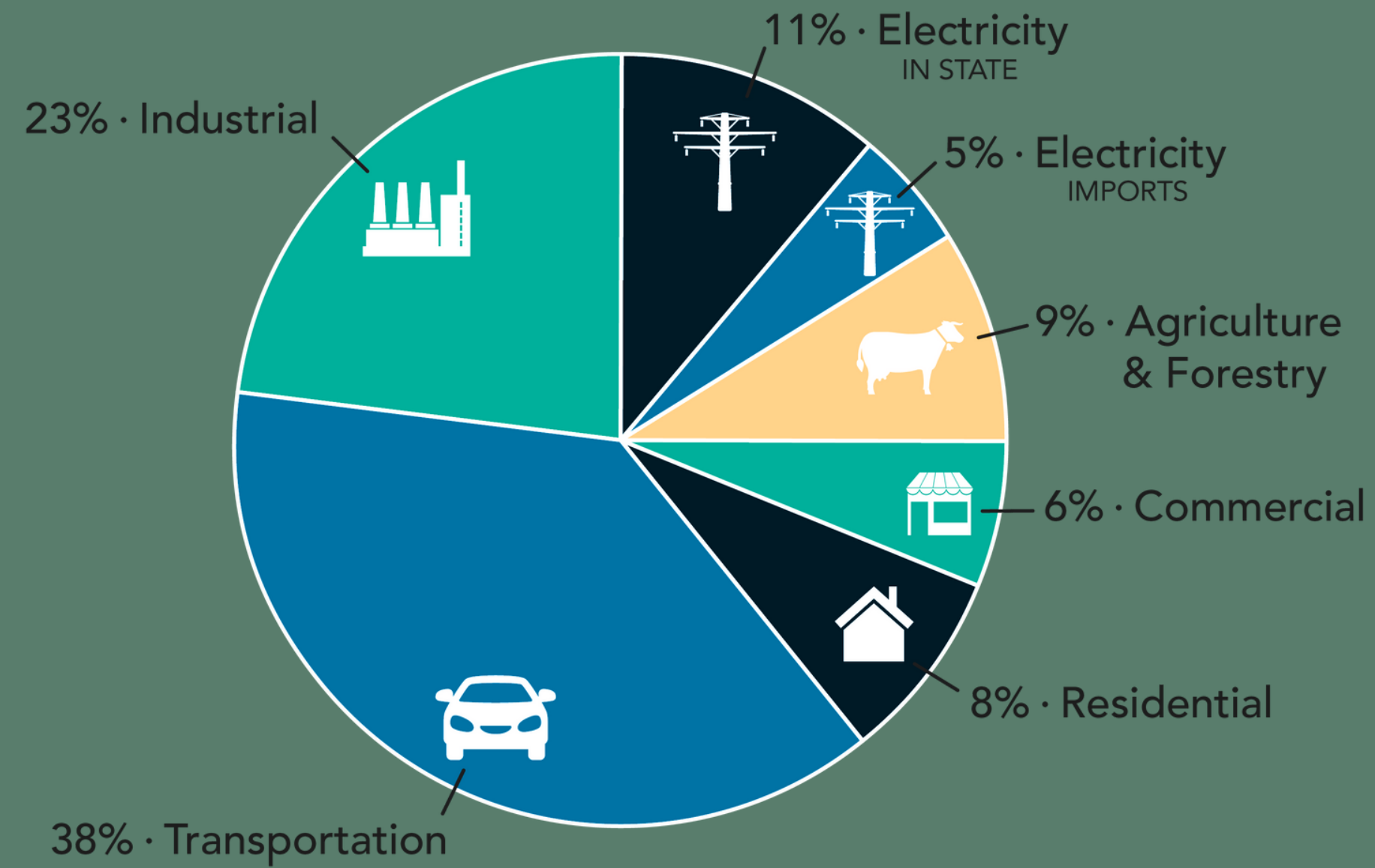
Poor air quality can negatively affect human health:

- Respiratory Problems
- Cardiovascular Problems



# Air Pollution

## Transportation Impacts in California



**369.2 MMT CO<sub>2</sub>e**  
2020 TOTAL CA EMISSIONS

# Global Warming

## What Is Global Warming?

Global Warming is the increase of the Earth's temperature in long term clauses



## The Causes of Global Warming are...

- Carbon Dioxide (CO<sub>2</sub>) along with other pollutions is in the atmosphere
- Other pollutions being **methane, nitrous oxide, water vapor, and greenhouse gases** (synthetic fluorinated gases)



# Global Warming

Because of the Greenhouse gases being released into the Earth's Atmosphere, it evidently causes something called the "**Greenhouse Effect**"

