

Buildings: Government

Ref	Checklist Item	Measurement Criteria	Comments	Points
K.1	Leadership			
K.1.1	Does the state set building emissions reduction goals? [PH.5.1]	<p><u>Mitigation Score:</u></p> <p>4 – The state has adopted all four items listed to the right.</p> <p>3 – The state has adopted three items listed to the right.</p> <p>2 – The state has adopted two items listed to the right.</p> <p>1 – The state has adopted one item listed to the right.</p> <p>0 – The state has not adopted any items listed to the right.</p> <p><u>Public Health Score:</u></p> <p>1 – The state has adopted item ‘d’ listed to the right.</p> <p>0 – The state has not adopted item ‘d’ listed to the right.</p>	<p>The state should set specific building emission reduction goals, along with a system to track these reductions, in order to identify areas for improvement. Consideration for economic, environmental, and health factors should be incorporated in setting statewide goals. The state should do the following:</p> <ol style="list-style-type: none"> Set statewide building sector emission reduction goals¹ Set goals based on modeling the economic and environmental outcomes of potential energy policies² Make the goals binding Consider public health benefits in setting building energy reduction goals³ [PH.5.1] 	<p><u>Mitigation Score: 4/4</u> <u>Equity Score: NA</u> <u>Public Health Score: 1/1</u></p> <ol style="list-style-type: none"> Connecticut has set a goal of reducing buildings sector emissions by 34% by 2030.⁴ The GC3 evaluated the costs, feasibility and benefits of emission reduction strategies in setting state goals.⁵ Connecticut codified these goals when Public Act 18-82 was signed into law in 2018. The GC3 lists public health as a priority co-benefit for setting reduction goals across all sectors.⁶
K.1.2	Does the state have an emissions reduction goal for their buildings sector that is at least as aggressive as that	<p><u>Mitigation Score:</u></p> <p>This mitigation score is calculated with a formula.</p> $Score = 2.5 \left(\frac{reduction\ percent}{Year} \right)$ <p>Emissions reduction percent should be filled in with the percent of emissions the state aims to reduce the buildings sector by. Year should be replaced with the year</p>	<p>The IPCC’s report on 1.5 degrees of global warming states that if humans are to avoid the most drastic consequences of global warming we should achieve carbon neutrality by 2050.⁷ While America as a nation is not ready to commit to this, individual states can show their dedication to this goal through commitments to percent reductions of emissions from sector to sector.</p>	<p><u>Mitigation Score: 2.83/5</u> <u>Equity Score: NA</u> <u>Public Health Score: NA</u></p> <p>Connecticut aims to reduce the building sector’s emissions by 34% by 2030. This gives CT a score of 2.83 out of 5.</p>

	<p>recommended in the IPCC AR5?</p>	<p>associated with that target, but subtract 2000 from that year. For example, if the state of East Dakota has a goal of 45% reductions in emissions for their buildings sector by 2030 the Emissions reduction percent would be entered as 45, and the year would be entered as 30. Giving East Dakota a score of 3.75/5 The last note with this formula is that states can score over five points if their targets are more ambitious than the IPCC goal. To limit the potential extremes of this, no state shall score above 7 points for this question no matter how ambitious their target is.</p>		
<p>K.1.3</p>	<p>Does the state model energy efficient building technology in the public sector? [PH.1.1]</p>	<p><u>Mitigation Score:</u></p> <p>5 – The state has adopted all five of the items listed to the right. 4 – The state has adopted four of the items listed to the right. 3 – The state has adopted three of the items listed to the right. 2 – The state has adopted two of the items listed to the right. 1 – The state has adopted one item listed to the right. 0 – The state has not adopted any of the items listed to the right</p> <p><u>Public Health Score:</u></p>	<p>By modeling energy efficiency and green building techniques in public buildings, state government can set an example for both the private industry and state residents to follow. Many states require publicly-owned and/or publicly-funded buildings to meet efficiency standards, such as LEED Silver or Energy Star status, through state legislation or executive order.⁸ The state should do the following:</p> <ol style="list-style-type: none"> a. Hold its own buildings to higher energy use standards than what is required for the private industry⁹ b. Employ the newest green building technology in its own buildings¹⁰ c. Leases state-owned equipment/services to businesses and residents to make energy efficiency upgrades more financially attainable¹¹ d. Require energy benchmarking of public buildings¹² 	<p><u>Mitigation Score: 4/5</u> <u>Equity Score: NA</u> <u>Public Health Score: 1/1</u></p> <ol style="list-style-type: none"> a. As part of CT’s Lead by Example Initiative, the state has a goal to reduce GHG emissions from state agency buildings by 45% below 2001 levels.¹⁴ b. CT has mandated High Performance Green Building Standards, which are applicable to most new construction projects and renovations of state facilities and public schools.¹⁵ c. CT does not appear to have an energy efficiency

