

Family Sustainability Action Plan: Overview

Prepared by Mayor Cooper's Sustainability Advisory Committee,
Summer/Fall 2022

Family Sustainability Action Plan: Goal

To make Metro Nashville-Davidson
County a more healthy , sustainable
and resilient City by reducing Family
/Household Greenhouse Gas Emissions

What are greenhouse gases?

- ▶ Gases in the earth's Atmosphere which trap the Sun's heat.
- ▶ These gases are called greenhouse gases.
- ▶ High levels exist because of human activities such as burning fossil fuels.

Greenhouse Gases of Concern

- ▶ Carbon Dioxide
- ▶ Methane
- ▶ Nitrous Oxide
- ▶ Chlorofluorocarbons
- ▶ Water Vapor

Impact of excessive amounts of Greenhouse gases in the atmosphere:

Climate change and Global Warming



Fisk Community Environmental Sustainability Program 2022

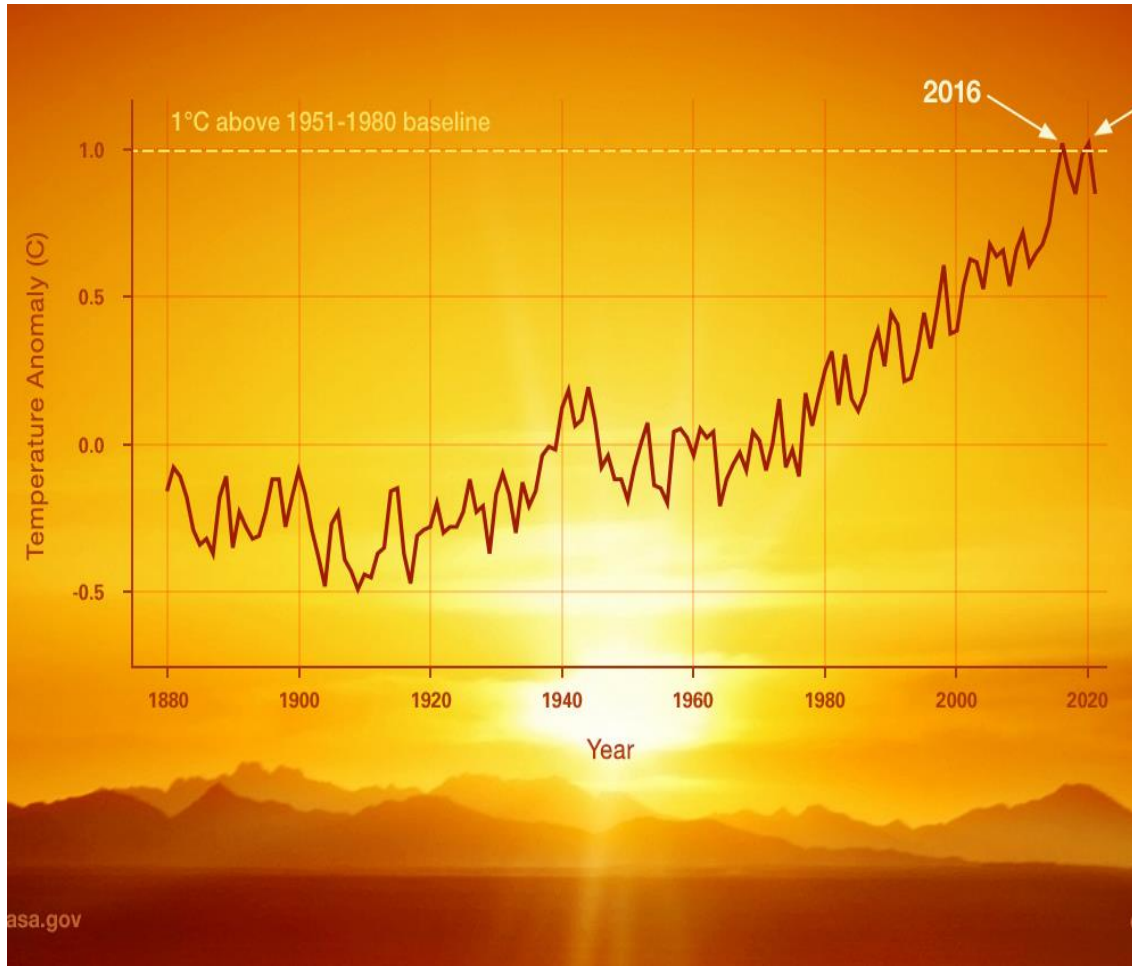
Climate vs Weather

- ▶ Climate describes conditions over the long term and over an entire region.
- ▶ Weather is local and temporary

