

Carbon Footprint of the Volunteer State





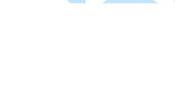



ABSTRACT

The Tennessee Volunteer Emission Reduction Strategy (TVERS) is an emission reduction plan developed by the Tennessee Department of Environment & Conservation (TDEC) with support from a variety of partners.

The plan supports investment strategies that reduce emissions, strengthen the workforce, spur economic growth, and enhance health & quality of life.

BREAKDOWN

The first task was to develop a baseline inventory for the sectors identified below:

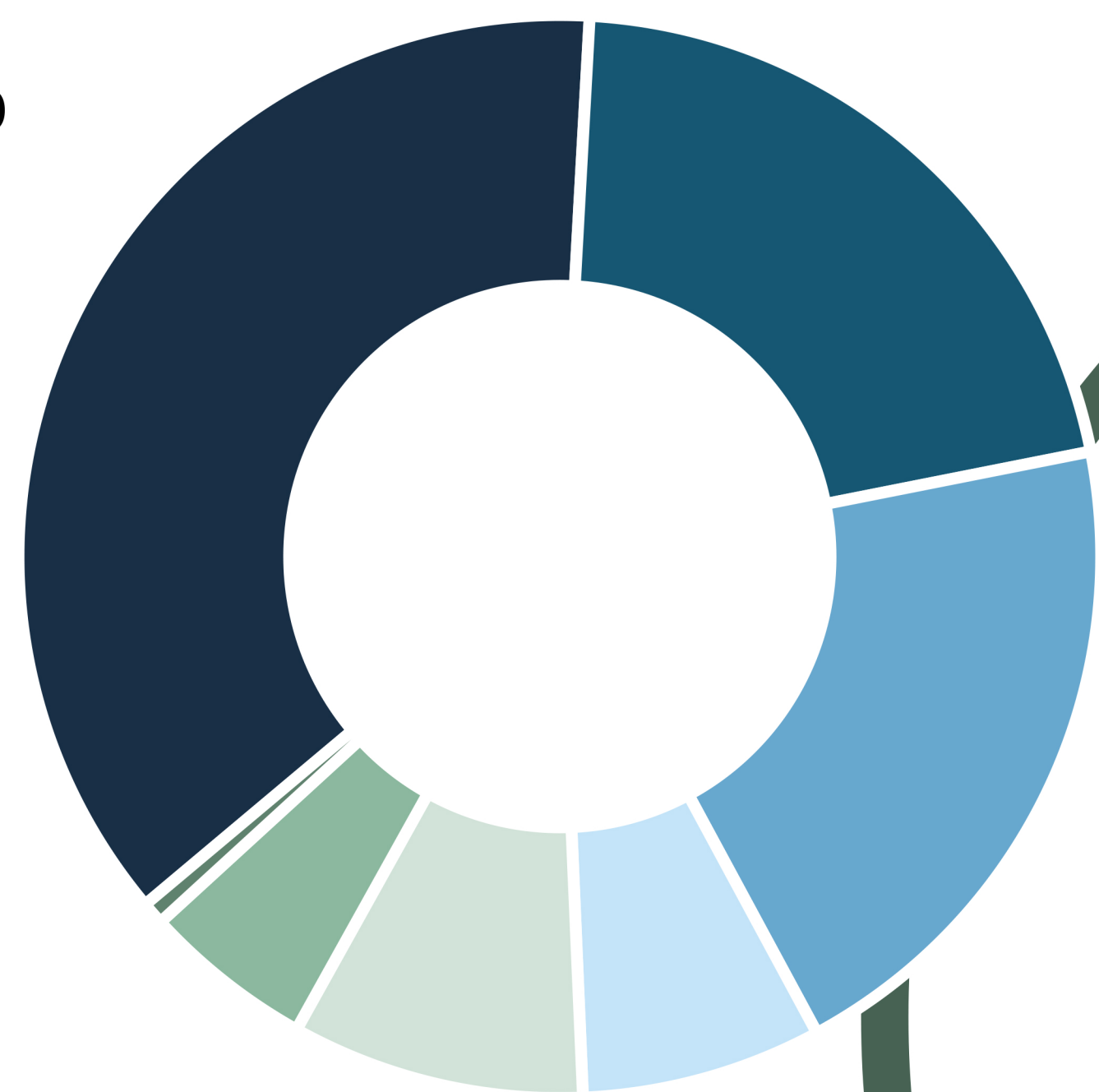
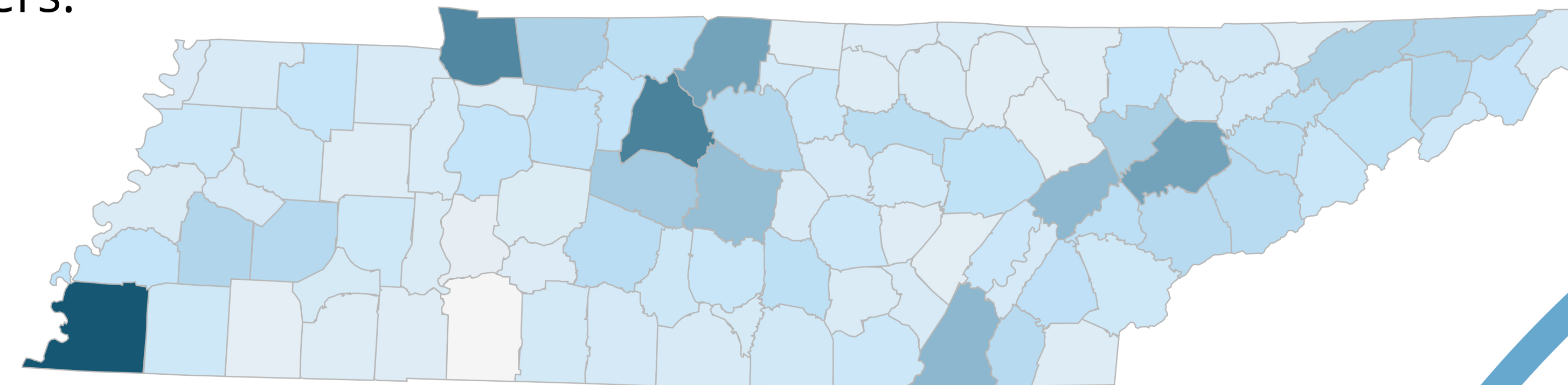
-  Transportation
-  Electricity Generation
-  Industry
-  Agriculture
-  Commercial & Residential Buildings
-  Wastewater
-  Waste & Materials Management
-  Land Use, Land Use Change, & Forestry

