

State Best Practices Guide

for Decarbonizing the Industrial Sector

December 2022

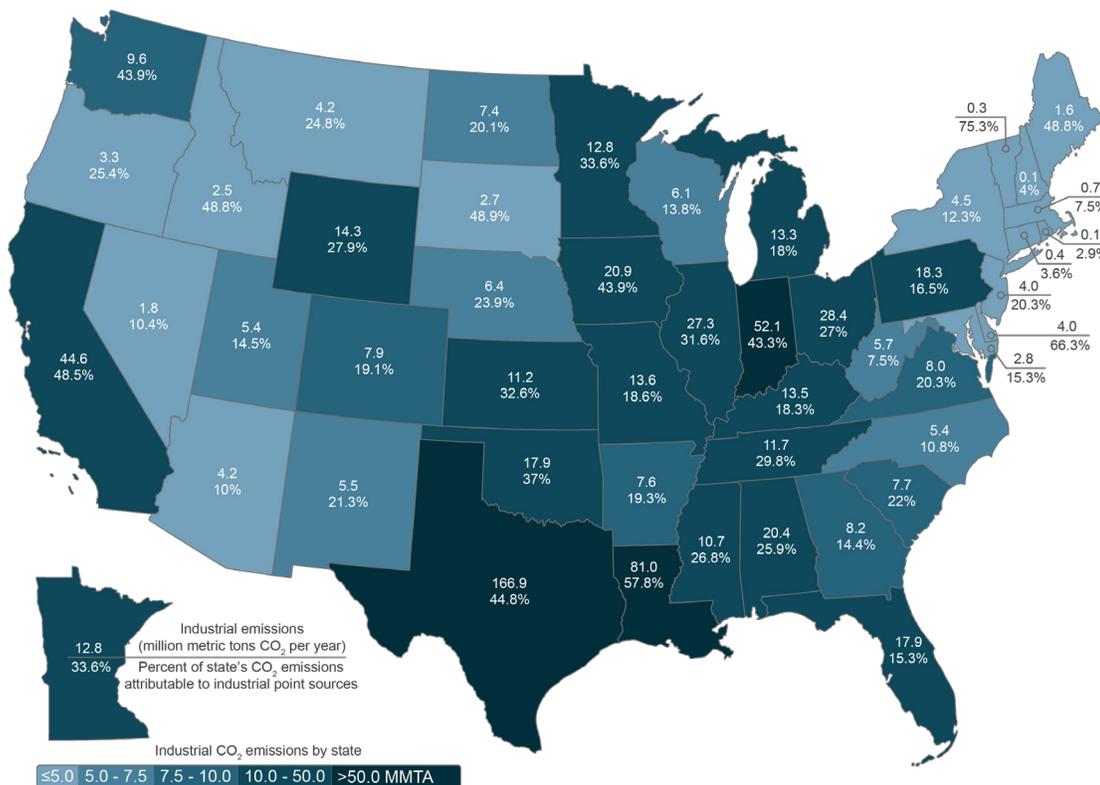


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States will play a critical role in reducing US industrial emissions. Supported by the recent influx of federal funding, states can create a regulatory and policy landscape that spurs local implementation, drives private investments, and complements federal incentives.

Industrial decarbonization is a challenge that will only be overcome should states support a full suite of policy solutions. The challenge is multifaceted. Facilities in different sectors and regions have unique needs when decarbonizing. Figure 1 shows the relative proportion of US industrial emissions on a state-by-state basis.

Figure 1. Industrial Emissions by State as a Percentage of Total State Emissions



While there is no one-size-fits-all solution, carbon management, clean hydrogen, low-carbon procurement, electrification, and efficiency policies cut across industrial sectors and can be mixed and matched to greatly reduce a state's industrial emissions. Regardless of the state's available resources or emissions profile, cross-cutting statewide planning and workforce development will also be critical considerations for equitable decarbonization.