Global Climate Change

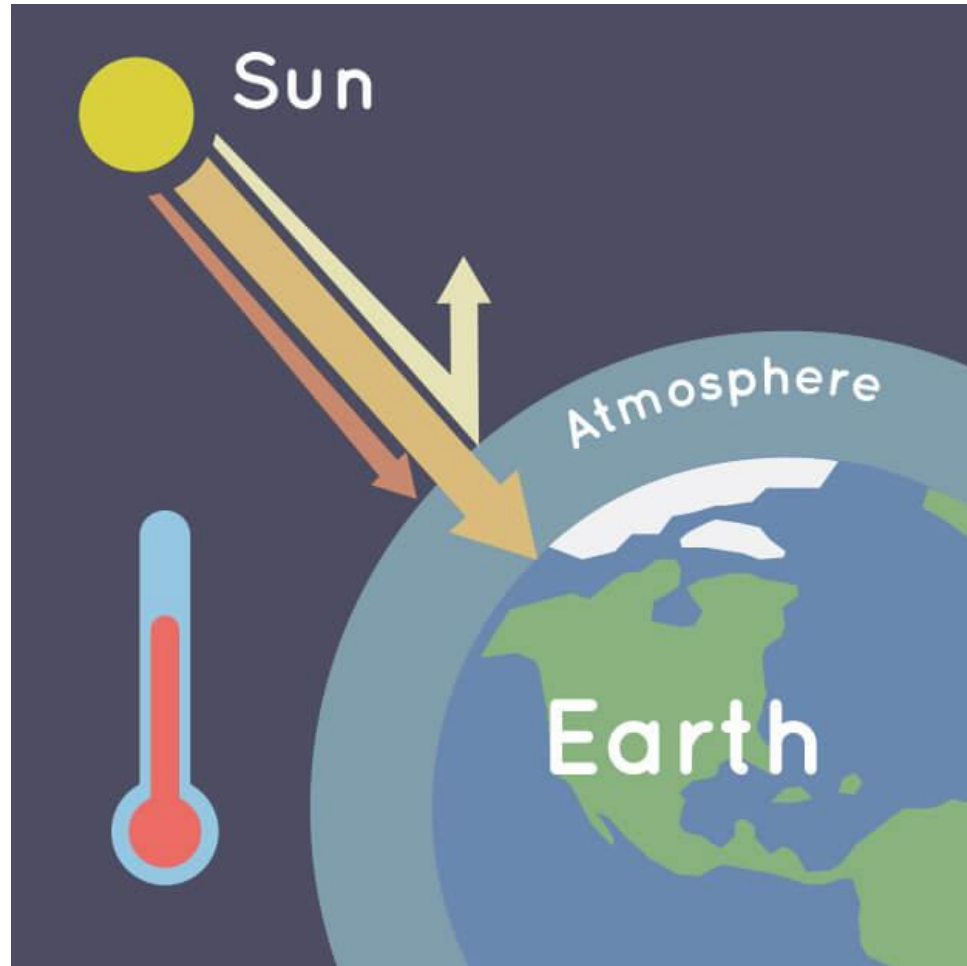
- ▶ Climate change is a long-term change in the average weather patterns that have come to define Earth's local, regional and global climates.
- ▶ NASA: <https://climate.nasa.gov/causes/>

