

Fuel Type

Ref	Checklist Item	Measurement Criteria	Comments	Points
<b>D.1 Fuel Type</b>				
D.1.1	Is there a state standard requiring the reduction of greenhouse gas emissions through fuel type? [PH.1.1, PH.5.1]	<p><b><u>Mitigation Score:</u></b></p> <p>2 – The state has implemented both an Alternative Fuel Standard and a Low Carbon Fuel Standard.</p> <p>1 – The state has implemented either an Alternative Fuel Standard or a Low Carbon Fuel Standard.</p> <p>0 – The state has not implanted any standards requiring the reduction of greenhouse gases through fuel type.</p> <p><b><u>Equity Score:</u></b> N/A</p> <p><b><u>Public Health Score:</u></b></p> <p>2—The state’s policies improve air quality through both an Alternative Fuel Standard and a Low Carbon Fuel Standard.</p> <p>1— The state’s policies somewhat improve air quality through either an Alternative Fuel Standard or a Low Carbon Fuel Standard.</p> <p>0-- The state’s policies do not improve air quality through an Alternative Fuel Standard and a Low Carbon Fuel Standard.</p>	<p>The goal of a Low Carbon Fuel Standard<sup>i</sup> is for the state to reduce greenhouse gas emissions from transportation fuels without prescribing to manufacturers what the fuel type should be. The whole life cycle of the fuel, from production to use, is studied, and measured in intensity. Alternative Fuel Standards<sup>ii</sup> prescribe a switch in fuel type. It requires a certain percentage of total gasoline or diesel sold to be sourced from alternative fuels like ethanol and biodiesel.</p> <p>Reducing the use of fossil fuels reduces particulate matter pollution, smog, and ozone formation which has important public health benefits such as reductions in asthma and other respiratory illnesses.<sup>iii</sup> [PH.1.1, PH.5.1: improved air quality]</p>	<p><b><u>Mitigation Score:</u></b> 0/2</p> <p><b><u>Equity Score:</u></b> N/A</p> <p><b><u>Public Health Score:</u></b> 0/2</p> <p>Connecticut has implemented neither a Low Carbon Fuel Standard nor an Alternative Fuel Standard.</p>
D.1.2	Do state funds and incentive programs exist to promote and	<p><b><u>Mitigation Score:</u></b></p>	<p>Researching, developing, and implementing alternative fuels can be costly and are a major obstacle for states to decarbonize the transportation sector. Strong funding and</p>	<p><b><u>Mitigation Score:</u></b> 3/4</p> <p><b><u>Equity Score:</u></b> N/A</p> <p><b><u>Public Health Score:</u></b> 1/2</p>

	<p>implement alternative fuels? [PH.2.1, PH.5.1]</p>	<p>4 – The state has all four of the funding and incentive programs listed to the right.</p> <p>3 – The state has three of the funding and incentive programs listed to the right.</p> <p>2 – The state has two of the funding and incentive programs listed to the right.</p> <p>1 – The state has one of the funding and incentive programs listed to the right.</p> <p>0 – The state has zero of the four alternative fuel financing, development, and promotion programs listed to the right.</p> <p><b>Equity Score:</b> N/A</p> <p><b>Public Health Score</b></p> <p>2—The state funds research for the development of alternative fuels and requires the use of alternative fuels for states vehicles.</p> <p>1-- The state either funds research for the development of alternative fuels or requires the use of alternative fuels for states vehicles.</p> <p>0-- The state does not fund research for the development of alternative fuels or require the use of alternative fuels for states vehicles.</p>	<p>incentive policies from a state to support the use of alternative fuels include:</p> <ul style="list-style-type: none"> <li>a. Funding for the research and development of alternative fuels<sup>iv</sup> [PH.5.1: Supports community health efforts]</li> <li>b. Financial support for alternative fuel infrastructure development for more than one low carbon fuel type<sup>v</sup></li> <li>c. Requirements for alternative fuel use for state vehicles<sup>vi</sup> [PH.2.1]</li> <li>d. An appropriately set gas tax to encourage alternative fuel investment.<sup>vii</sup> (While gas taxes have often been set before any emissions regulations plans, a high gas tax can be a motive to encourage people to invest in a car with alternative fuel)</li> </ul>	<p>Connecticut fulfills three of the four elements that form strong incentives for alternative fuels, except for alternative fuels in state vehicles and the investment in more than one low-carbon fuel type.</p> <ul style="list-style-type: none"> <li>a. Connecticut sponsors grants for biofuels research, such as ethanol.<sup>viii</sup></li> <li>b. Connecticut primarily provides financial support for the development of electric vehicle infrastructure. There are minimal public stations currently available for other alternative fuels.<sup>ix</sup></li> <li>c. Connecticut has established minimum fleet percentages for alternative fuel and zero-emission vehicles<sup>x</sup> and allows for a 10 percent contract bid price preference for clean alternative fuel vehicles.<sup>xi</sup></li> <li>d. Connecticut has the seventeenth-combined gas tax and fees in the country.<sup>xii</sup></li> </ul> <p>The use of alternative fuels, such as ethanol, do not produce the negative health effects associated with traditional fuel types.<sup>xiii</sup></p>
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**D.2 Electric Vehicle (EV) Infrastructure**