CARBON SINKS

Tennessee has a significant amount of privately and publicly owned forested land, which are quantified as an emission offset due to their inherent ability to sequester carbon.

DISTRIBUTION

The emissions were distributed across the footprint of the state to evaluate the environmental impacts. The preliminary analysis evaluation found that most of the emissions are associated with transportation in urban areas.



EMISSIONS

Emissions were calculated with Global Warming Potentials (GWP) from the Intergovernmental Panel on Climate Change's (IPCC's) Fifth Assessment Report (AR5), as shown:

Pollutant	GWP	MMTCO ₂ e
CO ₂	1	63.40
CH ₄	28	14.97
N ₂ O	265	5.34
SF ₆	23,500	0.32

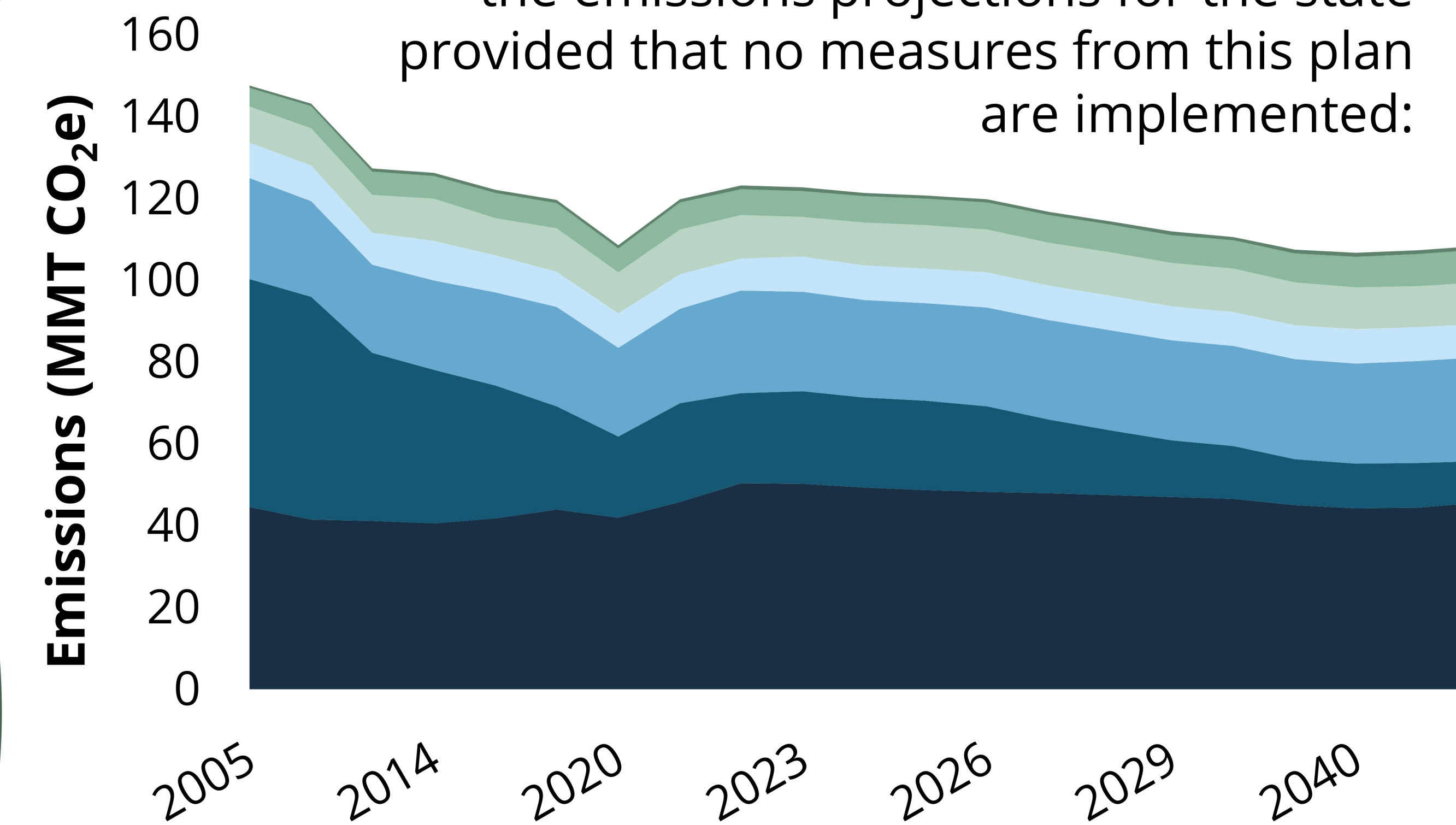
CO₂e 84.03

