



House of Representatives

General Assembly

File No. 487

February Session, 2024

Substitute House Bill No. 5440

House of Representatives, April 15, 2024

The Committee on Environment reported through REP. GRESKO of the 121st Dist., Chairperson of the Committee on the part of the House, that the substitute bill ought to pass.

AN ACT CONCERNING LIFECYCLE GREENHOUSE GAS EMISSIONS OF BIOFUELS.

Be it enacted by the Senate and House of Representatives in General Assembly convened:

1 Section 1. Subsection (a) of section 22a-200b of the general statutes is
2 repealed and the following is substituted in lieu thereof (*Effective October*
3 *1, 2024*):

4 (a) The Commissioner of Energy and Environmental Protection shall,
5 with the advice and assistance of a nonprofit association organized to
6 provide scientific, technical, analytical and policy support to the air
7 quality and climate programs of northeastern states: (1) Not later than
8 December 1, 2009, publish an inventory of greenhouse gas emissions to
9 establish a baseline for such emissions for the state and publish a
10 summary of greenhouse gas emission reduction strategies on the
11 Department of Energy and Environmental Protection's Internet web
12 site, (2) not later than July 1, 2010, publish results of various modeling
13 scenarios concerning greenhouse gas emissions, including, but not
14 limited to, an evaluation of the potential economic and environmental

15 benefits and opportunities for economic growth based on such
16 scenarios, (3) not later than July 1, 2011, analyze greenhouse gas
17 emission reduction strategies and, after an opportunity for public
18 comment, make recommendations on which such strategies will achieve
19 the greenhouse gas emission levels specified in section 22a-200a, and (4)
20 not later than July 1, 2012, and every three years thereafter, develop,
21 with an opportunity for public comment, a schedule of recommended
22 regulatory actions by relevant agencies, policies and other actions
23 necessary to show reasonable further progress towards achieving the
24 greenhouse gas emission levels specified in section 22a-200a. On and
25 after October 1, 2024, any report or inventory that the commissioner
26 publishes pursuant to this section that analyzes or models greenhouse
27 gas emissions shall measure lifecycle greenhouse gas emissions using
28 the Argonne National Laboratory's greenhouse gases, regulated
29 emissions, and energy use in technologies model, or a successor model.

30 Sec. 2. Section 22a-200d of the general statutes is repealed and the
31 following is substituted in lieu thereof (*Effective October 1, 2024*):

32 In order to achieve the emission reduction requirements established
33 in section 22a-200a, the state shall implement the following:

34 (1) The Department of Energy and Environmental Protection shall
35 monitor the development of low-carbon fuel standards in other states or
36 jurisdictions, evaluate the potential of any such standard to achieve net
37 carbon reductions, and [assess whether the analytical framework used
38 to determine the carbon benefit measures] analyze the full lifecycle of
39 greenhouse gas emissions, including direct and indirect emissions of
40 greenhouse gas caused by changes in land use or other factors. [Such
41 assessment] The department shall [include, but not be limited to, the
42 modeling tools developed by the California Air Resources Board and
43 the United States Environmental Protection Agency. The analytical
44 framework used to measure actual lifecycle greenhouse gas emissions
45 for fuel shall include all stages of fuel and feedstock production,
46 delivery and use of the finished fuel to the ultimate consumer, and shall
47 adjust the mass values for all greenhouse gas emissions relative to such

48 emissions' relative global warming potential] perform such analysis
49 using the Argonne National Laboratory's greenhouse gases, regulated
50 emissions, and energy use in technologies model, or a successor model.

51 (2) The Department of Transportation shall, within available
52 appropriations, continue to investigate the potential for improvements
53 to the state's transportation system that will reduce greenhouse gas
54 emissions and coordinate with the northeastern states on regional
55 strategies to incorporate greenhouse gas emission reductions into
56 regional transportation planning, including, but not limited to, high
57 speed rail, light-rail passenger service and freight rail service within the
58 northeast region.

59 (3) The Department of Energy and Environmental Protection may
60 work with interested states and Canadian provinces to develop and
61 implement market-based compliance mechanisms to achieve the
62 greenhouse gas levels and limits established by section 22a-200a,
63 including, but not limited to, cap and trade programs.