The "Greenhouse Effect" is when the UV ray's of the sun essentially penetrates the Earth's atmosphere,

but since heat is becoming reflected off of those ray's due to the Greenhouse Effect, that surface of heat from the sun cannot escape, therefore becoming trapped with additional heat

# Global Warming

## Effects on different sources of life

### Human Life

- More prominent exposure to extreme weather
- Respiratory Conditions (Asthma; Renal Failure)
- Noncommunicable Diseases
- Deaths of over 250,000 people
- 100 million people in poverty by 2030

### Environmental Life

- More Snowmelt; leads to disappearing glaciers in North America
- Rising Sea Levels which could lead to more coastal floods
- New Pests will be profound in forests, farms, and cities because of Climate Change

## Caused by overconsumption

- Humans today have extracted more than 50% of Earth's natural resources
- Due to overconsumption, more fossil fuels are burned; which can result in more mining

# What is Environmental Justice?

Fair and equal treatment between people regardless of race, color, national origin, or income for the development, implementation, and enforcement of environmental laws, regulations, and policies

# Environmental Justice

## Environmental Racism

**Environmental Racism is the exposure of environmental dangers and hazardous environments towards Communities of Color**

These Prejudice acts are made on behalf of environmental policy making, enforcement in regulation laws, and targeting communities of color for toxic waste and industries that emit pollution

### **Flint Water Crisis (2014)**

- More than 100,000 residents of color -most recorded to be Black were exposed to bacteria such as:
  - Lead
  - Legionella
  - Escherichia Coli

### **Arsenic Contamination In San Joaquin Valley(2012)**

- Arsenic is a chemical that is primarily found in groundwater
- In San Joaquin, the main source of water for 1 million residents is groundwater, which was the worst exposure for low income communities like Communities of Color

# Environmental Justice

## In Communities of Color

**Communities of Color are exposed to 55% more Nitrogen Dioxide (NO<sub>2</sub>), poisonous, and reactive gases that can cause different health conditions, than those of white communities**

- Due to extreme weather causes of Climate Change, efforts of city change to rebuild communities of color are often inadequate compared to white communities
- 11.2% of African-American children and 4.0% of Mexican-American children are poisoned by lead compared to 2.3% of white children
- Indigenous people of the Navajo Nation have suffered years of water contamination due to uranium mining

# Environmental Justice

## Examples in California

### The Bureau of Environmental Justice

Focuses:

Ensures compliance with the California Environmental Act and land use planning laws

Penalizing/preventing illegal discharge to air and water from facilities located in locations that were already burdened from air pollution

Eliminating/reducing exposure to lead/other toxins in environment/consumer products

# Methods of Sustainability

## **What is a carbon footprint?**

total amount of green house gas emissions (carbon dioxide) produced due to your actions in a lifetime.

# Methods of Sustainability

## Importance to Acknowledge

- creates an impact on global warming and our earth's ecosystem
- help you better understand what role you play
- become a more sustainable person.





# Methods of Sustainability

## How to Keep Track of/Calculate your Carbon Footprint



Apps like **Earth Hero**, **LiveGreen**, and **Kilma** offer carbon tracking and methods to sustainability with an easily usable platform!

# Methods of Sustainability

## Ecosia

Switch to **Ecosia**: search engine that uses the profit from our searches to plant trees

Every Google search creates 0.2 grams of CO<sub>2</sub> - there are 3.5 billion Google searches every day.



# Methods of Sustainability

## Water Conservation

- Don't leave the water running when brushing your teeth, shaving, doing dishes etc
- Use water sprinklers less
- Check toilets and faucets for leaks
- Plant drought-resistant trees and plants
- Don't use the toilet as a trash can!
- **Every flush uses 1.6 - 7 gallons of water**



# Methods of Sustainability

## Shopping Local

Shopping locally requires less transportation, reducing pollution and the carbon emissions overseas shipping can cause.



*Benicia offers a local farmers market every Thursday April through October*

# Methods of Sustainability

## Reduce, Reuse, Recycle

**Reduce** - Limit the amount of trash-producing items used daily

**Reuse** - Bring new life to old items that can serve multiple purposes

**Recycle** - Turn old "single use" products into new projects or recycle items back into production

# Methods of Sustainability

## Sustainable Alternatives

some sustainable alternatives to every-day items include..

- Reusable water bottle
- Reusable grocery bags
- Wax food wraps
- Home-made cleaning products
- Cotton dish towels
- Compostable trash bags
- And more!