(baseline year 2019)

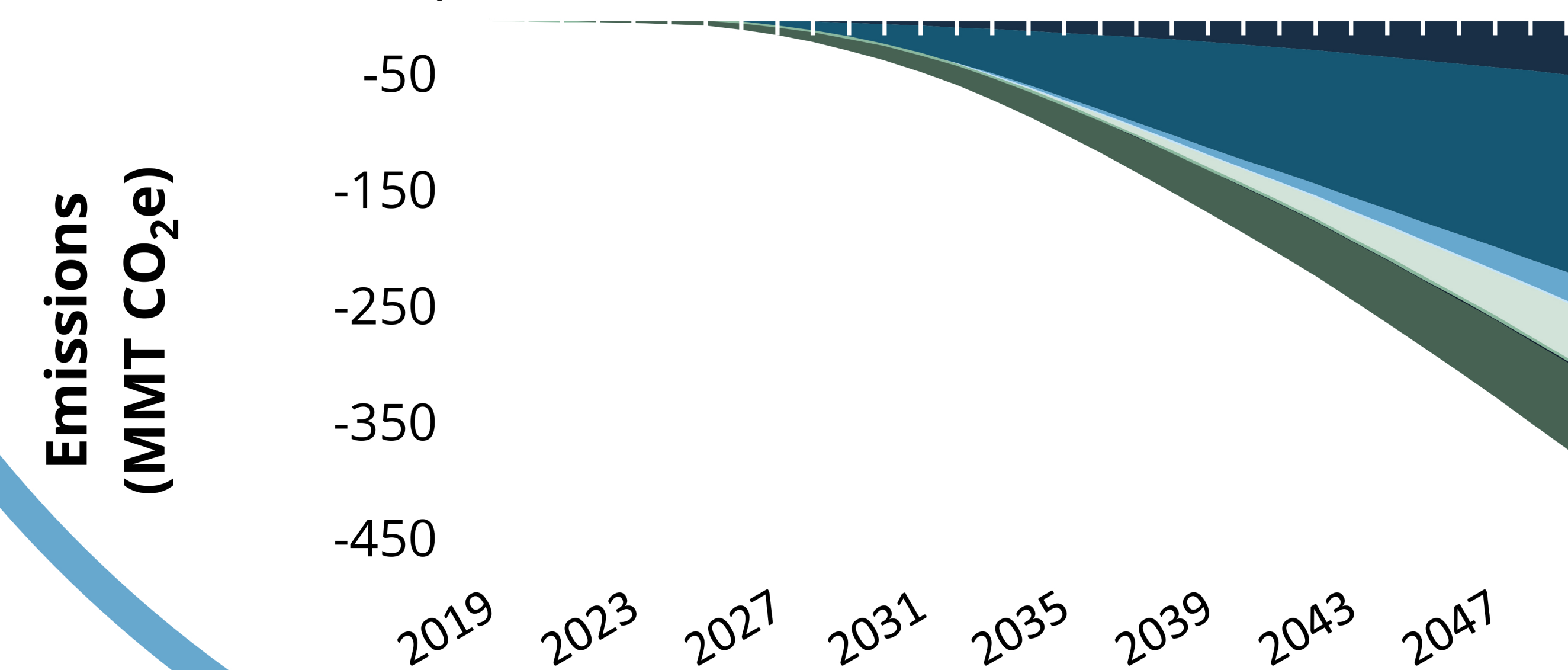
Total Emissions	120.16
Carbon Sinks	- 36.13
Net Emissions	84.03 MMT CO₂e

FORECASTING

Below is the business-as-usual case for the state of Tennessee, which represents the emissions projections for the state provided that no measures from this plan are implemented:



Full implementation of the proposed reduction measures and goals (shown at right) could yield substantial reductions. A potential best case is detailed below.



GOALS

-  electric vehicles
-  solar power
-  energy efficiency
-  land preservation
-  waste diversion
-  afforestation

The final draft of the comprehensive plan is due by December of 2025 and will provide additional details on the above measures.