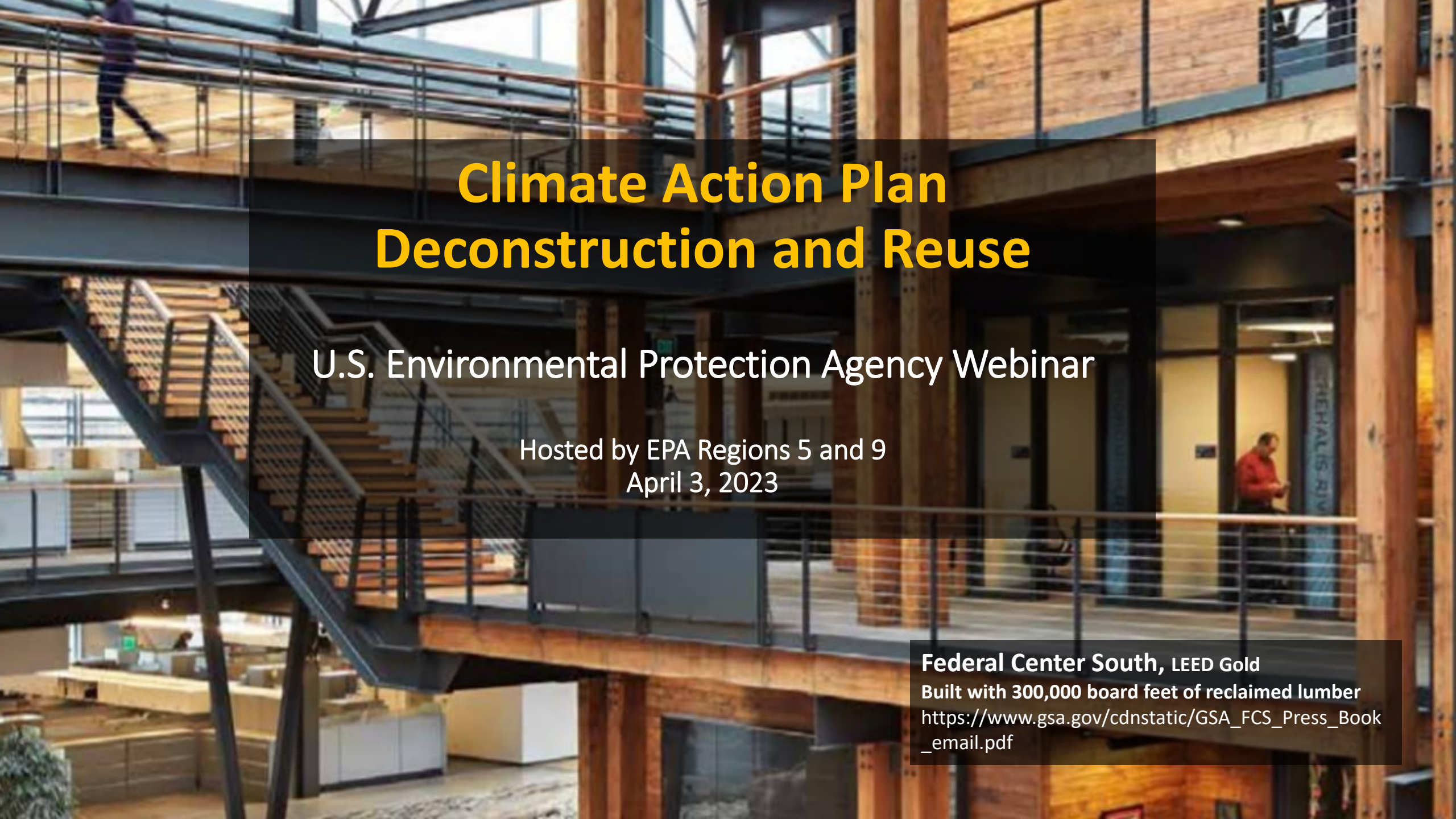

Climate Action Plan
Deconstruction and Reuse

U.S. Environmental Protection Agency Webinar

Hosted by EPA Regions 5 and 9
April 3, 2023

Federal Center South, LEED Gold
Built with 300,000 board feet of reclaimed lumber
https://www.gsa.gov/cdnstatic/GSA_FCS_Press_Book_email.pdf

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Many thanks to our speakers!