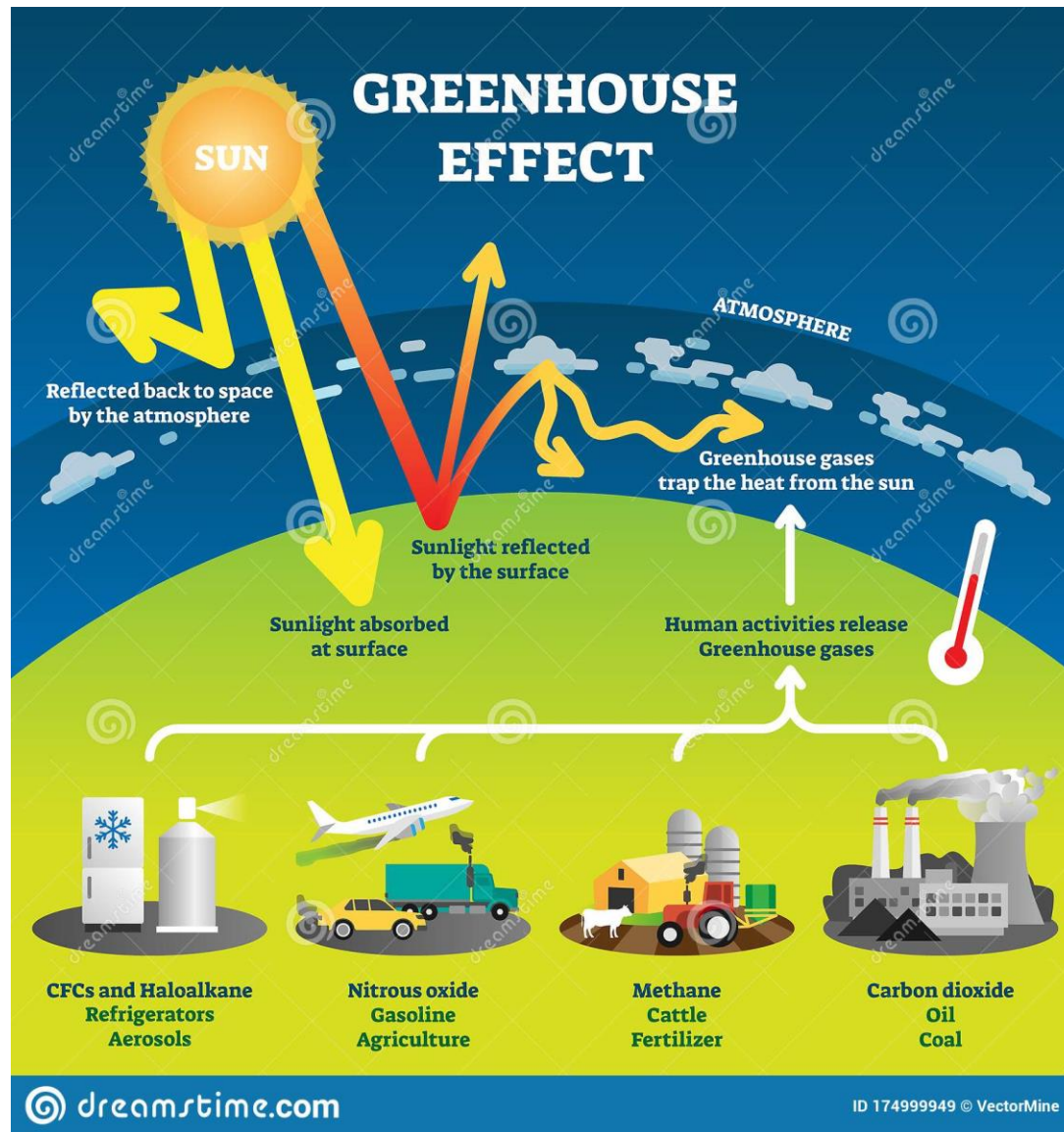
Global Warming



► This graph illustrates the change in global surface temperature relative to 1951-1980 average temperatures, with the year 2020 tying with 2016 for hottest on record (Source: [NASA's Goddard Institute for Space Studies](https://climate.nasa.gov/global-warming-vs-climate-change/))