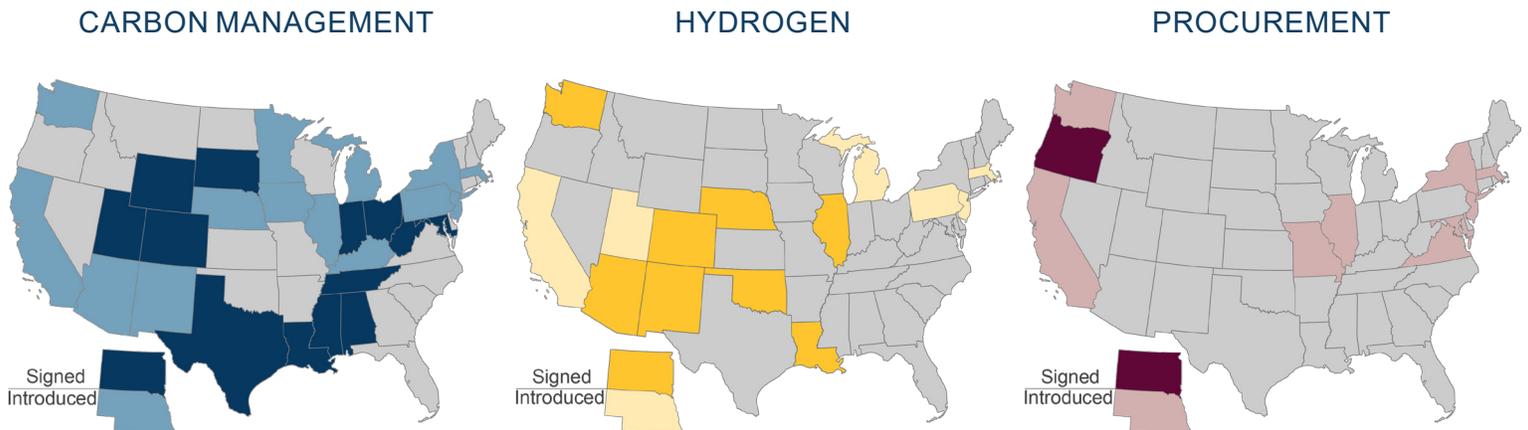
*MMTA = million metric tons per annum. Data sourced from US EPA GHGRP (2021). Industrial sectors include Refineries, Chemicals, Minerals, Metals, and Pulp and Paper.

Note: Each state in the US has a unique emissions profile. While some states may have a larger share of emissions from the industrial sector, every state will need to consider these emissions when planning for statewide decarbonization.

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Figure 2. 2022 Legislation in States by Key Topic Areas



Source: Great Plains Institute analysis based on data from Industrial Innovation Initiative, July 2022 [Legislative Digest](#) (December 2022).

Note: Over the course of 2022 legislative sessions, states made progress in three key policy areas critical to advancing industrial decarbonization: carbon management, hydrogen, and procurement. While electrification and efficiency, statewide planning, and workforce development policies are more difficult to track, they are no less important to the overall progress that has been made to advance industrial decarbonization on a state-by-state basis.

The approaches described in this guide outline state policy options and current best practices that can help scale up industrial decarbonization solutions and positively affect local communities throughout the value chain. From retrofits to fuel switching, industrial decarbonization will have far-reaching upstream and downstream impacts on local jobs, health, and economies.

How to Use This Guide

The following fact sheets provide a starting point for decision makers and advocates seeking to develop an industrial decarbonization policy framework. Each state must tailor its policies to best suit the unique assets and needs of its region; however, many lessons may be learned from looking to states which have already passed decarbonization legislation.

This publication pairs high-level policy considerations with examples to demonstrate the kinds of policy language and regulatory structures in use or under consideration across the United States. The topics covered herein are not in order of priority nor exhaustive but should be viewed as a menu of options from which a state may mix and match to suit its needs.

Industrial Innovation Initiative (I³) staff developed this resource with input from I³ participants. I³ is an ambitious coalition that aims to drive emissions reductions through policy change, supporting quality jobs and investment in key US industrial sectors. Co-convened by the Great Plains Institute and World Resources Institute, I³ builds on years of stakeholder engagement and work with state officials in the Midcontinent region, as well as extensive work advancing decarbonization solutions important to the industrial sector. For more information, visit industrialinnovation.org.

Low-Carbon Procurement



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State procurement policies provide an opportunity for governments to lead by example. They are a critical lever to create a low-carbon product market and ensure reliable demand. This approach will help increase the deployment of new market-ready, low-carbon technologies through incentives or requirements for the public sector market. These policies will be particularly effective for construction materials sectors, such as cement and steel, where state governments are one of the largest purchasers.