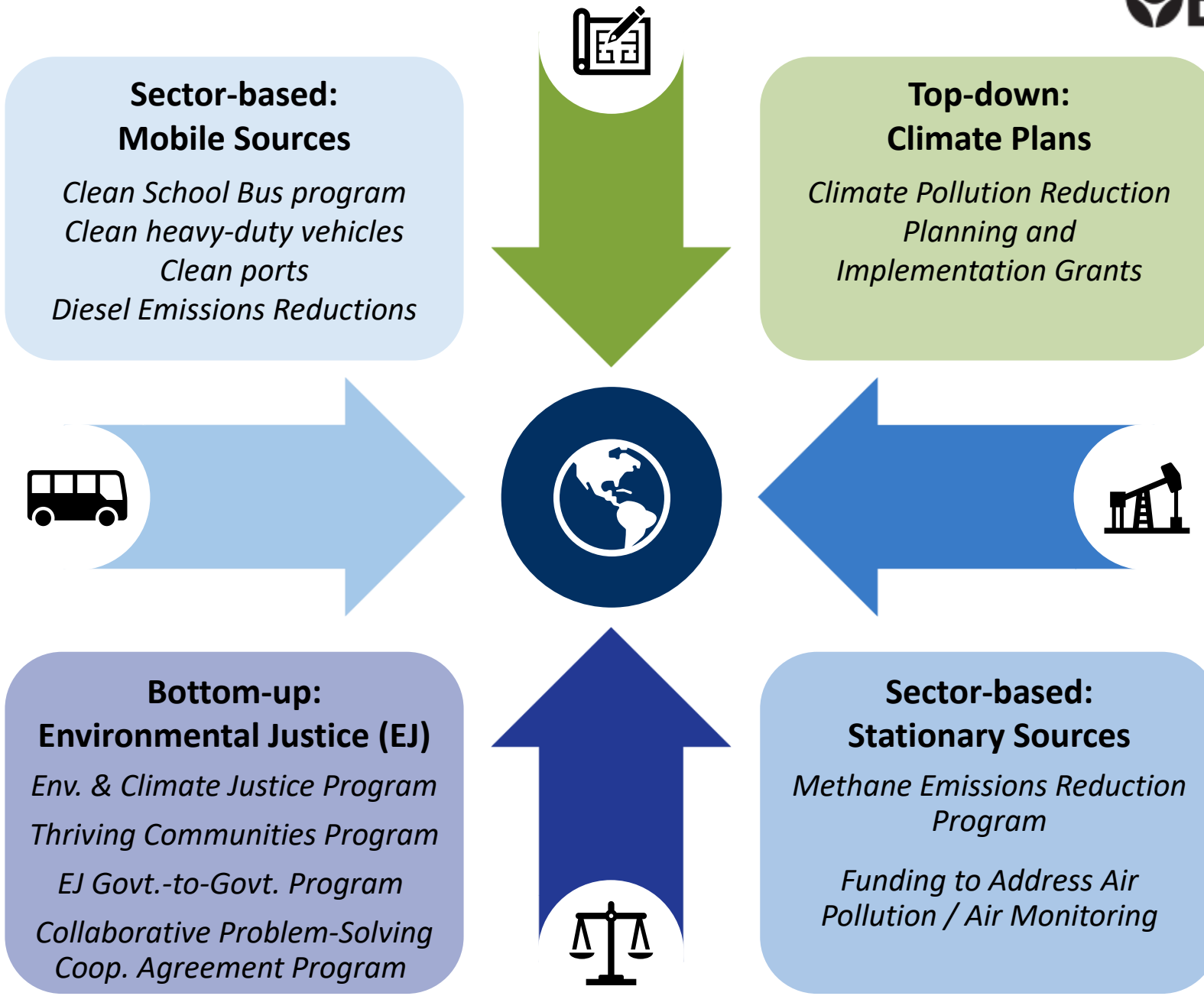
- **Erin Newman**, Climate Change Mitigation Coordinator, U.S. EPA Region 5
- **Melissa Wenzel**, Built Environment Sustainability Administrator, Minnesota Pollution Control Agency
- **Shawn Wood**, EPA Implementation Fellow, US. EPA (formerly with the City of Portland, OR)
- **Stephanie Phillips**, Deconstruction & Circular Economy Program Manager, City of San Antonio Office of Historic Preservation
- **Meri Soll**, Senior Program Manager, StopWaste (Alameda County, CA)
- **Patrick Michael Hayes**, Recycling Program Specialist II, City of Oakland
- **Anne Nicklin**, Director of Workforce Training and Deconstruction Services, Rebuilding Exchange, Chicago & Evanston

Photo: City of Palo Alto

EPA's Climate Pollution Reduction Grants:

Planning grants for state, territory, local, and Tribal governments

TACKLING CLIMATE AND AIR POLLUTION FROM MULTIPLE ANGLES



*Not exhaustive

Climate Pollution Reduction Grant (CPRG) Program

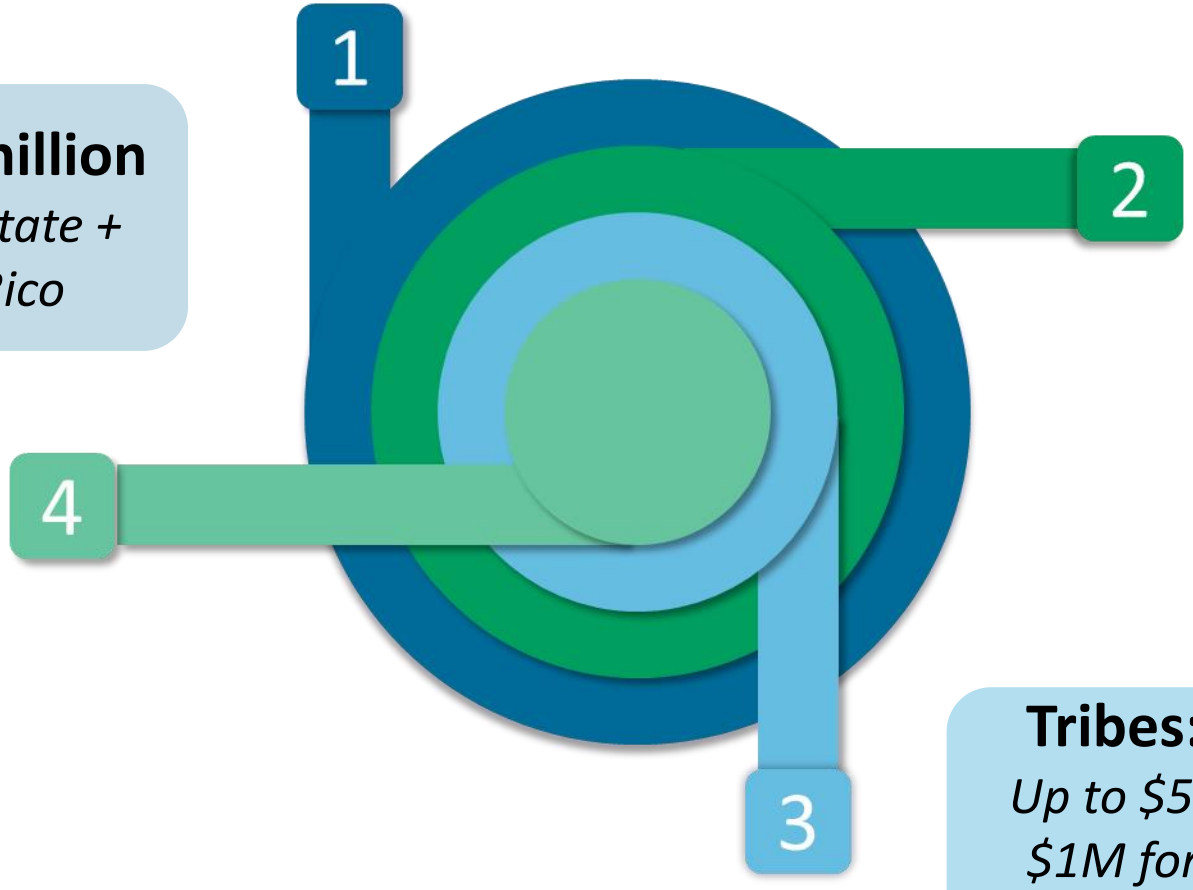
1. Planning grants to develop strong climate pollution reduction strategies ($250 million)