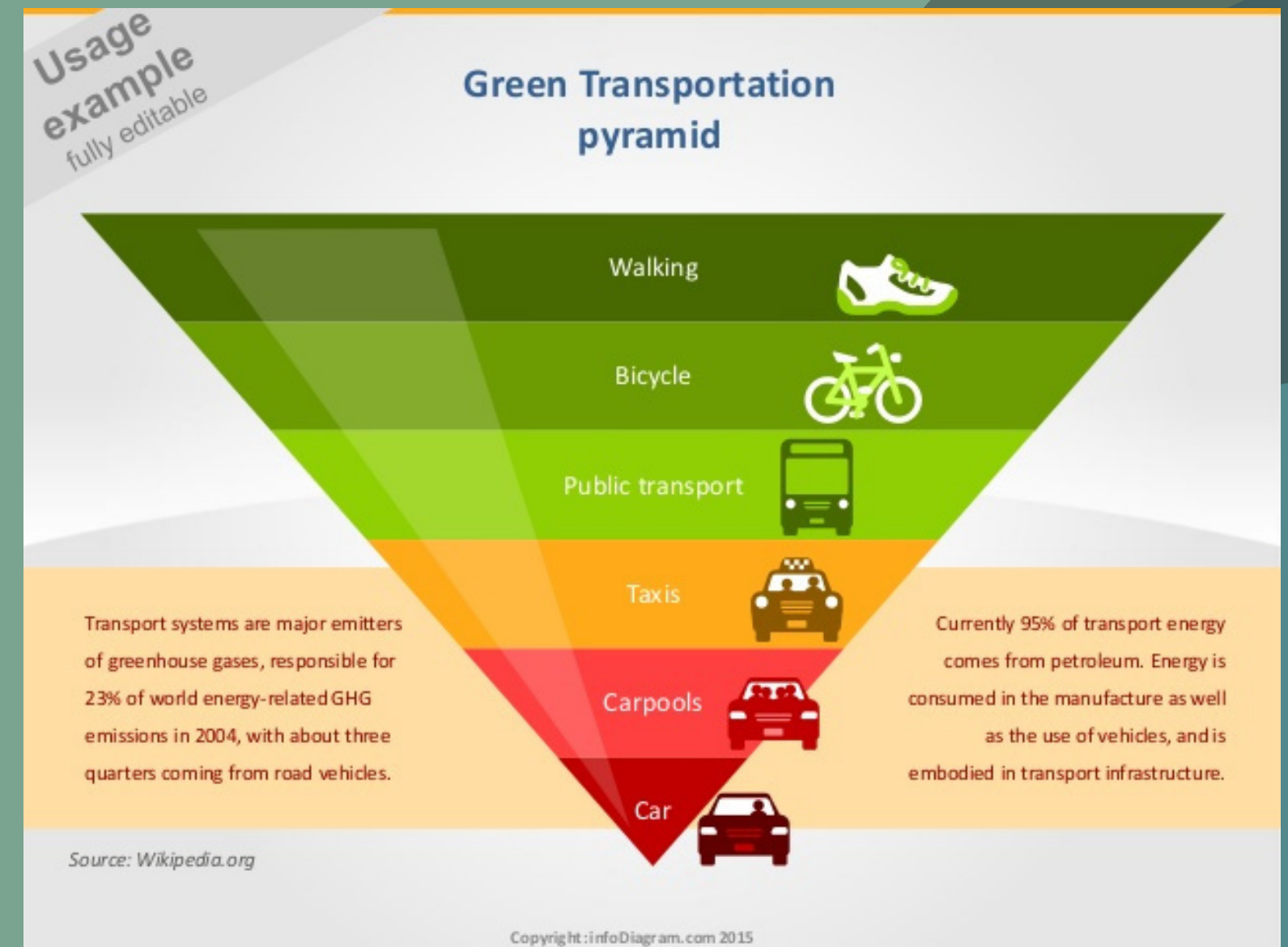


# Methods of Sustainability

## Transportation

***Some ways to be more sustainable when getting around include:***

- Using public transportation
- Carpooling
- Biking
- Walking
- Using electric/hybrid vehicles



# Methods of Sustainability

## Recycle – Compost – Trash

**WHAT GOES WHERE?**  
by Centre for Sustainability and Students for Sustainability

**greenUFV** Centre for Sustainability **SFS** Students for Sustainability

| GARBAGE   | RECYCLING  | COMPOST   |
|---|--|---|
| <br>chips<br>cookies<br>chip and cookie wrappings<br>plastic cutlery<br>styrofoam<br>rubber bands | <br>papers<br>newspapers and magazines<br>cardboard<br>clean boxboard | <br>fruit and veggie scraps<br>food-soiled cardboard packaging<br>soiled paper towel<br>coffee grounds and tea bags<br>sandwiches<br>coffee cups |





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**Thank you!**