<p>D.2.1</p>	<p>Are there state policies that invest in electric vehicle infrastructure implementation in a way that encourages the widespread adoption of electric vehicles? <a href="#">[PH.1.1]</a></p>	<p><b><u>Mitigation Score:</u></b></p> <p>5 – The state’s electric vehicle infrastructure policies include all five elements listed to the right.</p> <p>4 – The state’s electric vehicle infrastructure policies include four of the five elements listed to the right.</p> <p>3 – The state’s electric vehicle infrastructure policies include three of the five elements listed to the right.</p> <p>2 – The state’s electric vehicle infrastructure policies include two of the five elements listed to the right.</p> <p>1 – The state’s electric vehicle infrastructure policies include one of the five elements listed to the right.</p> <p>0 – The state’s electric vehicle infrastructure policies include none of the elements listed to the right.</p> <p><b><u>Equity Score:</u></b> (see D.2.2 below)</p> <p><b><u>Public Health Score:</u></b></p> <p>2—The state’s policies encourage investment in EV by incorporating all elements listed to the right and significantly reducing fossil fuel use.</p> <p>1—The state’s policies encourage investment in EV by incorporating some elements listed to the right and somewhat reducing fossil fuel use.</p>	<p>The adoption of electric vehicles can only be possible if the infrastructure is there to support those drivers. Research on this topic has found that “availability of public charging is generally linked with electric vehicle uptake.”<sup>xiv</sup> In addition, investment in EV infrastructure was found to be “three times more effective [to encouraging EV adoption] than subsidizing EV purchase.”<sup>xv</sup> These findings indicate that strong state-level policies surrounding the widespread implementation of charging infrastructure are critical. Five elements of successful state policies around EV infrastructure include:</p> <ul style="list-style-type: none"> <li>a. There are state-level programs that focus on installing EV infrastructure as a way to incentivize EV use.<sup>xi</sup></li> <li>b. There is a plan to install EV charging infrastructure in key public sites to support moves to widespread adoption.<sup>xvii</sup></li> <li>c. Public access infrastructure points along roads, such as LED streetlights and power poles, are equipped with electric vehicle charging capabilities.<sup>xviii</sup></li> <li>d. EV parking spots are designated in public lots and fuel combustion drivers are penalized if they park in an EV-designated spot.<sup>xix</sup></li> <li>e. State electric utilities are allowed to install EV charging stations.<sup>xx</sup></li> </ul>	<p style="text-align: right;"><b><u>Mitigation Score: 4/5</u></b> <b><u>Equity Score: N/A</u></b> <b><u>Public Health Score: 1/2</u></b></p> <p>Connecticut only has two of the five elements listed to the left: EV parking spot designations and utility support to install charging stations.</p> <ul style="list-style-type: none"> <li>a. The CT DEEP CHEAPR program has incentives to support EV purchases<sup>xxi</sup> and Connecticut has established an EV Charging incentive program though the state’s electric distribution companies.<sup>xxii</sup></li> <li>b. Public education around installing EV charging stations has largely focused on home and workplace installation in buildings, and less so around public spaces. Part of the 2019 EV Roadmap for Connecticut recommends using the Transportation Climate Initiative EV Corridor Analysis Tool to map key spots for installing charging stations.<sup>xxiii</sup> The statewide EV charging program includes destination charging criteria.</li> <li>c. There are no plans or policies to equip streetlights in Connecticut with the capability to charge EVs</li> <li>d. <b>Connecticut has plug-in EV parking requirements, listed out in Public Act 19-161.</b><sup>xxiv</sup></li> <li>e. <b>DEEP has partnered with Eversource to fund and provide grants for EV infrastructure across the state.</b><sup>xxv</sup></li> </ul>
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		<p>0—The state’s policies do not encourage investment in EV by failing to incorporate any elements listed to the right and have no effect on fossil fuel use.</p>		
<p>D.2.2</p>	<p>Are there state programs to ensure that electric vehicle infrastructure is designed and implemented to support equitable use and access? [EQ 2.1, 3.1]</p>	<p><b>Mitigation Score:</b> (see D.2.1 above)</p> <p><b>Equity Score:</b></p> <p>5 – The state’s electric vehicle infrastructure policies include all five elements listed to the right.</p> <p>4 – The state’s electric vehicle infrastructure policies include four of the five elements listed to the right.</p> <p>3 – The state’s electric vehicle infrastructure policies include three of the five elements listed to the right.</p> <p>2 – The state’s electric vehicle infrastructure policies include two of the five elements listed to the right.</p> <p>1 – The state’s electric vehicle infrastructure policies include one of the five elements listed to the right.</p> <p>0 – The state’s electric vehicle infrastructure policies include none of the elements listed to the right.</p> <p><b>Public Health Score:</b> (see D.2.1 above)</p>	<p>Ensuring equitable access to EV charging infrastructure is critical to the widespread, equitable adoption of electric vehicles. Five elements of successful programs and policies that support this access include:</p> <ol style="list-style-type: none"> <li>a. Any EV charging station investments have a minimum deployment requirement for the infrastructure to be placed in low-income communities.<sup>xxvi</sup> [EQ 3.1].</li> <li>b. Locates EV charging stations in publicly available and accessible locations.<sup>xxvii</sup> [EQ 3.1].</li> <li>c. Makes electricity free at public recharge stations<sup>xxviii</sup>. [EQ 2.1, 3.1].</li> <li>d. The signage and education at charging stations should be clear and easy to understand<sup>xxix</sup>. [EQ 3.1].</li> <li>e. Ensures that EV charging equipment complies with the Americans with Disabilities Act<sup>xxx</sup>. [EQ 3.1].</li> </ol>	<p><b>Mitigation Score: N/A</b> <b>Equity Score: 4/5</b> <b>Public Health Score: N/A</b></p> <p>Connecticut meets four of the five elements listed to the left: electricity payment and charging station signage.</p> <ol style="list-style-type: none"> <li>a. As part of its statewide electric vehicle charging program, Connecticut has established minimum deployment requirements for EV charging stations in underserved communities and provides higher incentives for EVSE installation in underserved communities.<sup>xxxi</sup></li> <li>b. As part of its statewide electric vehicle charging program, the electric distribution companies are required to provide hosting capacity maps to inform the placement and location of EV charging stations.</li> <li>c. Connecticut General Statute 16-19ggg requires multiple payment plans to be available for people in order to make the electricity accessible.<sup>xxxii</sup></li> <li>d. Connecticut has EV siting and design guidelines for charging stations that designates clear signage.<sup>xxxiii</sup></li> <li>e. There are no federal standards for ensuring that EV infrastructure complies with the ADA. California</li> </ol>