- Administered through non-competitive cooperative agreements

2. Competitive implementation grants to help put plans into action ($4.6 billion)

Planning Grant Allocations

States: $156 million
Up to $3M per state + DC + Puerto Rico



Locals: $67 million
Up to $1M each for the 67 most populous metropolitan areas

Territories: $2 million
Up to $500K each for US Virgin Islands, Guam, American Samoa, Northern Mariana Islands

Tribes: $25 million
Up to $500K per tribe or $1M for groups of 2 or more

One planning grant, three deliverables over 4 years

Priority Climate Action Plan (PCAP)

- Due **March 1, 2024**
- Near-term, implementation-ready, **priority greenhouse gas (GHG) reduction measures**
- **Prerequisite** for implementation grant

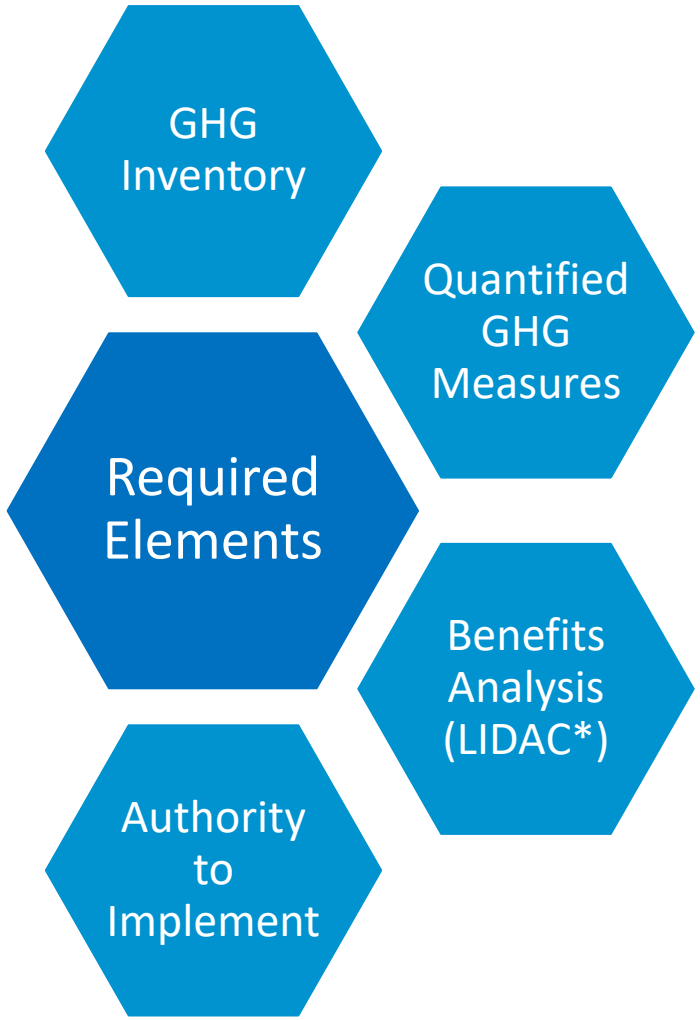
Comprehensive Climate Action Plan (CCAP)

- Due in **2025** (later for tribes and territories)
- **All sectors** / significant GHG sources and sinks
- **Near- and long-term** GHG emission reduction goals and **strategies**

Status Report

- Due in **2027** (N/A for tribes or territories)
- **Updated** analyses and plans
- **Progress and next steps** for key metrics