64 Sec. 3. Subsection (e) of section 16a-3d of the general statutes is
65 repealed and the following is substituted in lieu thereof (*Effective October*
66 *1, 2024*):

67 (e) For the Comprehensive Energy Strategy next approved after
68 October 1, [2021] 2024, and every Comprehensive Energy Strategy
69 prepared thereafter, the Commissioner of Energy and Environmental
70 Protection shall consider: (1) [the] The reductions in greenhouse gas
71 emissions resulting from the use of low-carbon fuel blends [used] in
72 home heating oil, as measured on a [life-cycle] lifecycle basis [,] using
73 the Argonne National Laboratory's greenhouse gases, regulated
74 emissions, and energy use in technologies model, or a successor model;
75 (2) possible contributions to the state's greenhouse gas emissions
76 mandated levels, pursuant to section 22a-200a, in connection with the
77 reduction of greenhouse gas emissions on a [life-cycle] lifecycle basis; [,]
78 (3) the ability of a thermal portfolio standard to further reductions in
79 greenhouse gas emissions, as measured on a [life-cycle] lifecycle basis [,]
80 and (4)] using the Argonne National Laboratory's greenhouse gases,

81 regulated emissions, and energy use in technologies model, or a
 82 successor model; and (4) five-year, ten-year and twenty-year projections
 83 that compare the relative value of [the] (A) reductions in greenhouse gas
 84 emissions [on a life-cycle basis] achieved by biodiesel and other low-
 85 carbon fuel blends currently used [currently] in the state, [compared
 86 with the value of future projected] as measured on a lifecycle basis using
 87 the Argonne National Laboratory's greenhouse gases, regulated
 88 emissions, and energy use in technologies model, or a successor model,
 89 and (B) reductions in greenhouse gas emissions [reductions] achieved
 90 by the retail heating oil industry, as measured on a [life-cycle] lifecycle
 91 basis [five, ten, and twenty years into the future using the Department
 92 of Energy and Environmental Protections' contemporaneous projection
 93 of renewable energy utilized] using the Argonne National Laboratory's
 94 greenhouse gases, regulated emissions, and energy use in technologies
 95 model, or a successor model.

This act shall take effect as follows and shall amend the following sections:		
Section 1	<i>October 1, 2024</i>	22a-200b(a)
Sec. 2	<i>October 1, 2024</i>	22a-200d
Sec. 3	<i>October 1, 2024</i>	16a-3d(e)

Statement of Legislative Commissioners:

In Section 3, "2023" was changed to "2024" for accuracy and consistency with standard drafting conventions.

ET *Joint Favorable C/R* ENV

ENV *Joint Favorable Subst.-LCO*

The following Fiscal Impact Statement and Bill Analysis are prepared for the benefit of the members of the General Assembly, solely for purposes of information, summarization and explanation and do not represent the intent of the General Assembly or either chamber thereof for any purpose. In general, fiscal impacts are based upon a variety of informational sources, including the analyst's professional knowledge. Whenever applicable, agency data is consulted as part of the analysis, however final products do not necessarily reflect an assessment from any specific department.

OFA Fiscal Note

State Impact:

Agency Affected	Fund-Effect	FY 25 \$	FY 26 \$
Department of Energy and Environmental Protection	GF - Cost	Approximately 600,000	None

Note: GF=General Fund

Municipal Impact: None

Explanation

The bill changes the Department of Energy and Environmental Protection (DEEP)'s model for calculating emissions to the greenhouse gases, regulated emissions, and energy use in transportation model (GREET) and results in a cost to DEEP of approximately \$600,000 in FY 25.

The adoption of GREET requires DEEP to hire a professional consultant to develop a Connecticut specific version of GREET resulting in a cost of approximately \$600,000 to develop the model.

The Out Years

The fiscal impact identified above would conclude in FY 25.

OLR Bill Analysis

HB 5440

AN ACT CONCERNING LIFECYCLE GREENHOUSE GAS EMISSIONS OF BIOFUELS.

SUMMARY

This bill requires the Department of Energy and Environmental Protection (DEEP) to use the Argonne National Laboratory's greenhouse gases, regulated emissions, and energy use in technology (GREET) model, or a successor model, in certain DEEP analyses and planning documents.

Specifically, it requires DEEP to measure lifecycle greenhouse gas emissions using the GREET model in any report or inventory the DEEP commissioner publishes that analyzes or models greenhouse gas emissions (e.g., DEEP's greenhouse gas inventory) used to develop recommendations to make progress towards the state's greenhouse gas reduction goals.

