CRS Comments on 2015 update to National Green Building Standard, Home Innovation Research Labs
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Chapter	Section	Comment	Proposed Resolution
2	202	The definition of renewable energy is circular (self-referencing).	Renewable Energy. Energy derived from renewable energy sources.
6	606	606.3 This requirement refers to renewable energy use in manufacturing of building materials, and therefore may refer to use of both electricity and non-electric energy in manufacturing. Currently, the options 1-3 are not differentiated as applying to either electricity or non-electric energy use. However, since RECs are required to claim use of renewable electricity in all cases, including from on-site renewable generation equipment, we suggest differentiating between electricity used in manufacturing, in which case RECs are required, and non-electric energy used in manufacturing. It is also not clear that in option 3, RECs are being purchased by the building to be applied to the building materials, i.e. its supply chain, and not to the building's own electricity usage, and that RECs/RE may also be purchased or used by the supplier of the building materials. Finally, we recommend that Green-e certification be required, or at least recommended, to ensure that use of renewable electricity has been properly verified.	Materials manufactured using renewable energy for a minimum of 33 percent of the primary manufacturing process energy. Non-electric energy used in manufacturing materials must be derived from (1) renewable sources~~,~~ or (2) combustible waste sources~~, or (3) renewable energy credits (RECs) are used for major components of the building.~~ Electricity used in manufacturing materials must be paired with renewable energy certificates (RECs), which must be retired. The building may purchase RECs on behalf of the building material supplier where the supplier has not purchased/used renewable electricity, with RECs, for manufacturing of building materials. Green-e certification (or equivalent) is required [or recommended] for renewable electricity purchases and materials manufactured using renewable electricity.
6	610	610.1.1(1)(b) "Global warming potential" is a commonly-used term referring to the heat-trapping capacity of a particular gas. However, it does not appear to have that meaning in this context, which may be confusing for users. In this context, it appears to mean the potential of the building to contribute to global warming, a metric of which could be direct and indirect GHG/CO2e emissions. We suggest clarifying this.	(b) ~~Global warming potential~~ Direct and indirect greenhouse gas emissions

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6	610	610.1.2.1 "Global warming potential" is a commonly-used term referring to the heat-trapping capacity of a particular gas. However, it does not appear to have that meaning in this context, which may be confusing for users. In this context, it appears to mean the potential of the product to contribute to global warming, a metric of which could be direct and indirect GHG/CO2e emissions associated with the product's manufacturing and delivery. We suggest clarifying this.	Product LCA. A product with improved environmental impact measures compared to another product(s) intended for the same use is selected. The environmental impact measures used in the assessment ~~are selected from~~ include the following: (b) ~~Global warming potential~~ Direct and indirect greenhouse gas emissions (associated with product manufacturing and delivery)
6	610	610.1.2.2(b) "Global warming potential" is a commonly-used term referring to the heat-trapping capacity of a particular gas. However, it does not appear to have that meaning in this context, which may be confusing for users. In this context, it appears to mean the potential of the building assembly to contribute to global warming, a metric of which could be direct and indirect GHG/CO2e emissions associated with the building assembly. We suggest clarifying this.	(b) ~~Global warming potential~~ Direct and indirect greenhouse gas emissions
7	706	706.2(1) Depending on the location of the building site, the local electric utility may not offer a renewable energy service product/option/plan, or may not offer one for interim (temporary) electric service. Therefore, we suggest allowing the builder to procure renewable energy certificates (RECs), which are available everywhere, to meet this requirement. We also recommend that Green-e certification be required, or at least recommended, to ensure that use of renewable electricity has been properly verified. Utility green power programs/products, competitive electricity products, and stand-alone REC products can all be Green-e certified.	(1) Builder selects a renewable energy service plan provided by the local electrical utility for interim (temporary) electric service, or purchases renewable energy certificates (RECs) to cover electricity used. The builder's local administrate office has renewable energy service or has otherwise been paired with RECs. Green-e certification (or equivalent) is required [or recommended] for renewable electricity purchases.

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7	706	706.5 If the intent of this requirement is that buildings use/consume the renewable electricity from an onsite system (as opposed to installing an onsite system and generating green power for other grid consumers, or which the utility could potentially use to meet a state requirement), then the building must retain and retire the renewable energy certificates (RECs) associated with the electricity generated onsite.	An on-site renewable energy system(s) is installed on the property, and the renewable energy certificates (RECs) are retained and retired on-site for the building's own consumption.
10	1001	1001.1(6) Many utilities will purchase a portion of energy of renewable energy providers. We recommend clarification of this requirement such that information is related to utility programs/products that deliver renewable electricity to customers. We also recommend strengthening this requirement by requiring that this be information about renewable energy products/options available to the building, either from the local utility (e.g. differentiated renewable electricity/green power products/options) or competitive electricity suppliers (if in a deregulated region), or REC products that are available nationally. The Green-e website can be used to find green power options in your area. We also recommend that information be provided specifically about Green-e certified utility green power programs/products, competitive electricity products, and stand-alone REC products.	Information on available local Green-e certified (or equivalent) utility green power programs or renewable electricity products, as well as information on how to find other certified renewable energy products using the Green-e website ~~utility programs that purchase a portion of energy from renewable energy providers~~.
10	1002	1002.2(4) We recommend that information be provided specifically about Green-e certified utility and national green power products, to ensure that they are high quality and independently verified. The Green-e website is a good resource for finding local and national green power options.	Information on opportunities to purchase Green-e certified (or equivalent) renewable energy from local utilities or national green power providers and information on utility and tax incentives for the installation on on-site renewable energy systems.