				was the first state to re-write their code to do so. <sup>xxxiv</sup> Connecticut’s statewide EV charging program requires EVSE to demonstrate compliance with the ADA. <sup>xxxv</sup>
<b>Section D Mitigation Total</b>				7/11 ~63.6%
<b>Section D Health Total</b>				2/6 ~33.33%
<b>Section D Equity Total</b>				4/5 ~80%

<sup>i</sup> “Low Carbon and Alternative Fuel Standard,” Center for Climate and Energy Solutions, January 7, 2019, <https://www.c2es.org/document/low-carbon-fuel-standard/>.

<sup>ii</sup> “Low Carbon and Alternative Fuel Standard.”

<sup>iii</sup> Sovacool BK. A transition to plug-in hybrid electric vehicles (PHEVs): why public health professionals must care. *Journal of Epidemiology & Community Health* 2010;**64**:185-187.

<sup>iv</sup> Garrett Fitzgerald, Ryan Wisner, and Mark Bolinger, “A Survey of State Clean Energy Fund Support for Research and Development Projects,” 2004.

<sup>v</sup> Ellen Hughes-Cromwick and Joshua Cregger, “How Much Investment Is Needed and How Will It Be Funded?,” n.d., 76.

<sup>vi</sup> “Alternative Fuels Data Center: State Agency Low Carbon Fuel Use Requirement,” accessed November 17, 2019, <https://afdc.energy.gov/laws/11658>.

<sup>vii</sup> Liisa Ecola, Rand Environment, Energy, and Economic Development (Program), and Rand Transportation, Space, and Technology (Program), eds., *Integrating U.S. Climate, Energy, and Transportation Policies: Proceedings of Three Workshops*, Conference Proceedings (Santa Monica, CA: RAND, 2009).

<sup>viii</sup> “Alternative Fuels Data Center: Biofuels Research Grants,” accessed November 18, 2019, <https://afdc.energy.gov/laws/6248>.

<sup>ix</sup> “Alternative Fuels Data Center: Connecticut Transportation Data for Alternative Fuels and Vehicles,” accessed November 18, 2019, <https://afdc.energy.gov/states/ct>.