		<p>1 – The state has adopted item ‘e’ listed to the right</p> <p>0 – The state has not adopted item ‘e’ listed to the right</p>	<p>e. Fund research on green building techniques (such as new technologies and the impact of green buildings on health and community)¹³ [PH.1.1]</p>	<p>equipment leasing program.</p> <p>d. CGS Sec. 16a-38i(b) requires that all state-owned buildings submit annual energy use and cost reports.¹⁶</p> <p>e. CT government helps to fund research on multiple benefits of green buildings, such as in partnership with the Connecticut Center for Advanced Technology¹⁷ and the Green and Healthy Homes Initiative, funded through the CT Green Bank.¹⁸</p>
<p>K.1.4</p>	<p>Does the state promote building and retrofitting public schools using green techniques? [PH.5.1: improved indoor environment] [EQ.1.1, EQ.2.1]</p>	<p><u>Mitigation Score:</u></p> <p>4 – The state has all four items listed to the right</p> <p>3 – The state has three items listed to the right</p> <p>2 – The state has two items listed to the right</p> <p>1 – The state has one item listed to the right</p> <p>0 – The state does not have any items listed to the right</p> <p><u>Public Health Score:</u></p> <p>2 – The state has item ‘a’ and ‘b’ listed to the right</p>	<p>Green public-school buildings offer another opportunity for the state to model energy efficient building practices and promote the health of children. Green schools offer the chance to showcase the benefits of green building technology within communities. Schools that are built to green standards improve student and teacher retention by creating healthier indoor environments, which lower absenteeism caused by respiratory illnesses, and reduce overall energy usage, saving each school an average of \$100,000 in operating costs each year.¹⁹ To incentivize local school districts to build and renovate using green techniques, states can do the following:</p> <p>a. Set statewide green building standards for schools²⁰ [PH.5.1: improved indoor environment]</p> <p>b. Implement legislation that incentivizes energy efficiency upgrades in existing</p>	<p><u>Mitigation Score: 3/4</u></p> <p><u>Equity Score: 1/1</u></p> <p><u>Public Health Score: 1/2</u></p> <p>a. CT sets high performance building standards (to exceed current building code energy efficiency standards by at least 21%) for school construction/renovation projects that receive at least \$2 million in state funding.²⁴</p> <p>b. CT does allow funding to be used for energy efficiency upgrades in schools, but incentives for these upgrades do not</p>

		<p>1 – The state has either item ‘a’ or ‘b’ listed to the right</p> <p>0 – The state does not have item ‘a’ or ‘b’ listed to the right</p> <p><u>Equity Score:</u></p> <p>1 – The state has item ‘d’ listed to the right</p> <p>0 – The state does not have item ‘d’ listed to the right</p>	<p>school buildings²¹ [PH.5.1: improved indoor environment]</p> <p>c. Require energy benchmarking of school buildings²²</p> <p>d. Provide innovative financing options for school boards to invest in green buildings²³ [EQ.1.1, EQ.2.1]</p>	<p>appear to be greater than for other upgrades.</p> <p>c. CGS Sec. 16a-38i(b) requires that all state agencies submit annual energy use and cost reports.²⁵</p> <p>d. The CT Green LEAF Schools Program offers a variety of grants for schools to invest in green upgrades and programs.²⁶</p>
<p>K.2 Community Engagement</p>				
<p>K.2.1</p>	<p>Does the state educate its workforce on green building techniques? [EQ.3.1, EQ.5.3]</p>	<p><u>Mitigation Score:</u></p> <p>7 – The state offers all seven programs listed to the right.</p> <p>6 – The state offers six programs listed to the right.</p> <p>5 – The state offers five programs listed to the right.</p> <p>4 – The state offers four programs listed to the right.</p> <p>3 – The state offers three programs offered to the right.</p> <p>2 – The state offers two programs listed to the right.</p> <p>1 – The state offers one program listed to the right.</p>	<p>Ensuring that a state’s construction workforce is educated on green building techniques will help advance the goal of state-wide building emissions reductions. Multiple educational opportunities are needed that can be funded by the state:</p> <p>a. General education programs for contractors about green building techniques²⁷</p> <p>b. Educational programs to teach HVAC contractors about RTT installation and maintenance²⁸</p> <p>c. Training for building inspectors in green techniques²⁹</p> <p>d. Targeted educational opportunities for underrepresented minorities to enter the green building workforce³⁰ [EQ.3.1, EQ.5.3]</p> <p>e. Green building apprenticeship programs³¹</p>	<p><u>Mitigation Score: 2/7</u></p> <p><u>Equity Score: 0/1</u></p> <p><u>Public Health Score: NA</u></p> <p>a. There is no requirement for training in green building techniques for licensed contractors in CT.</p> <p>b. The Connecticut Technical Education and Career System requires training on energy efficiency, renewable energy, and conservation practices for HVAC licensing.³⁴</p> <p>c. Building inspectors in CT are currently only required to enforce the 2015 International Building Codes.³⁵</p>