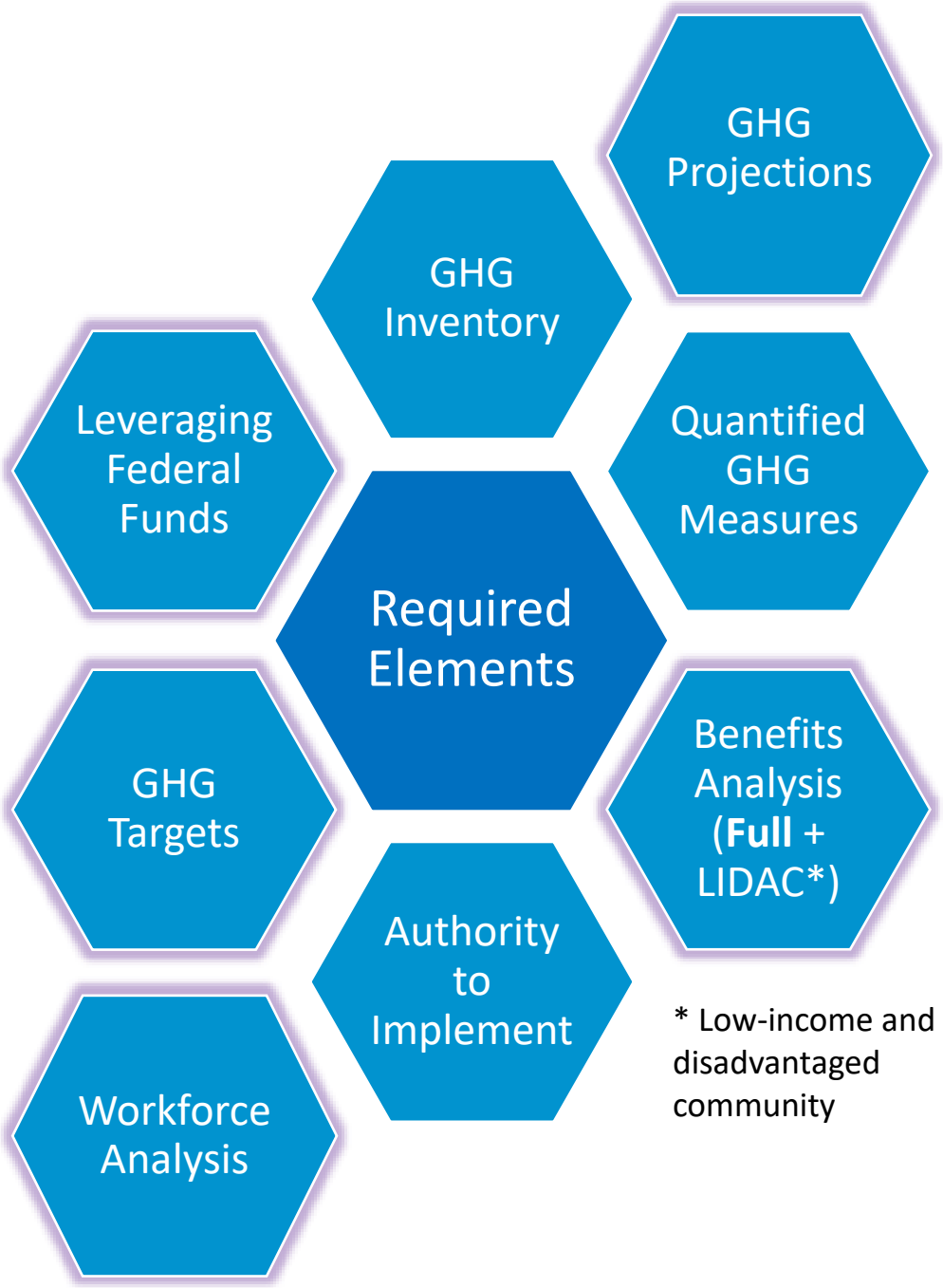
Priority Climate Action Plan



- Due March 1, 2024
- Identifies near-term action items to prepare for implementation grants
- Can focus on specific sector(s) or sources
- Limited set of requirements that set foundations for informed decisions
- May build on previous climate planning efforts

* Low-income and disadvantaged community

Comprehensive Climate Action Plan

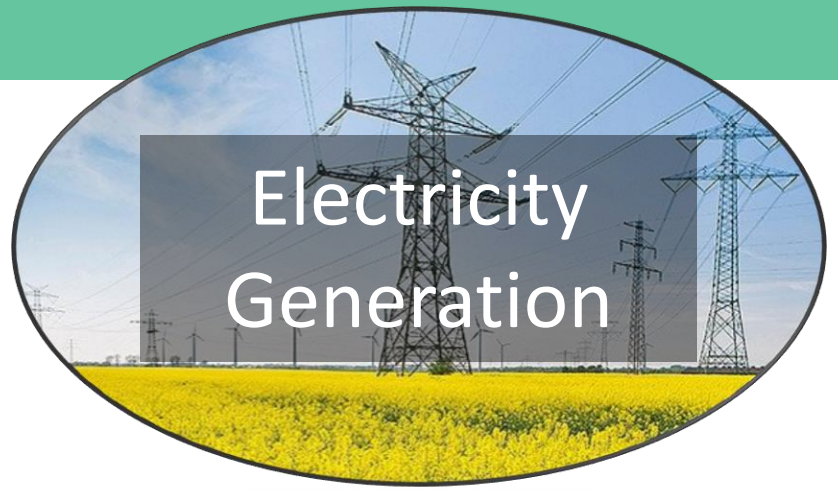


* Low-income and disadvantaged community

- Due 2 years from the date of award for states and metro areas (summer 2025) and at close of grant for tribes and territories
- Covers GHG reduction measures across **all significant sources/sinks and sectors**
- Establishes near-term **and long-term** GHG emission reduction targets
- Adds additional required analyses to support robust implementation

KEY SECTORS


Waste & Materials Management


Electricity Generation


Transportation


Agriculture/Natural and Working Lands


Industry


Commercial & Residential Buildings

Planning Grant Application Process

March 31, 2023	April 28, 2023	May 31, 2023	June 15, 2023	Summer 2023
State Notice of Intent to Participate (NOIP) deadline	**State** application deadline **Metro area** NOIP deadline	**Metro area** application deadline	**Tribes and territories** application deadline	Funding to **all grantees** is awarded

Resources on Federal Funding

- **Climate Pollution Reduction Grants**
  www.epa.gov/inflation-reduction-act/climate-pollution-reduction-grants
  - **Get Updates:** www.epa.gov/inflation-reduction-act/forms/stay-connected-climate-pollution-reduction-grants
  - **Questions:** CPRG@epa.gov
- **Inflation Reduction Act**
  - **White House *Inflation Reduction Act Guidebook***
    www.whitehouse.gov/cleanenergy/inflation-reduction-act-guidebook/
- **Infrastructure Investment and Jobs Act**
  - **White House *Guidebook to the Bipartisan Infrastructure Law for State, Local, Tribal, and Territorial Governments and Other Parties***
    www.whitehouse.gov/wp-content/uploads/2022/05/building-a-better-america-v2.pdf
- **Identifying and Applying for Grants**
  - **Grants.gov:** clearinghouse for all federal grant opportunities, includes training and resources
  - **EPA Grants Office:** training and resources on applying for grants: www.epa.gov/grants

Minnesota's Climate Action Framework:

A more sustainable built environment

OUR MINNESOTA CLIMATE

April 3, 2023

Why a Climate Action Framework?

