OSD/Army/USACE Building Electrification Policies and USACE Mandatory Consideration of Mass Timber

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Scott Wick, AIA, PMP, LEED AP
Chief Architect
US Army Corps of Engineers - Headquarters
Alignment of Law, Executive Orders, and Policy

LEGISLATIVE
- EPACT 05: Energy policy Act 2005

EXECUTIVE
- EO 13990: Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis
- EO 14008: Tackling the Climate Crisis at Home and Abroad

AGENCY
- DoD Climate Adaptation Plan
- NAVY Climate Action 2030
- Army Climate Strategy

DoD Electrification Policy

Army Electrification Policy

Key Points:
- Air Force Climate Goals:
  - Achieve net-zero emissions at AF installations by FY46, 50% emission reduction from 2008 levels by FY33
  - Achieve 100% carbon pollution-free electricity on a net annual basis by FY30
  - Achieve 100% zero emission non-tactical vehicles by FY35, 100% zero emission light-duty vehicle acquisitions by FY27 and aircraft support equipment by FY32

- Navy Climate Goals:
  - Achieve 65% reduction in Navy scope 1 GHG pollution by 2030, compared to 2008 levels
  - Achieve 100% carbon pollution-free electricity by 2030
  - Acquire 100% zero-emission vehicles by 2035 & light-duty vehicles by 2027
  - Achieve 50% reduction in building emissions by 2032
  - Draw down 5M metric tons of CO2e annually through nature-based solutions by 2027

- Army Climate Goals:
  - Achieve 50% reduction in Army net GHG pollution by 2030, compared to 2005 levels
  - Attain net-zero Army GHG emissions by 2050
  - Proactively consider security implications of climate change in strategy, planning, acquisition, supply chain, and programming
  - Microgrid on every installation by 2035
DoD Policy Summary:

**Effective:** 29 MAR 2023

**Applies to:**
- Worldwide facilities, except where prohibited by a host nation agreement
- New military construction up to 35% design
- Renovations and repairs that impact space conditioning, water heating, cooking, and laundry equipment.

**Does not apply to:**
- Emergency generators
- Unique agency research/manufacturing/industrial/process loads where technology is not practicable

**What must be done:**
- Eliminate fuel consuming equipment (e.g. furnaces, boilers, range cooktops, dryers, etc.). Use electric equipment instead
- New MILCON up to 15% design must comply in full; new MILCON between 15% and 35% must include infrastructure for future electrification (e.g. conduit, electrical panels, wiring)
- Existing building repair, replacement, and major renovations must replace in-scope fuel-based equipment with electric equipment

**Exceptions:** Climate zones where all-electric technologies are not practicable, if approved by the ASA IE&E
Army Policy Summary:

Effective: 18 MAY 2023

Applies to:
- [Same as DoD policy for Worldwide facilities.]
- [Same as DoD policy for new construction.]
- Renovation and modernization projects that require Congressional notification and are not yet under design that impact space conditioning, water heating, cooking, and laundry equipment.

Does not apply to: [Same as DoD Policy.]

What must be done: [Same, plus the following additions.]
- Provide carbon-free renewable energy generation and battery storage for critical operations.
- Provide three whole-building Life Cycle Cost Analyses on substantially differing integrated design configurations.
- Incorporate infrastructure requirements in project scopes where appropriate.
- The Chief of Engineers shall publish updated interim guidance and incorporate policy into Unified Facilities Criteria.

Exceptions: [Same.]
USACE Electrification Policy

USACE ECB 2023-8: Electrification, Decarbonization, And Executive Order (E.O.) 14057

- Acts as interim guidance while Unified Facilities Criteria are updated.
- Clarifies definitions of design milestones and performance targets.
- Identifies exactly which MILCON projects must comply with Army and DoD Electrification Policy Requirements.
- Impacts several UFC technical disciplines: Electrical, Mechanical, Sustainability, and others.
- Directs designers to resources such as the Army Sustainability Implementation Guide and UFC 1-200-02, “High Performance and Sustainable Buildings.”

Subject: Electrification, Decarbonization, and Executive Order (E.O.) 14057.
Category: Directive and Policy.

1. References:


3. Applicability.
This ECB applies to all Army renovation and modernization projects that had not started design as of March 29, 2023, all Army MILCON projects FY22 and beyond, and all projects as detailed in Attachment A.

This policy does not apply to systems and equipment used for unique agency research, manufacturing, industrial and process loads for which all-electric technology is not practicable. Where such systems and equipment will use fossil-fuels on-site, these loads must be separately metered or estimated. Such determinations should be documented in writing and included in the project records. Backup power generation for emergency use only is not subject to this requirement.

4. Background.
Army Electrification Guidance for Military Construction (MILCON) Projects memo states: “Incorporate building design techniques, building features, and proven efficiency technologies to ensure energy and water conservation and resilience in accordance with Army sustainable design guidance.”

USACE ECB 2023-14: Mandatory Consideration of Mass Timber in Army Military Construction (MILCON) and Civil Works Vertical Construction Projects

- Requires all Army MILCON and Civil Works vertical construction projects to consider at least one option where mass timber is a substantial structural component, when comparing structural systems during early design.

- Must be documented via a Life Cycle Cost Analysis (LCCA). A description of all structural system options analyzed, results of the LCCA, and justifications detailing why a mass timber structural system was or was not selected for the project must be included in the project Design Analysis.

- Encourages LCA calculations to evaluate environmental impacts of different structural systems but does not require.

- Acknowledges that impacts several UFC technical disciplines: Electrical, Mechanical, Sustainability, and others.

- Directs designers to resources such as the Unified Facility Guide Specifications (UFGS) for Cross Laminated Timber, Glue Laminated Timber, the American Wood Council (AWC) website and WoodWorks website.