		<p>0 – The state does not offer any programs listed to the right.</p> <p><u>Equity Score:</u></p> <p>1 – The state offers program ‘d’ listed to the right.</p> <p>0 – The state does not offer program ‘d’ listed to the right.</p>	<p>f. Green training in technical high schools³²</p> <p>g. Green building programs in community colleges³³</p>	<p>d. There does not appear to be any targeted educational opportunities for minorities in the green workforce in CT.</p> <p>e. CT Department of Labor does not have apprenticeships for green building.</p> <p>f. CT’s Technical High School System offers a program in Sustainable Architecture.³⁶</p> <p>g. CT’s community colleges do not offer programs related to green building.</p>
<p>K.2.2</p>	<p>Does the state educate the public on building energy use reduction? [EQ.1.1]</p>	<p><u>Mitigation Score:</u></p> <p>5 – The state has all five items listed to the right.</p> <p>4 – The state has four items listed to the right.</p> <p>3 – The state has three items listed to the right.</p> <p>2 – The state has two items listed to the right.</p> <p>1 – The state has one item listed to the right.</p> <p>0 – The state does not have any items listed to the right.</p> <p><u>Equity Score:</u></p>	<p>Public education is an important factor in encouraging residents to reduce building GHG emissions through green construction, retrofitting and energy-conscious behaviors. The state should do the following:</p> <p>a. Mandate building energy labeling/disclosure to tenants, purchasers, and the public³⁷</p> <p>b. Offer public educational campaigns on the benefits of green building techniques³⁸</p> <p>c. Offer public education campaigns on lifestyle changes to reduce building energy usage (such as reduced AC use and more efficient temperature settings)³⁹</p> <p>d. Offer public educational campaigns on the benefits of green building techniques targeted to vulnerable populations, such as minorities or low-income groups.⁴⁰ [EQ.1.1]</p>	<p><u>Mitigation Score: 2/5</u> <u>Equity Score: 0/2</u> <u>Public Health Score: NA</u></p> <p>a. A bill (Raised Bill No. 177) requiring commercial and residential energy consumption data disclosure and labeling has been introduced to the CT General Assembly but not yet adopted.</p> <p>b. DEEP, Energize CT, and the Connecticut Green Building Council offer events to teach the public about green home energy solutions and lifestyle changes.⁴²</p> <p>c. See ‘b’ above.</p>