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11	11.606	11.606.3 This requirement refers to renewable energy use in manufacturing of building materials, and therefore may refer to use of both electricity and non-electric energy in manufacturing. Currently, the options 1-3 are not differentiated as applying to either electricity or non-electric energy use. However, since RECs are required to claim use of renewable electricity in all cases, including from on-site renewable generation equipment, we suggest differentiating between electricity used in manufacturing, in which case RECs are required, and non-electric energy used in manufacturing. It is also not clear that in option 3, RECs are being purchased by the building to be applied to the building materials, i.e. its supply chain, and not to the building's own electricity usage, and that RECs/RE may also be purchased or used by the supplier of the building materials. Finally, we recommend that Green-e certification be required, or at least recommended, to ensure that use of renewable electricity has been properly verified.	Materials manufactured using renewable energy for a minimum of 33 percent of the primary manufacturing process energy. Non-electric energy used in manufacturing materials must be derived from (1) renewable sources~~,~~ or (2) combustible waste sources~~, or (3) renewable energy credits (RECs)~~. Electricity used in manufacturing materials must be paired with renewable energy certificates (RECs), which must be retired. The building may purchase RECs on behalf of the building material supplier where the supplier has not purchased/used renewable electricity, with RECs, for manufacturing of building materials. Green-e certification (or equivalent) is required [or recommended] for renewable electricity purchases and materials manufactured using renewable electricity.
11	11.610	11.610.1.1(1)(b) "Global warming potential" is a commonly-used term referring to the heat-trapping capacity of a particular gas. However, it does not appear to have that meaning in this context, which may be confusing for users. In this context, it appears to mean the potential of the building to contribute to global warming, a metric of which could be direct and indirect GHG/CO2e emissions. We suggest clarifying this.	(b) ~~Global warming potential~~ Direct and indirect greenhouse gas emissions

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11	11.610	11.610.1.2.1 "Global warming potential" is a commonly-used term referring to the heat-trapping capacity of a particular gas. However, it does not appear to have that meaning in this context, which may be confusing for users. In this context, it appears to mean the potential of the product to contribute to global warming, a metric of which could be direct and indirect GHG/CO2e emissions associated with the product's manufacturing and delivery. We suggest clarifying this.	Product LCA. A product with improved environmental impact measures compared to another product(s) intended for the same use is selected. The environmental impact measures used in the assessment ~~are selected from~~ include the following: (b) ~~Global warming potential~~ Direct and indirect greenhouse gas emissions (associated with product manufacturing and delivery)
11	11.610	11.610.1.2.2(b) "Global warming potential" is a commonly-used term referring to the heat-trapping capacity of a particular gas. However, it does not appear to have that meaning in this context, which may be confusing for users. In this context, it appears to mean the potential of the building assembly to contribute to global warming, a metric of which could be direct and indirect GHG/CO2e emissions associated with the building assembly. We suggest clarifying this.	(b) ~~Global warming potential~~ Direct and indirect greenhouse gas emissions

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11	11.1001	11.1001.1(6) Many utilities will purchase a portion of energy of renewable energy providers. We recommend clarification of this requirement such that information is related to utility programs/products that deliver renewable electricity to customers. We also recommend strengthening this requirement by requiring that this be information about renewable energy products/options available to the building, either from the local utility (e.g. differentiated renewable electricity/green power products/options) or competitive electricity suppliers (if in a deregulated region), or REC products that are available nationally. The Green-e website can be used to find green power options in your area. We also recommend that information be provided specifically about Green-e certified utility green power programs/products, competitive electricity products, and stand-alone REC products.	Information on available local Green-e certified (or equivalent) utility green power programs or renewable electricity products, as well as information on how to find other certified renewable energy products using the Green-e website ~~utility programs that purchase a portion of energy from renewable energy providers~~.
11	11.1002	11.1002.2(4) We recommend that information be provided specifically about Green-e certified utility and national green power products, to ensure that they are high quality and independently verified. The Green-e website is a good resource for finding local and national green power options.	Information on opportunities to purchase Green-e certified (or equivalent) renewable energy from local utilities or national green power providers and information on utility and tax incentives for the installation on on-site renewable energy systems.

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12	12.1	12.1(A).610.1.1(1)(b) "Global warming potential" is a commonly-used term referring to the heat-trapping capacity of a particular gas. However, it does not appear to have that meaning in this context, which may be confusing for users. In this context, it appears to mean the potential of the functional area to contribute to global warming, a metric of which could be direct and indirect GHG/CO2e emissions. We suggest clarifying this.	(b) ~~Global warming potential~~ Direct and indirect greenhouse gas emissions
12	12.1	12.1(A).610.1.2(1)(b) and 12.1(A).610.1.2(2)(b) "Global warming potential" is a commonly-used term referring to the heat-trapping capacity of a particular gas. However, it does not appear to have that meaning in this context, which may be confusing for users. In this context, it appears to mean the potential of the product or assembly to contribute to global warming, a metric of which could be direct and indirect GHG/CO2e emissions. We suggest clarifying this.	(b) ~~Global warming potential~~ Direct and indirect greenhouse gas emissions