State Initial GHG Report

State	CT
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State Initial GHG Report

1. Target. Provide the 4-year target for the 2022-2025 performance period (the target represents the target represents the anticipated decrease in on-road tailpipe CO2 emissions on NHS facilities between CY 2022 and CY 2025), and a discussion, to the maximum extent practicable, of the basis for the established target. This includes an explanation of the data, method(s), and/or process(s) used to identify the targets. The target shall be a negative value, and be reported to the nearest tenth of a percent. To meet the declining requirement, the target must represent an anticipated decline of -0.1% or more.
[23 CFR 490.107(d)(1)(i), 490.105(e)(10), 23 CFR 490.101 (Target definition), and 23 CFR 490.513(d)]

a. Target Value (anticipated performance for CY2025): -9.5 %
A negative value is required (Examples of acceptable formatting are: -0.1% or -1.0%).

b. Discussion Field

The tailpipe CO2 emissions are a function of the total vehicle-miles traveled (VMT) and fuel consumption. The Department analyzed trends for electric vehicle sales (which impact tailpipe emissions), current trends in fuel efficiency, and VMT forecasts and considered five scenarios in establishing a GHG reduction target:

"No action" – based on the VMT forecast for the target year provided by the Department's Travel Demand Model and current trends in vehicle fuel consumption.

"Electrification reduction" – based on VMT forecast from the Travel Demand Model but incorporates reduced vehicle fuel consumption for gasoline and special fuels based on an increase of electric vehicles on our roadways.

"Constant VMT" - based on maintaining VMT at 2022 levels and using a forecast for gasoline and special fuel consumption based on current trends.

"Electrification Reduction and Constant VMT" - based on combining the impact of fuel-consumption reductions achieved through vehicle electrification forecasts with maintaining VMT at 2022 levels.

"Goal oriented target" - The target is the reduction in GHG tailpipe emissions

necessary to maintain alignment with the State's overall GHG reduction targets by 2030. In the overall plan the transportation sector needs to reduce GHG contributions to a level 29% lower than the 2014 level by 2030. In this scenario fuel consumption tracks the GHG emissions of the transportation sector and must achieve a reduction of 9.5% from 2022 levels to target-year levels. Rather than relying on current trends and projections, policy levers are used to achieve the needed reductions.

Of these scenarios, only the last two (electrification reduction plus constant VMT, and the goal-oriented scenario) project achieving declines in GHG emissions.

For this Performance Measure, the Department has control over a limited number of factors that feed into this target both on the VMT as well as the fuel consumption side. Connecticut Governor Lamont's Executive Order 21-3 required the Department to prepare a goal for reducing vehicle miles traveled (VMT) by 2030. During preparation of that target, the Department identified our levers of influence as centering around the following strategies:

-Increase Active Transportation/Complete Streets infrastructure in areas of urban/dense residential/commercial development

-Increase in transit frequency

-Increase in transit access

-Continue to assist/partner with Municipalities who are pursuing Transit-Oriented Development

-Trip Reduction Program (e.g., employer-based programs)

As stated in our 2030 VMT Goals and Strategies Report, available on our Department web site, these approaches work best when coupled with land use pattern changes supporting these goals, such as increased density in residential, employment, and commercial development, across our State and parking management within our urban areas.

The Department likewise has limited influence on the fuel efficiency of the vehicles using our roadways. Agency activities on this front are centered on:

-Implementation of the National Electric Vehicle Infrastructure (NEVI) plan to build charging infrastructure to support electric vehicles, and

-Increasing the fuel-efficiency of its transit buses in the State fleet by replacing them with diesel-electric hybrid and electric units.

Actual rates of electric-vehicle market share and use require cooperation with a variety of public-sector and private-sector stakeholders. It is clear that moving towards a decarbonized vehicle fleet, statewide, is critical to reducing GHG emissions.

This target was discussed internally and also coordinated with the Metropolitan Planning Organizations for their review and input.