Existing law requires DEEP to monitor low-carbon fuel standards in other states or jurisdictions and evaluate their potential to achieve net carbon reductions. Current law requires the department to assess whether the analytical framework used to determine any standard's carbon benefit measures the full lifecycle of greenhouse gas emissions. The bill instead requires DEEP to use the GREET model to analyze the full lifecycle of greenhouse gas emissions.

The bill also requires DEEP to use the GREET model for various analyses required under its Comprehensive Energy Strategy (CES).

EFFECTIVE DATE: October 1, 2024

GREENHOUSE GAS INVENTORY

Existing law requires DEEP to develop a schedule, every three years, of recommended regulatory actions by relevant agencies, policies, and other actions needed to show reasonable progress towards achieving greenhouse gas emissions goals set in state law (see BACKGROUND). The bill requires any report or inventory DEEP publishes when developing this schedule to use the GREET model or a successor model when it analyzes or models greenhouse gas emissions.

Existing law, unchanged by the bill, requires the commissioner to (1) develop this schedule with help from a nonprofit association that provides scientific, technical, analytical, and policy support to northeastern states' air quality and climate programs and (2) provide opportunity for public comment.

LOW-CARBON FUEL STANDARDS

Existing law requires DEEP to monitor low-carbon fuel standards in other states or jurisdictions, evaluate their potential to achieve net carbon reductions, and assess whether the analytical framework used to determine the carbon benefit measures the full lifecycle of greenhouse gas emissions, including emissions caused by changes in land use and other factors.

Under current law, the assessment must include the modeling tools developed by the California Air Resources Board and the U.S. Environmental Protection Agency. This analytical framework must (1) include all stages of fuel and feedstock production, delivery, and use of the finished fuel to the ultimate customer and (2) adjust the mass values for all greenhouse gas emissions relative to their global warming potential.

The bill eliminates this assessment requirement and instead requires DEEP to analyze the full lifecycle of greenhouse gas emissions for any low-carbon fuel standard it evaluates using the GREET model or a successor model.

COMPREHENSIVE ENERGY STRATEGY (CES)

Existing law requires DEEP to prepare a CES every four years and

submit it to the Energy and Technology Committee. Among other things, the CES must include any analysis and recommendations needed to guide the state's energy policy to meet greenhouse gas reduction requirements under state law (see BACKGROUND).

For any CES approved after October 1, 2024, the bill requires DEEP to use the GREET model or a successor model when analyzing the following topics on a lifecycle basis:

1. greenhouse gas reductions from using low-carbon fuel blends in home heating oil;
2. a thermal portfolio standard's ability to further greenhouse gas reductions; and
3. five-year, 10-year, and 20-year projections that compare greenhouse gas emission reductions achieved by biodiesel and other low-carbon fuel blends with those achieved by the retail heating oil industry, measured on a lifecycle basis.

BACKGROUND

GREET Model

The GREET model is a tool that assesses a range of life cycle energy, emissions, and environmental impact challenges that can be used to guide decisions, research and development, and regulations related to the transportation and energy sectors. GREET models are developed for specific use cases and can measure total energy consumption, fossil fuel energy use, greenhouse gas emissions, air pollutant emissions, and water consumption for a given energy or transportation technology.

Greenhouse Gas Reduction Targets

By law, the Global Warming Solutions Act requires the state to reduce greenhouse gas emissions from all sources to a level at least (1) 10% below 1990 emission levels by January 1, 2020; (2) 45% below 2001 emissions level by January 1, 2030; and (3) 80% below 2001 emission levels by January 1, 2050. The law additionally requires the state to reduce greenhouse gas emissions from electricity supplied to electric

customers in the state to zero percent by January 1, 2040.

Related Bill

sHB 5004, favorably reported by the Environment Committee, among other things, sets new state greenhouse gas emissions reduction levels under the Global Warming Solutions Act and requires a consultant-prepared report on strategies to meet the new state reduction goals.

COMMITTEE ACTION

Energy and Technology Committee

Joint Favorable Change of Reference - ENV
Yea 18 Nay 2 (03/21/2024)

Environment Committee

Joint Favorable
Yea 28 Nay 6 (03/27/2024)