Embodied carbon policy landscape is growing

Policy is a key strategy for decarbonizing the built environment. EC policies are being introduced at the federal, state, and local levels.

Examples of the growing number of policies incorporating embodied carbon:
- Procurement policies (like Buy Clean)
- Building codes
- City zoning, land use, and building regulations and incentives
- Building and material reuse policies
- Climate action plans
- Executive orders (state/federal)

Learn more at the CLF Policy Toolkit: carbonleadershipforum.org/clf-policy-toolkit
Opportunities to reduce embodied carbon are widely available

**Optimize Project**
- Reusing materials/buildings
- Reduced floor area
- Design for Disassembly

**Optimize System**
- Design for efficiency
- Choose low carbon systems and assemblies
- Use alternate, low-carbon materials

**Optimize Procurement**
- Select the lowest carbon version of the selected product
- Clean manufacturing (efficiency, fuel switching)

### STRATEGIES

| Calculators | Whole Building Life Cycle Assessment (WBLCA) | Environmental Product Declaration (EPDs) |

### TOOLS

- **Reuse/deconstruction policies**
- **City zoning, land use, and building regulations**
- **Building Codes / Climate Action Plans / Incentive Programs**
- **Procurement Policy**

### POLICY LEVERS

**Building Approach**
- Uses **Whole Building LCA tools or calculators** to measure performance
- Incentivizes **Designers** to collaborate to design a lower carbon building
- Captures strategies like:
  - Building/material reuse
  - Use of bio-based materials
  - Efficient structural design

**Material Approach**
- Use product LCAs in the form of **Environmental Product Declarations** to measure performance
- Incentivizes **Manufacturers** to invest in clean manufacturing and **Contractors** to procure low carbon materials
- Captures strategies like:
  - Concrete mix designs
  - Plant efficiency/fuel choices
  - Sustainable ingredient sourcing

Reducing Embodied Carbon: Two Complementary Policy Approaches
### US Current Focus: State and Federal Procurement Policy (as of Sept 1 2021)

<table>
<thead>
<tr>
<th></th>
<th>PASSED/SIGNED</th>
<th>PASSED</th>
<th>ONGOING (Introduced in 2021)</th>
<th>PILOT/STUDY (2021)</th>
<th>DID NOT PASS (2021)</th>
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</thead>
<tbody>
<tr>
<td><strong>Materials</strong></td>
<td>Buy Clean CL (2017)</td>
<td>Buy Clean CO (2021)</td>
<td>Concrete (add to BCCA)</td>
<td>Concrete, steel, wood</td>
<td>Concrete, steel, wood</td>
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<tr>
<td></td>
<td>Asphalt, cement, concrete, glass, steel, wood</td>
<td>Asphalt, cement, concrete, glass, steel, wood</td>
<td>(Initial list) Aluminum, iron, steel, concrete, cement</td>
<td>Concrete, masonry, metal wood</td>
<td>Concrete, steel, wood</td>
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<tr>
<td><strong>Includes Buildings</strong></td>
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<td>✓</td>
<td>✓</td>
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<tr>
<td><strong>Includes DOT Projects</strong></td>
<td>✓</td>
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<td>✓</td>
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<tr>
<td><strong>Requires Disclosure</strong></td>
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<td>✓</td>
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</tr>
<tr>
<td><strong>GWP Limits</strong></td>
<td>Industry Average</td>
<td>Industry Average</td>
<td>?</td>
<td>?</td>
<td>?</td>
</tr>
<tr>
<td><strong>Provides Incentives</strong></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

### Policy focus varies globally, but need both in the long term

**Material Approach (EPDs, Buy Clean)**
- State/National policy **passed**
- State/National policy **proposed**

**Building Approach (WBLCA)**
- State/National policy passed
- City/County policy passed
- National policy **proposed**
- National programs for both WBLCA and EPDs exist

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**Europe**

**North America**
Thank You!

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https://carbonleadershipforum.org/

https://community.carbonleadershipforum.org

info@carbonleadershipforum.org

@CarbonLeadershipForum

https://www.linkedin.com/company/carbon-leadership-forum/