After discussion and input, including a meeting with our Department of Energy and Environmental Protection, the Department selected the goal-oriented target, which shows a reduction of tailpipe emissions of 9.5%. On both the VMT and the

fuel-consumption areas, the Department looks forward to working with our state and regional partners to address these factors and would like to recognize that success in this arena depends upon a collaborative approach from all entities.

2. Baseline performance. Provide the performance value for the GHG measure derived from the data collected for the reference year, CY 2022. [23 CFR 490.107(d)(1)(ii)]

Due to the nature of this measure, the value is 0.0% for this initial reporting. 0.0 %

3. Relationship with other performance expectations. Provide a discussion, to the maximum extent practicable, on how the established 4-year target supports expectations documented in longer range plans, such as the State asset management plan required by 23 U.S.C. 119(e) and the long-range statewide transportation plan provided in part 450 of this chapter. [23 CFR 490.107(d)(1)(iii)]

The Greenhouse Gas performance measure is selected to align with the reductions in GHG emissions required by Public Act 18-82 (CGS 22a-200a(a)). The overall state plan for achieving these reductions is "Building a Low Carbon Future for Connecticut" (2018), and the reductions are based on projections and models used in the Connecticut Department of Energy and Environmental Protection's "1990-2021 Connecticut Greenhouse Gas Emissions Inventory."

The target selected requires application of available policy levers and collaboration with state and regional partners to achieve the reductions required to achieve the reduction objectives.

4. GHG metric and metric information for the GHG measure. Provide the GHG metric, and the individual values used to calculate the GHG metric, as described in *23 CFR* 490.511(c), for the reference year.[23 CFR 490.107(d)(1)(iv)]

GHG Metric for CY 2022: Tailpipe CO2 emissions on the NHS for CY2022, computed in million metric tons and rounded to the nearest hundredth (Examples of acceptable formatting are 00.00 (mmt))	8.78	mmt
a. Fuel Volume Consumed, Gasoline and Gasohol[1]. The quantity of fuel consumed in CY 2022, rounded to the nearest thousand gallons, and expressed in 1,000 gallons.	1,398,623	
b. Fuel Volume Consumed, Special Fuels[1]. The quantity of fuel consumed in CY 2022, rounded to the nearest thousand gallons, and expressed in 1,000 gallons.	289,006	
c. CO2 Factor for Gasoline & Gasohol Fuels [2], for CY 2022, as provided by FHWA.	0.00000810	mmt/ (1,000gal)
d. CO2 Factor for Special Fuels [2], for CY 2022, as provided by FHWA.	0.00001019	mmt/ (1,000gal)
e. NHS VMT[3]. The total vehicle-miles traveled on NHS in CY 2022 (rounded to the nearest one million vehicle-miles, and expressed in one million vehicle-miles).	18,243	
f. Total VMT[3]. The total vehicle-miles traveled on all public roads in CY 2022 (rounded to the nearest one million vehicle-miles, and expressed in one million vehicle-miles).	29,666	

1. Fuel sales information needed to calculate the fuel consumed shall represent the total number of gallons of fuel consumed by fuel type and reported to Fuels & FASH. [23 CFR 490.107(d)(2)(ii) & 23 CFR 490.509(g)]
2. FHWA shall provide the CO2 factors for each on-road fuel type associated with the reference year. [23 CFR 490.107(d)(2)(i)]
    a. CO2 Factor for Gasoline & Gasohol Fuels 0.0000081 mmt/(1,000 gal)
    b. CO2 Factor for Special Fuels 0.00001019 mmt/(1,000 gal)
3. The VMT data needed to calculate the GHG metric shall be the HPMS data as of November 30, 2023. [23 CFR 490.107(d)(2)(iii) & 23 CFR 490.509(h)]. FHWA will provide State DOTs with additional information on this value after December 15, 2023

Data Check

The metric reported is	8.78	
The metric calculated by your data inputs is	8.78	
Do the two values match exactly? If "No", please revisit.	Yes	

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