		<p>2 – The state has item ‘d’ and ‘e’ listed to the right.</p> <p>1 – The state has either item ‘d’ or ‘e’ listed to the right.</p> <p>0 – The state does not have item ‘d’ or ‘e’ listed to the right.</p>	<p>e. Offers public educational campaigns on the usage and maintenance of green building techniques targeted to vulnerable populations, such as minorities or low-income groups.⁴¹ [EQ.1.1]</p>	<p>d. CT does not appear to target educational information specifically to minority or low-income populations.</p> <p>e. CT does not appear to target information on green building usage and maintenance specifically to minority or low-income groups.</p>
<p>K.2.3</p>	<p>Does the state promote the health benefits related to green buildings to encourage adoption? [PH.1.1, PH.1.3, PH.2.1., PH.3.1, PH.5.1: improved indoor environment] [EQ.1.1, EQ.2.1]</p>	<p><u>Mitigation Score:</u></p> <p>3 – The state has all three items listed to the right.</p> <p>2 – The state has two items listed to the right.</p> <p>1 – The state has one item listed to the right.</p> <p>0 – The state does not have any items listed to the right.</p> <p><u>Public Health Score:</u></p> <p>3 – The state has three items listed to the right.</p> <p>2 – The state has two items listed to the right.</p> <p>1 – The state has one item listed to the right.</p>	<p>There are multiple health benefits to building or retrofitting buildings using green techniques. Green-certified buildings offer improved indoor air quality and better indoor environmental conditions (such as temperature stability and ventilation) as compared to traditional building techniques, benefits important for human health. Green buildings also reduce susceptibility to fuel poverty, a concern linked with increased morbidity, mortality, depression and anxiety.⁴³</p> <p>a. The state offers public educational campaigns on the health benefits of green buildings. [PH.3.1]</p> <p>b. The state incentivizes building certifications that have a health focus (such as WELL or the Living Building Challenge)⁴⁴ [PH.1.1, PH.5.1: improved indoor environment]</p> <p>c. The state allocates Medicaid funding for home efficiency improvements⁴⁵ [EQ.1.1, EQ.2.1] [PH.1.3, PH.2.1]</p>	<p><u>Mitigation Score: 1/3</u> <u>Equity Score: 0/1</u> <u>Public Health Score: 1/3</u></p> <p>a. The Connecticut Green and Healthy Homes Project, sponsored by the CT Green Bank, aims to provide research and education on the health benefits of green homes.⁴⁶</p> <p>b. CT does not offer incentives for building health certifications.</p> <p>c. CT does not use Medicaid funding for home efficiency improvements.</p>

		<p>0 – The state does not have any items listed to the right.</p> <p>Equity Score:</p> <p>1 – The state has item ‘c’ listed to the right.</p> <p>0 – The state does not have item ‘c’ listed to the right.</p>		
<p>K.2.4</p>	<p>Does the state emphasize engaging equitably with communities regarding the built environment and green buildings? [EQ.3.1, EQ.4.1, EQ.5.1]</p>	<p>Mitigation Score:</p> <p>3 – The state has policies with all three items considerations to the right.</p> <p>2 – The state has policies with two of the three items listed to the right.</p> <p>1 – The state has policies one of the three considerations listed to the right.</p> <p>0 – The state does not have any policies with the considerations listed to the right.</p> <p>Equity Score:</p> <p>3 – The state has policies with all three items considerations to the right.</p> <p>2 – The state has policies with two of the three items listed to the right.</p> <p>1 – The state has policies one of the three considerations listed to the right.</p> <p>0 – The state does not have any policies with the considerations listed to the right.</p>	<p>The built environment is inherently tied to communities and equity more so than most sectors causing GHG emissions. Because of this, conscious engagement throughout the planning process of reducing building emissions is integral to creating change. Below are key policy considerations for states:</p> <ul style="list-style-type: none"> a. State mandates/incentives to consult the community during the planning process of green buildings⁴⁷ [EQ.5.1] b. Programs/policies to incentivize mixed-use green buildings to increase community access⁴⁸ [EQ.3.1] c. Consider the equity of the supply chain of materials* through specific incentives, or certifications which take this into account (such as SMaRT or Forest Stewardship Council Certification)⁴⁹ [EQ.4.1] <p>*This means consideration for the labor practices that were used to procure the materials or the manner of natural resource harvesting.</p>	<p>Mitigation Score: 2/3 Equity Score: 2/3 Public Health Score: NA</p> <ul style="list-style-type: none"> a. The Connecticut Housing Finance Authority (CHFA) requires that any public housing projects applying for CHFA financing must ensure “meaningful” resident participation in the planning process.⁵⁰ ***This requirement should be extended to all types of community planning for green buildings. b. Energize CT offers incentives for green mixed-use buildings.⁵¹ c. CT does not appear to place a focus on the equity of supply chain materials.
<p>Section K Total</p>				<p>20.83/36</p>

	~57.9%
Section K Equity Total	3/8 ~37.5%
Section K Health Total	4/7 ~57.1%

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13 Berg et al, “The 2019 State Energy Efficiency Scorecard.” ACEEE, October 2019.

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