- Create a bold vision for Minnesota
- Invite conversation

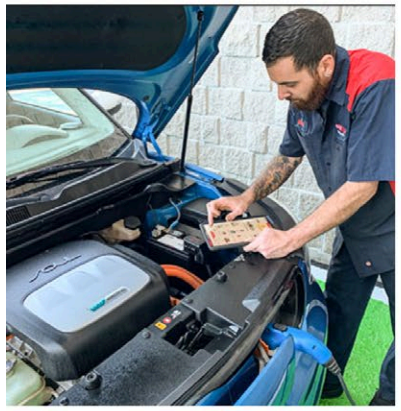
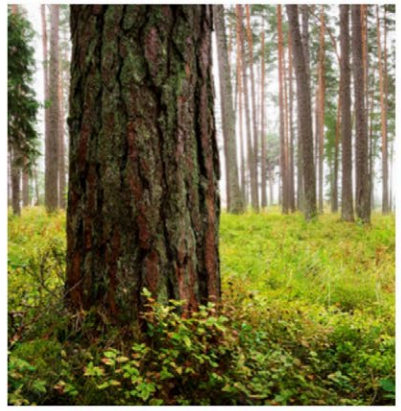
- Ensure accountability
- Organize and share our thinking







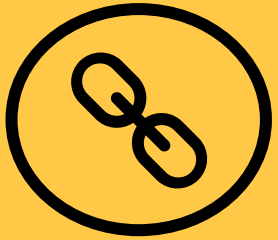
Catalyze action across sectors

The climate vision for our state

Carbon-neutral

By 2050, Minnesota substantially reduces greenhouse gas (GHG) emissions and balances any GHG emissions with carbon storage.



Resilient

Minnesota communities, businesses, and the natural environment can prepare, respond to, and recover from the impacts of climate change so all Minnesotans can thrive.

Equitable

Minnesotans acknowledge and address inequitable and inaccessible systems that contribute to disproportionate climate change impacts; ensure fair distribution of the costs and benefits of action now and to future generations; and ensure meaningful participation in planning.

New targets

Align with the best science from the Intergovernmental Panel on Climate Change

Reduce GHGs 50% by 2030

Net-zero emissions by 2050

Prioritizing resilience investment **over the next 10 years**

Need action by all levels of government, businesses, nonprofits, and individuals

Goal 3: Resilient Communities

Former South St. Paul MN bank, now The Drover Apartments

Initiative 3.3: Resilient buildings, infrastructure, and business

U of MN Ben Pomeroy Student-Alumni Learning Center

Goal 4: Clean energy and efficient buildings

Solar panel installation grand opening in Ramsey County, MN

Initiative 4.2: Smarter buildings and construction

Former St. Louis County Jail being converted to apartments

Smarter buildings and Construction

4.2.3 Building reuse and preventing waste

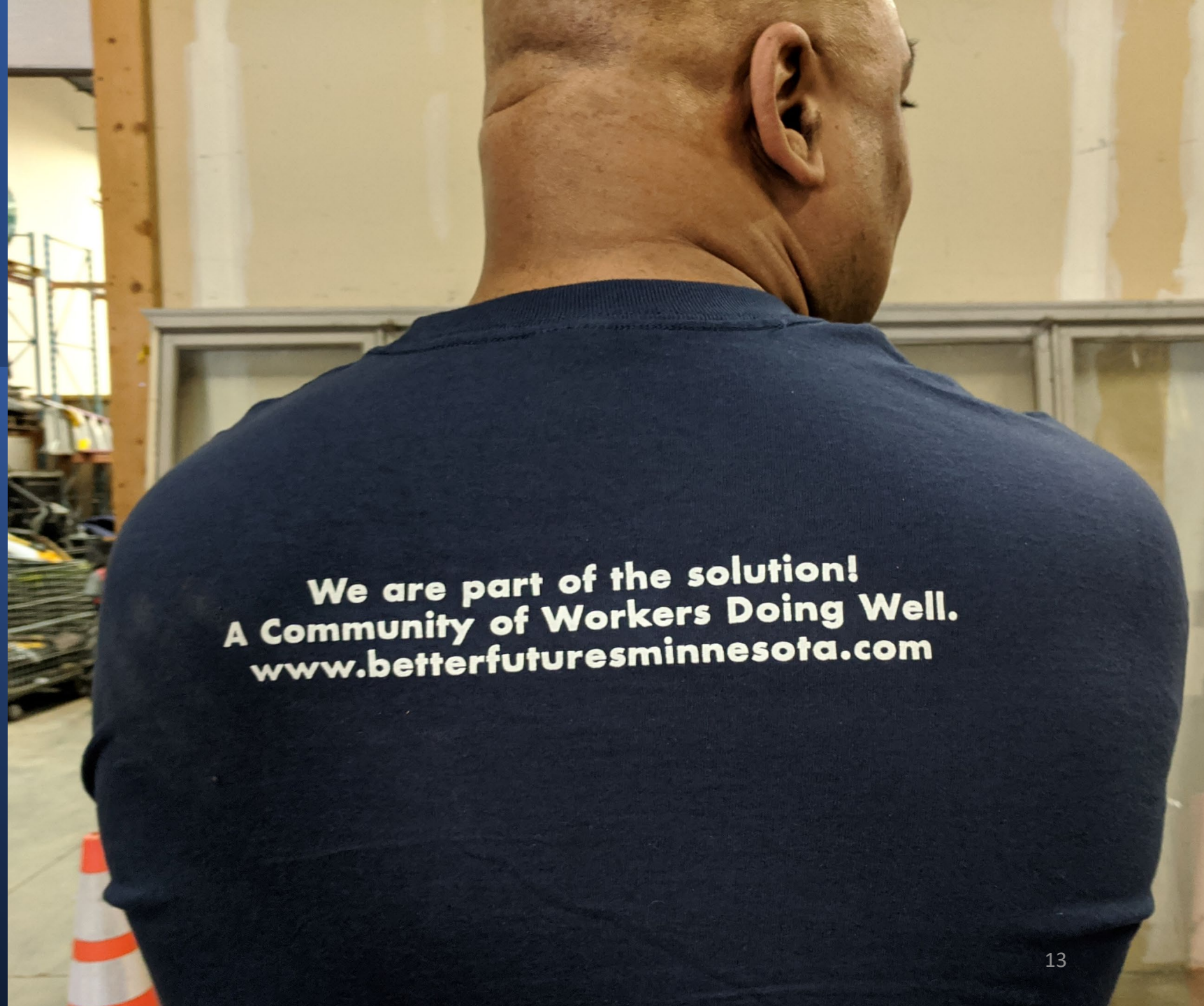
- Support and promote adaptive reuse of existing buildings to reduce construction waste and retain embodied carbon in existing construction materials
- Expand deconstruction and reuse of construction materials where demolition cannot be avoided.
- Expand recycling of construction waste that cannot be reused in the construction market, investing in the development and expansion of recycling markets for building materials.
- Develop incentives and research and development for reincorporating used building materials to reduce the life cycle Global Warming Potential (GWP) of the building's construction materials in the renovation, preservation, and maintenance of existing buildings and the construction of new buildings.
- Provide financial support, incentives, and technical assistance in an informed and equitable manner for residential, commercial, educational and government building owners to maintain existing structures, incorporate used building materials, and deconstruct structures where demolition cannot be avoided.
- Expand the use of material conservation and waste management plans, establishing targets and guidance to increase material salvage, reuse, and recycling of materials.