For more on state-based low-carbon procurement policies, see **Carbon Leadership Forum's** ["Map of Embodied Carbon Policy in the US."](#)

Regulatory policies and planning

Setting procurement standards and creating a required carbon intensity benchmark for public sector purchasing can help provide market certainty while lowering the carbon intensity of the built environment.

- Set benchmarks that are regularly updated in order to continually increase the stringency of embodied carbon reductions and support innovation.
- Require departments of transportation to use a set percentage of low-carbon concrete, asphalt, steel, and other building materials in transportation infrastructure projects.
- Develop a task force to harmonize efforts with federal procurement standards, working across the General Services Administration, US Department of Transportation, and other states.
- Extend state contracts and procurement guidance resources to local and Native governments to participate in environmentally preferred purchasing agreements.



California's [Buy Clean California Act](#) (BCCA) ([Public Contract Code Sections 3500-3505](#)) was enacted in 2017 and was the first example of Buy Clean legislation in the United States. BCCA requires the state to establish and publish "maximum acceptable Global Warming Potential (GWP) limits" for select construction materials, which were finalized in January 2022. Starting in July 2022, all covered materials used in public construction projects must prove they meet the GWP limits by submitting EPDs that disclose the carbon intensity of manufacturing a specific material.



[Natural Resources Defense Council's Design Guide to State and Local Low-Carbon Concrete Procurement](#) provides an overview of approaches to leverage public sector purchasing as a tool to reduce emissions from concrete being implemented, adapted, or advocated for in the US.



The **Pacific Coast Collaborative** announced the launch of the [Low Carbon Construction Task Force](#) at COP26, an effort between the states of California, Oregon, Washington, the province of British Columbia and the cities of Vancouver (British Columbia), Seattle, Portland, San Francisco, Oakland, and Los Angeles to advance low-carbon materials and methods in building and construction projects. The task force will create a shared regional strategy with the goal of accelerating innovation, investment, and market development for low-carbon materials by leveraging the scale of the Pacific Coast regional economy.

Low-Carbon Procurement



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Financial incentives

Financial support through states can help bring the cost of low embodied carbon materials to parity with traditional building materials, supporting early innovators and building the market for low-carbon products.

- Establish procurement bonus policies that provide a cost discount to a company's bid if it has lower carbon intensity than its competitors.
- Create a fund that covers the cost differential (if any exists) between low-carbon bids and bids that use conventional technologies.
- Develop funding mechanisms such as grants to support RDD&D to produce low-carbon building materials.
- Pilot projects with university campuses and test databases to collect information and produce progress reports.

Information and disclosure policies

Environmental product declarations (EPDs) and other reporting mechanisms or disclosure policies allow for product comparisons and are critical to setting meaningful emissions intensity benchmarks.

- Set EPD requirements and establish grant programs to assist bidders and proposers in the preparation of EPDs.
- Establish technical advisory committees or otherwise provide technical assistance to advise state departments in charge of procurement (such as the department of transportation).
- Provide technical and financial assistance for manufacturers who face a financial barrier to completing EPDs or similar reporting mechanisms due to their significant cost.
- Support disclosure around fair labor standards, including compensation, working hours, and collective bargaining.



Minnesota's [amendment to HF 278](#) commissioned an environmental impacts study to explore the feasibility of Buy Clean-like legislation for the State of Minnesota.



Washington performed a [Buy Clean Washington Study](#) by the Carbon Leadership Foundation and published in 2019.



Enacted [HB 4139](#), requiring the Oregon Department of Transportation (ODOT) to reduce greenhouse gases associated with concrete, asphalt, and steel products used on DOT projects by 2025. Requires EPDs, establishes a grant program to assist bidders and proposers in preparing EPDs, and establishes a technical advisory committee to advise ODOT.



Enacted [HB 21-1303](#), also known as "Buy Clean Colorado," in 2021, which directs the Office of the State Architect and the Colorado Department of Transportation each to establish policies regarding the GWP for specific categories of eligible materials used to construct certain public projects.



Washington considered a pair of bills ([HB 1103](#) and [SB 5659](#)) in 2022 for Buy Clean Buy Fair policy development in the state. While neither bill passed, they are an example of statutory language establishing climate and labor standards for building materials used in state public works projects. The state also commissioned a [Buy Clean Buy Fair Pilot Study](#), requiring environmental and labor data to be submitted for state construction projects, and a case study analysis. The final report is due November 2022.