► <https://climate.nasa.gov/global-warming-vs-climate-change/>





Climate change 101 with Bill Nye: National Geographic

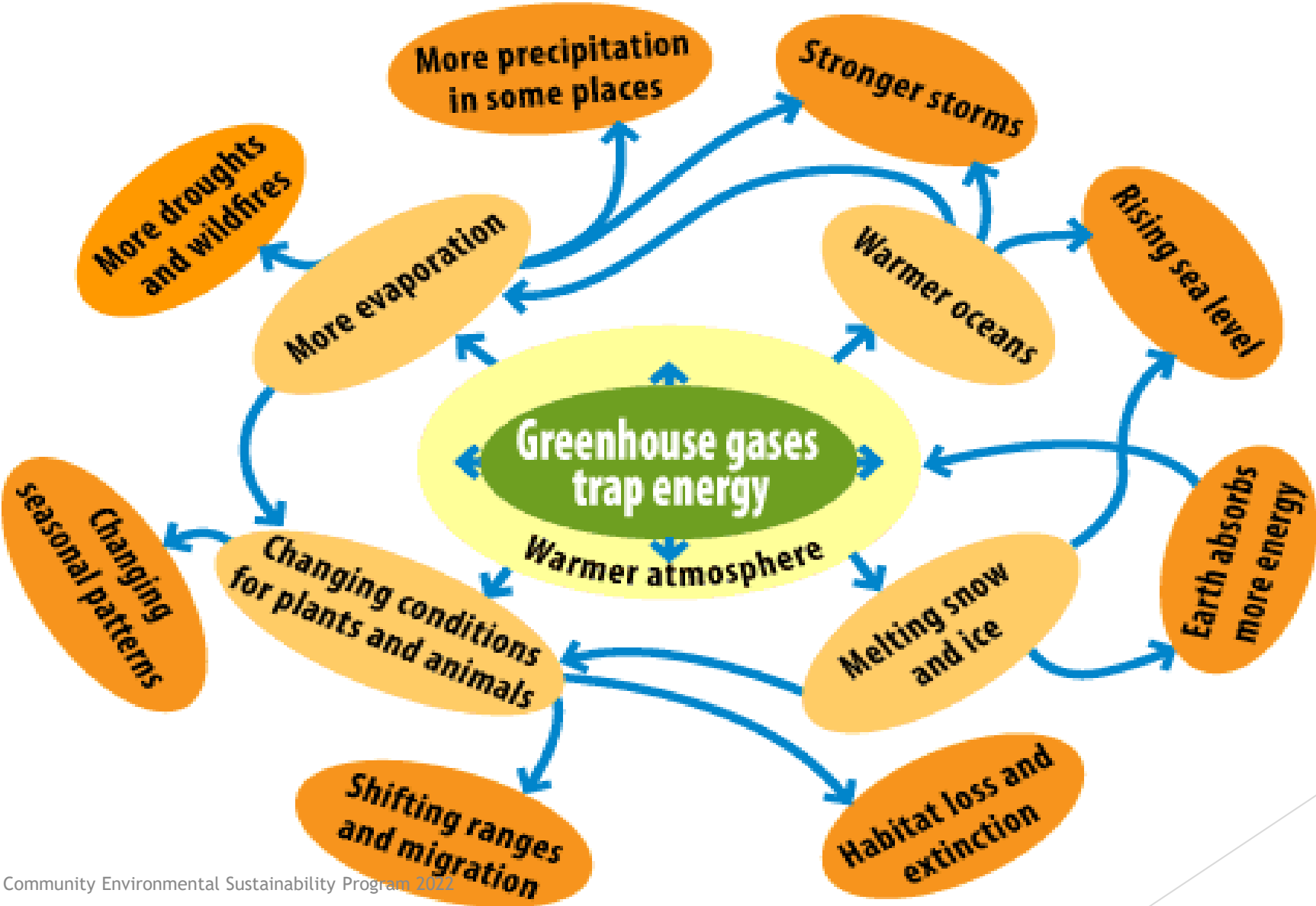
<https://www.youtube.com/watch?v=EtW2rrLHs08>

The Greenhouse Effect Video: USEPA

<https://www.youtube.com/watch?v=VYMjSule0Bw>

Impacts of Climate Change

Climate Connections



Why is Climate Change a Public Health Issue?

<https://www.youtube.com/watch?v=WPMtt5MZnJU>

Climate Change Impacts on Health

(with disproportionate impacts on children)

- ▶ Extreme Weather
- ▶ Extreme Heat
- ▶ Vector Borne Diseases
- ▶ Poor Air Quality
- ▶ Food Insecurity

- ▶ https://www.apha.org/-/media/Files/PDF/topics/climate/Childrens_Health.ashx



UNDERSTANDING THE HEALTH RISK OF EXTREME HEAT

- ▶ Exposure to Extreme Heat can have many direct impacts on human health(heat stroke, reduced labor productivity)
- ▶ As well as indirect effects(promoting air pollution, increasing asthma attacks, overloading power grids(requiring rolling blackouts)

[NOAA: National Integrated Heat Health Information System](https://nihhis.cpo.noaa.gov/)

▶ <https://nihhis.cpo.noaa.gov/>

Climate Change-Vulnerable Populations

► Children:

- Breathe more air and drink more water per body weight than adults
 - Developing organs and low immunity
 - Dependent on adults
 - More time spent outdoors
-
- <https://www.apha.org/topics-and-issues/climate-change/vulnerable-populations>