MN's Climate Action Framework summary of climate actions: climate.state.mn.us/sites/climate action/files/State%20action%20steps.pdf

Goal 6:
Clean energy and efficient buildings

Better Futures MN home deconstruction in Duluth, MN

Initiative 6.2: Equitable access to jobs and a just transition



Back of Jason Allen of Better Futures MN, Director of Enterprise Services

Visit
mn.gov/framework
to learn more.

OUR MINNESOTA CLIMATE

What's next

- Show how the Framework will be used to accelerate action
- How we will engage
- Measuring and reporting progress
- Priorities for guiding action:
  - Impact
  - Equity
  - Economy
  - Health/environment

Thank you!

Melissa Wenzel

Built Environment Sustainability Administrator

melissa.wenzel@state.mn.us

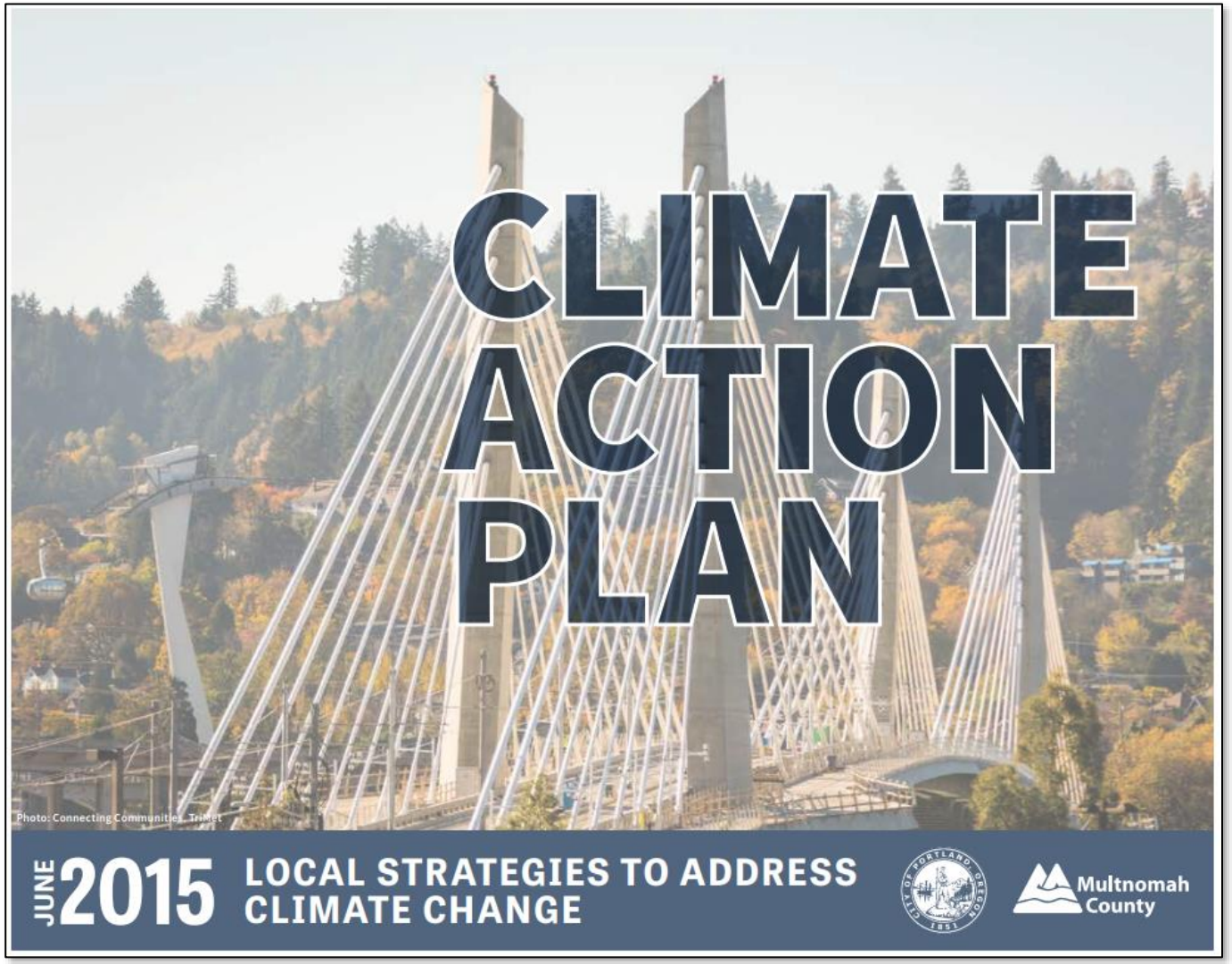
MINNESOTA POLLUTION CONTROL AGENCY

Portland - Legacy of Leadership

- 1993 – Global Warming Reduction Strategy
- 2001 – Local Action Plan on Global Warming
- 2009 – Climate Action Plan
- 2015 – Climate Action Plan
- 2018 – Comprehensive Plan
- 2020 – Climate Emergency Declaration
- 2021 – Sustainable Consumption & Production Strategy
- 2022 – Climate Emergency Workplan