<sup>x</sup> Conn. Gen. Stat. §§ 4a-67d(b) and 4a-67d(c).

<sup>xi</sup> Conn. Gen. Stat. § 4a-59(c)(3)(B).

<sup>xii</sup> Janelle Cammenga, “How High are Gas Taxes in Your State?,” *Tax Foundation* (blog), July 28, 2021, <https://taxfoundation.org/state-gas-tax-rates-2021/>.

<sup>xiii</sup> Bisig, Christoph, Roth, et al (2016) [Hazard identification of exhausts from gasoline-ethanol fuel blends using a multi-cellular human lung model](#). Environmental Research, 11/2016, ISSN: 0013-9351, Volume 151, p. 789

<sup>xiv</sup> Dale Hall and Nic Lutsey, “Emerging Best Practices for Electric Vehicle Charging Infrastructure,” n.d., 54.

<sup>xv</sup> Gail Helen Broadbent, Danielle Drozdowski, and Graciela Metternicht, “Electric Vehicle Adoption: An Analysis of Best Practice and Pitfalls for Policy Making from Experiences of Europe and the US,” *Geography Compass* 12, no. 2 (2018): e12358, <https://doi.org/10.1111/gec3.12358>.

<sup>xvi</sup> Broadbent, Drozdowski, and Metternicht.

<sup>xvii</sup> Mary Lunetta and Katherine Stainken, “Electric Vehicle Policy Toolkit,” Sierra Club, May 22, 2019, <https://www.sierraclub.org/electric-vehicles/electric-vehicle-policy-toolkit>.

<sup>xviii</sup> Lunetta and Stainken.

<sup>xix</sup> Lunetta and Stainken.

<sup>xx</sup> Lunetta and Stainken.

<sup>xxi</sup> CT DEEP, CHEAPR Homepage, <https://portal.ct.gov/DEEP/Air/Mobile-Sources/CHEAPR/CHEAPR---Home>

<sup>xxii</sup> Public Utilities Regulatory Authority, Docket No. 17-12-03RE04, Final Decision (July 14, 2021)..

<sup>xxiii</sup> “DEEP: 2019 EV Roadmap,” accessed November 18, 2019, [https://www.ct.gov/deep/cwp/view.asp?a=4423&Q=607428&deepNav\\_GID=2121](https://www.ct.gov/deep/cwp/view.asp?a=4423&Q=607428&deepNav_GID=2121).

<sup>xxiv</sup> “Alternative Fuels Data Center: Plug-In Electric Vehicle (PEV) Parking Requirement,” accessed November 18, 2019, <https://afdc.energy.gov/laws/12280>.

<sup>xxv</sup> “DEEP: 2019 EV Roadmap.”

<sup>xxvi</sup> “Electric Vehicles for All: An Equity Toolkit,” The Greenlining Institute, accessed November 18, 2019, <http://greenlining.org/publications-resources/electric-vehicles-for-all/>.

<sup>xxvii</sup> Broadbent, Drozdewski, and Metternicht, “Electric Vehicle Adoption.”

<sup>xxviii</sup> Broadbent, Drozdewski, and Metternicht.

<sup>xxix</sup> Lunetta and Stainken, “Electric Vehicle Policy Toolkit.”

<sup>xxx</sup> “Reducing Transportation Emissions through Better Zoning,” *Great Plains Institute* (blog), June 19, 2019, <https://www.betterenergy.org/blog/reducing-transportation-emissions-through-better-zoning/>.

<sup>xxxi</sup> Public Utilities Regulatory Authority, Docket No. 17-12-03RE04, Final Decision (July 14, 2021).

<sup>xxxii</sup> “2018 Connecticut General Statutes :: Title 16 - Public Service Companies :: Chapter 277 - Department of Energy and Environmental Protection. Public Utilities Regulatory Authority. Office of Consumer Counsel. Miscellaneous Provisions :: Section 16-19ggg - Public Electric Vehicle Charging Stations. Parking Restrictions.,” Justia Law, accessed November 18, 2019, <https://law.justia.com/codes/connecticut/2018/title-16/chapter-277/section-16-19ggg/>.

<sup>xxxiii</sup> “DEEP: EVConnecticut - Charging Resources,” accessed November 18, 2019, [https://www.ct.gov/deep/cwp/view.asp?a=2684&q=562474&deepNav\\_GID=2183](https://www.ct.gov/deep/cwp/view.asp?a=2684&q=562474&deepNav_GID=2183).

<sup>xxxiv</sup> “DEEP: 2019 EV Roadmap.”

<sup>xxxv</sup> Public Utilities Regulatory Authority, Docket No. 17-12-03RE04, Final Decision at 37 (July 14, 2021).