**Comment/Explanation\*:***Include your justification for your proposed change to the draft standard below.*
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Table 10.4.1 has been revised in this draft to totally exclude Solar/PV systems from a minimum embodied carbon assessment (see highlighted in Table 10.4.1 below). These systems can contain substantial embodied carbon, yet they do also have substantial operational carbon benefits or payback, just like insulation materials included in a building. In addition, the standard appears to be silent on (and effectively ignores or excludes) substantial embodied carbon that may be associated with energy storage (e.g., batteries) often included as part of a PV System (which is undefined). Therefore, where this standard is used together with some separate form of accounting for operational carbon emissions (which the standard does not require despite that being indicated as the intent of the committee in response to my prior comments), a user could account for all of the operational carbon emissions savings benefit of a solar/PV system and completely ignore its embodied carbon, including that attributed to any energy storage elements (e.g., batteries).

To be consistent with Solar/PV Systems being exempted (although still optionally permitted to be included per Section 6.3.1 yet not addressing any associated energy storage), insulation materials also should be listed as excluded in Table 10.4.1 and otherwise be treated similarly to Solar/PV systems in the standard. Presumably Solar PV Systems are exempted from a minimum assessment because they have substantial operational benefits that are not accounted for in this standard. Similarly, all insulation materials have substantial energy savings and operational emissions reduction benefits that this standard does not address or require to be separately addressed for a more wholistic measure of the value of such building systems or materials that, like Solar/PV systems, are integrally linked to the operational phase and life-cycle performance of a building. In summary, the revision in this draft to explicitly exclude Solar/PV systems makes sense, but this exact dynamic also applies to insulation.

Perhaps the only other way to avoid this issue may be to develop a more comprehensive accounting of both embodied and operational carbon (which would complicate the standard) and apply it in coordination with a single rating metric or result that combines both operational and embodied carbon together as a single metric (not as partially complete accounting of embodied carbon and a separate relative rating metric for operational carbon emissions addressed elsewhere). Thus, this comment is intended to be an appropriate interim solution for the first edition of this standard.

**Proposed Change to the Draft Standard\***
*Use “strikethrough” and “underline” formatting to indicate all proposed changes. Changes must be shown with “hard-formatting” strikethrough and underline, not “track changes”.*

*Use a color other than red to indicate proposed changes to the draft. (Changes shown in GREEN)*\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Table 10.4.1 Excluded Building Components

|  |  |
| --- | --- |
| **Building Element** | **EXCLUDED Building Components** |
| Foundations, Subgrade Enclosures, and Slabs-on-Grade | Formwork |
| Ties |
| Fasteners |
| Sub slab drainage pipes |
|  | Insulation |
| Exterior Walls | Fasteners |
| Insulation ~~around window and door units~~ |
| Trim and flashing |
| Exterior shading |
| Insulation around glazing units |
| Roof | Fasteners |
| Gutters |
| Downspouts |
| Fascia |
| Soffit |
| Trim and flashing |
|  | Insulation |
| Interior Construction | Fasteners |
| Sound proofing sealant and gaskets |
| Door hardware |
| Trim |
| Interior Finishes  | Fasteners |
| Cabinetry |
| Counters |
| Hardware |
| Trim |
| Plumbing | Taps |
| Valves |
| Fittings |
| Controls |
| HVAC | Controls |
| Wire |
| Hardware |
| Mounts/supports |
| Electrical | Hardware |
| Finishes |
| Light fixtures  |
| Panels |
| Solar/PV systems 🡸  |
| Accessory Structures[[1]](#footnote-1) | ADUs, sheds, storage units, ramps and other detached structures |
| Communications | All components |
| Electronic Safety and Security | All components |
| Integrated Automation | All components |
| Fire suppression | All components |
| Equipment & Furnishings | All components |
| Special Construction & Demolition | Special Construction |
| Facility Remediation |
| Demolition |
| Sitework & Landscape | Site preparation |
| Site improvements (hardscape, softscape) |
| Liquid and Gas Site Utilities |
| Electrical site improvements |
| Site communications |
| Misc. site construction |
|  |  |

*NOTE TO COMMITTEE: This will require coordinating changes in the body of the standard, specifically, Section 5.4 and Table 5.4.1 and potentially adding an optional embodied carbon calculation for insulation in Section 6.3, just as done for PV systems in Section 6.3.1.*

1. [↑](#footnote-ref-1)