2015 Climate Action Plan

Portland's Climate Action Plan (CAP) is a strategy to put Portland and Multnomah County on a path to achieve a 40 percent reduction in carbon emissions by 2030 and an 80 percent reduction by 2050 (compared to 1990 levels). The plan builds upon a legacy of forward-thinking climate protection initiatives by the City of Portland and Multnomah County that have resulted in significant total and per person reductions in local carbon emissions.



Consumption-Based Emissions

- Traditionally focused on sector-based emissions
- Marks a shift to include consumption-based emissions

CONSUMPTION-BASED CARBON EMISSIONS

LIFECYCLE CARBON EMISSIONS

Lifecycle carbon emissions are the net carbon emissions produced throughout the life of individual products — "cradle to grave." Lifecycle emissions include the upstream emissions that come from: (1) producing and distributing a product before it's ever purchased by a consumer, (2) the use of the product and (3) decomposition of the product in a landfill.

For example, to produce a washing machine, fossil fuels and metals are extracted and processed into plastics and sheet metal. Electrical components and computer chips also need to be manufactured. Those components are shipped and assembled into the final product, which is then distributed to wholesalers and retailers and finally purchased by a consumer. Once the washing machine begins washing clothes it directly uses energy, generating carbon emissions for the rest of its life.

More than half of Portland's consumption-based emissions result from the production of goods rather than from the transportation, use or disposal of those goods, as shown in Figure 15. While emissions occur throughout all stages of a product's lifecycle, for most goods the majority of emissions occur during production, which includes natural resource extraction, processing and manufacturing (see Table 4). Therefore, decreasing the carbon intensity of production supply chains is a powerful opportunity for businesses and industry to reduce global emissions.

In addition, individuals, businesses, governments and other organizations will need to meet their needs by choosing products and services with lower emissions across the entire lifecycle. This includes both making informed choices about which products and services to buy as well as utilizing opportunities to rent, share, fix and reuse goods. Choosing to shift spending from purchasing new shoes, for example, to repairing a serviceable pair of existing shoes can help reduce emissions.

Shifting toward efficiency and reuse can help reduce emissions

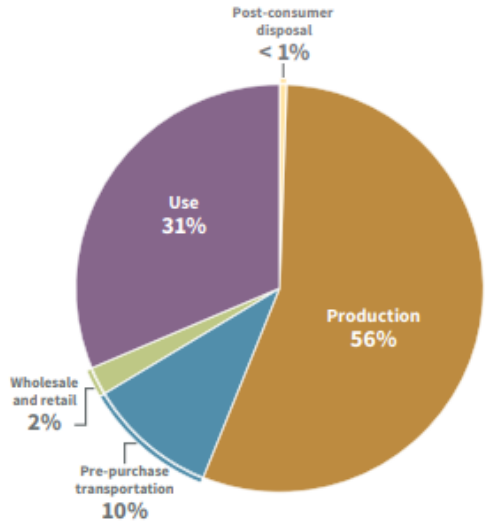


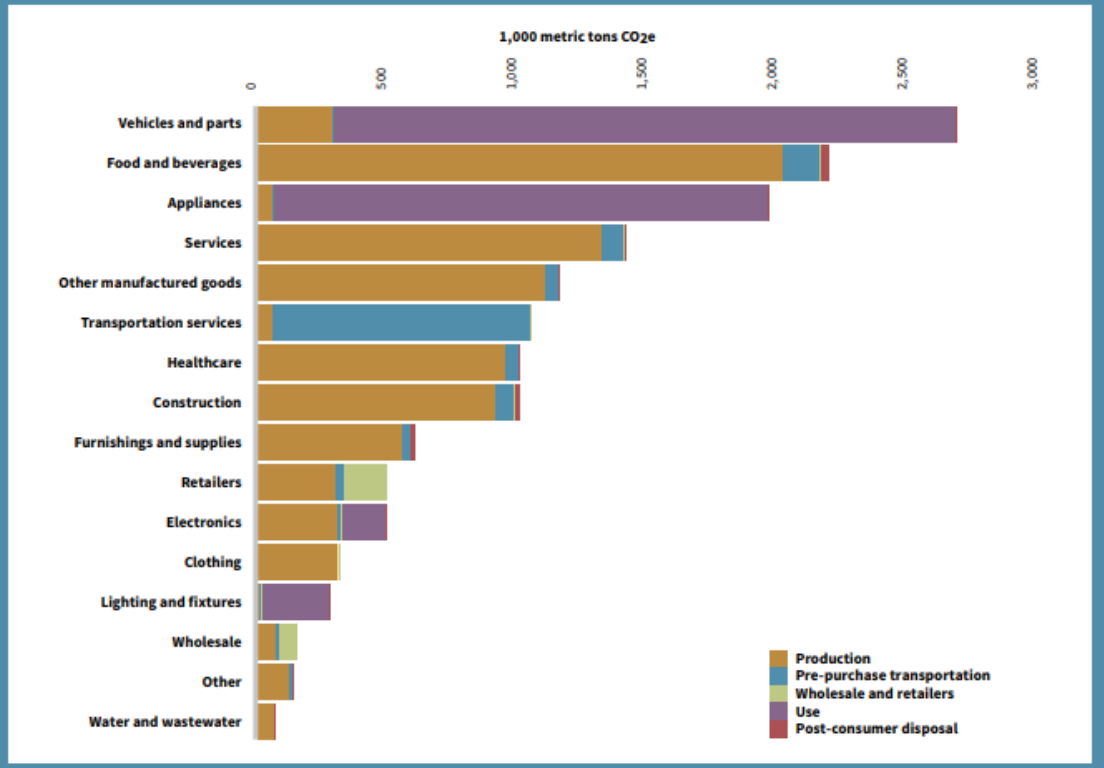
Figure 15. Multnomah County carbon emissions from consumption by lifecycle phase (Consumption-based inventory, 2011). *Source: Portland Bureau of Planning and Sustainability*

More than half of all lifecycle carbon emissions are generated from the production of goods. The transportation, sale and disposal of those goods generate relatively few emissions in comparison. In addition, approximately 31 percent of lifecycle carbon emissions come from the use of those goods, such as energy used for lighting, appliances and personal vehicles.