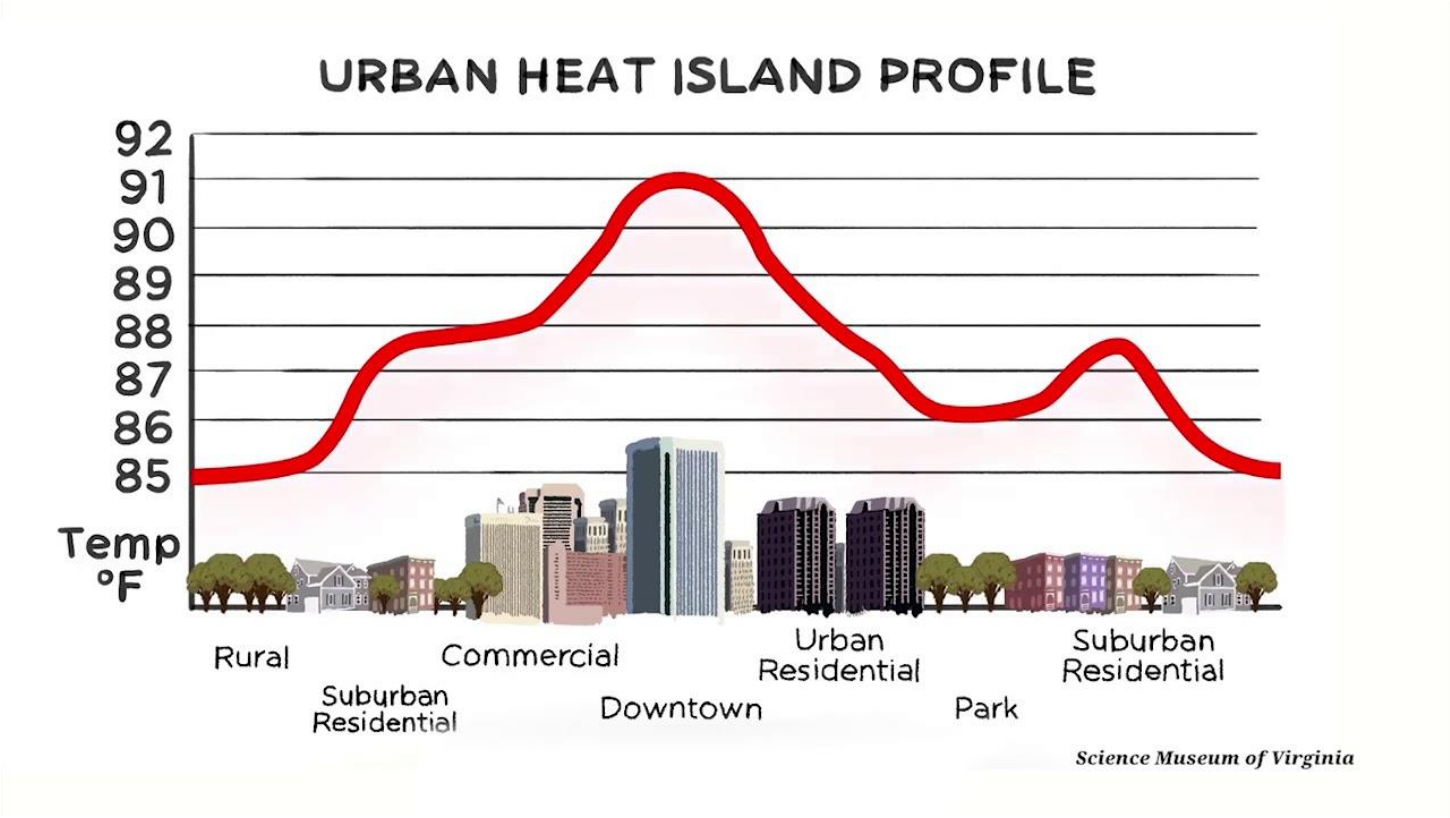
Climate Change-Vulnerable Populations

- ▶ Older Adults:
 - Low immunity
 - Pre-existing conditions
 - Limited mobility

Climate Change-Vulnerable Populations

- ▶ **Low Income Communities:**
 - Less resources and means to evacuate
 - Inadequate infrastructure

Urban Heat Islands



Climate Change Mitigation: Cut Emissions

► To avoid the worst consequences of climate change, we'll need to reach “net zero” carbon emissions by 2050 or sooner. Net zero means that, on balance, no more carbon is dumped into the atmosphere than is taken out.

Union of Concerned Scientists: Climate Solutions

<https://www.ucsusa.org/climate/solutions>

Metro Nashville GHG Emission Reduction Goal:

80% reduction in GHG Emissions (based on
2014 inventory) by 2050

Metro Nashville 2019 Community GHG Emissions

- ▶ Total= 11,256,544 metric tons of CO₂e
- ▶ Transportation and Mobile Sources: 51%
- ▶ Commercial Energy: 20%
- ▶ Residential: 16%--1,830,724 metric tons of CO₂e

Carbon Footprint

Our carbon footprint is the total amount of greenhouse gases generated by our everyday actions.

AT HOME ACTIVITY: Educating Children



Family/Household
Carbon Footprint
Calculation

Make it a Family
Activity

Activity One: Assess current state

- Introduction to concept of Carbon Footprint and key terms. See associated material, [Family Environmental Sustainability Action Plan: Overview.](#)
- Find your Family's Carbon Footprint: use [Nature Conservancy Carbon Footprint Calculator](#) and/or [EPA Carbon Footprint Calculator](#)
- Determine existing level of sustainability for the areas being assessed

Activity Two: Choose priorities

- Decide which areas that you and your family would like to become more sustainable – make it a family conversation!
- Review opportunities and current degree of success in areas that you have chosen to focus on.
- Use chart 1 of page 2 to show each activity that is being addressed, how the change is/will be made, whether your activity eliminates waste or reduces waste (more sustainable than now/past) and put a check in the column if this is ongoing or planned.

Activity Three: Develop plan

- Fill in chart 2 on page 2
- What are the steps you need to work toward the goal?
- What barriers do you expect? How can these be overcome?
- What is the measure of success at each step of your plan?

Plan action item	Family Member Name 'owner'	Approach and anticipated barriers	Target Date	Progress Notes	Completion Date
<i>NES home energy audit</i>	<i>Mom</i>	<i>Schedule phone appointment by calling 1-855-237-2673 or sign up online at https://energyright.com/residential/</i>			
<ul style="list-style-type: none"> • <i>Plan walking route to school</i> • <i>Participate in Walk to School Day on October 5th</i> 		<i>Practice route on the weekend. Look for low traffic, flat roads.</i>			<i>ongoing</i>

Carbon Footprint Calculation-I

Consider Travel , Home, Food, Shopping

The Nature Conservancy: Carbon Footprint Calculator

<https://www.nature.org/en-us/get-involved/how-to-help/carbon-footprint-calculator/>

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Carbon Footprint Calculation-II

Consider home energy, transportation and waste
USEPA carbon Footprint calculator

<https://www3.epa.gov/carbon-footprint-calculator>

Reduction in Household GHG Emission: Actions to Consider-I

Together we can make a BIG difference by making improvements in the following areas:

- ▶ **IN YOUR HOME:** Is your home an energy hog costing you money? Simple changes can save money, increase comfort and reduce your home's GHG impact.
- ▶ **GETTING AROUND:** Mix use of bike, walking and transit to save money on gas, reduce your GHG footprint, and live a healthier life!

Reduction in Household GHG Emission: Actions to Consider-II

Together we can make a BIG difference by making improvements in the additional following areas:

- ▶ **EATING:** Eating a healthy diet rich in fruits and vegetables will improve you and your family's health and reduce your impact on the planet.
- ▶ **BUYING STUFF:** When buying new things, consider how long they will last. The things we buy and throwaway carry a big GHG"

Seattle Climate Action Plan:
<https://www.seattle.gov/environment/climate-change/climate-planning>

References: I

[Nashville Recycling Game](#)

[Nashville SOCKET tips](#)

[Nashville Trash & Recycling](#)

[TDEC: Sustainability and Resilience at Home](#)

[Energy Star: Energy Savings at Home](#)

[Energy Star: Home Energy Yardstick](#)

[Turnip Green Creative Reuse - East Nashville](#)

[Sage Refill Market - 12 South](#)

References II

- ▶ [Energy Assistance | NES \(nespower.com\)](#) – HUP info and application
- ▶ [Analyze My Bill | NES \(nespower.com\)](#) – PowerWise Bill Analyzer tool: users put in as much info about their home as they want and get a customized report of where their energy dollars are going and where they can make improvements
- ▶ [Manage My Energy | NES \(nespower.com\)](#) – TVA EnergyRight link and energy usage calculators
- ▶ [Energy Management at Home - TVA EnergyRight](#) – All the stuff: DIY or in-home / virtual evaluation, energy saver workshops
- ▶ [Explore top rated energy efficient appliances and electronics on EnergyRight Marketplace \(efficientchoice.com\)](#)

Acknowledgements for Plan Development

- ▶ Mayor Cooper Sustainability Advisory Committee
- ▶ Midwest Consortium for Hazardous Waste Worker Training
- ▶ NIEHS