Production phase generates a majority of emissions and therefore repair or reuse may be a less carbon-intensive solution.

CONSUMPTION-BASED CARBON EMISSIONS

EMISSIONS FROM PRODUCTION AND USE VARY GREATLY BY PRODUCT



Retail, wholesale and transportation services generate emissions from the operation of vehicles and facilities that deliver or store commodities for consumers. The emissions from the production of those commodities are counted under each individual category (e.g., appliances, food and electronics).

Emissions from three categories represent nearly half of all consumption-based emissions: vehicles and parts (18 percent), food and beverages (15 percent) and appliances (13 percent). Emissions attributed to vehicles and appliances are mostly from their use (e.g., fuel and electricity). In contrast, emissions from food and beverages primarily result from their production.

Figure 16. Five-Phase lifecycle carbon emissions summary by product and service (1,000 metrics tons CO_2 equivalents) (Consumption-based inventory, 2011). *Source: Portland Bureau of Planning and Sustainability*

For most categories of goods and services, the production phase generates a majority of emissions and therefore repair or reuse may be a less carbon-intensive solution. Only vehicles, appliances and lighting produce more emissions during their use than during their production, in which case replacement with more efficient products is more likely to produce carbon benefits.

Deconstruction in 2015 CAP

CONSUMPTION AND SOLID WASTE

2030 OBJECTIVE 10 — Reduce per capita solid waste by 33 percent.

The solid waste stream includes all materials discarded by residents and businesses – not just what goes to landfills. Significant carbon emissions were generated during the production of the discarded goods, even if they are ultimately recycled. Given current population projections, halting the growth in the materials residents and businesses discard (through landfills or recycling) means reducing the amount of solid waste generated, per capita, by one-third.

ACTIONS TO BE COMPLETED BY 2020		Impact	Lead agency	Timeframe
10A	**Waste Prevention —** Increase awareness of and participation in targeted waste-prevention practices, and research and encourage strategies for reducing use of paper, plastics and other materials.	C C C C $ E	**City:** BPS	Existing and/or ongoing
10B	**Deconstruction and Salvage —** Promote alternatives to traditional building demolition such as relocation, deconstruction and salvage, including identifying and removing barriers and disincentives.	C C C C $ E	**City:** BPS, BDS	Existing and/or ongoing

Potential impact

- C C C C — Magnitude of carbon emissions reduction
- $ — High potential to support jobs and prosperity
- E — High potential to advance equity
- High potential to improve local environmental quality
- High potential to improve health

Sustainable Consumption & Production Strategy in 2015 CAP

CONSUMPTION AND SOLID WASTE

2030 OBJECTIVE 8

Reduce consumption-related emissions by encouraging sustainable consumption and supporting Portland businesses in minimizing the carbon intensity of their supply chains.

Portland residents, businesses and other organizations can reduce the upstream carbon emissions associated with the goods they use by making simple changes in the way they choose to meet their needs. This may include renting, sharing, fixing and reusing goods as well as choosing products with lower emissions across the entire lifecycle. Portland-based manufacturers have an additional opportunity to examine their supply chains and potentially reduce the carbon emissions associated with their products.

ACTIONS TO BE COMPLETED BY 2020	Impact	Lead agency	Timeframe
8A **Sustainable Consumption and Production —** Develop a sustainable consumption strategy to prioritize local government activities to support a shift to lower-carbon consumption patterns.	C C C C $ E	**City:** BPS	Mid-term
8B **Be Resourceful Campaign —** Use the Be Resourceful campaign to connect residents to information and resources to get the things they need. Key strategies include: a) Buy smart (plan before purchasing, buy local, give gifts of experience, purchase durable goods). b) Reuse c) Borrow, share and rent items. d) Fix and maintain.	C C C C $ E	**City:** BPS	Existing and/or ongoing

Potential impact

- C C C C — Magnitude of carbon emissions reduction
- $ — High potential to support jobs and prosperity
- E — High potential to advance equity
- High potential to improve local environmental quality
- High potential to improve health

2035 Comprehensive Plan – Long-range Planning (adopted 2016, effective 2018)

Chapter 4: Design and Development

Resource-efficient design and development

These policies support resource-efficient design and development, from the location of development to the types of building materials. They apply to new development as well as to the continued and adaptive reuse of existing buildings.

Policy 4.63 **Life cycle efficiency.** Encourage use of technologies, techniques, and materials in building design, construction, and removal that result in the least environmental impact over the life cycle of the structure.

Policy 4.64 **Deconstruction.** Encourage salvage and reuse of building elements when demolition is necessary or appropriate.

Policy 4.65 **Materials and practices.** Encourage use of natural, resource-efficient, recycled, recycled content, and non-toxic building materials and energy-efficient building practices.

Climate Emergency Declaration – June 2020

- WHEREAS, traditional sector-based carbon emission inventories – which primarily only account for emissions produced within a jurisdiction's geographic boundary – drastically underestimate carbon impacts globally and lack the ability to address fundamental issues of well-being and quality of life. Portland's consumption-based carbon emission inventory shows that global carbon emissions that result from the consumption of food, goods, materials, and services by Portlanders are more than double the emissions produced locally; and

Sustainable Consumption and Production

Report and Two-year Workplan

September 2021

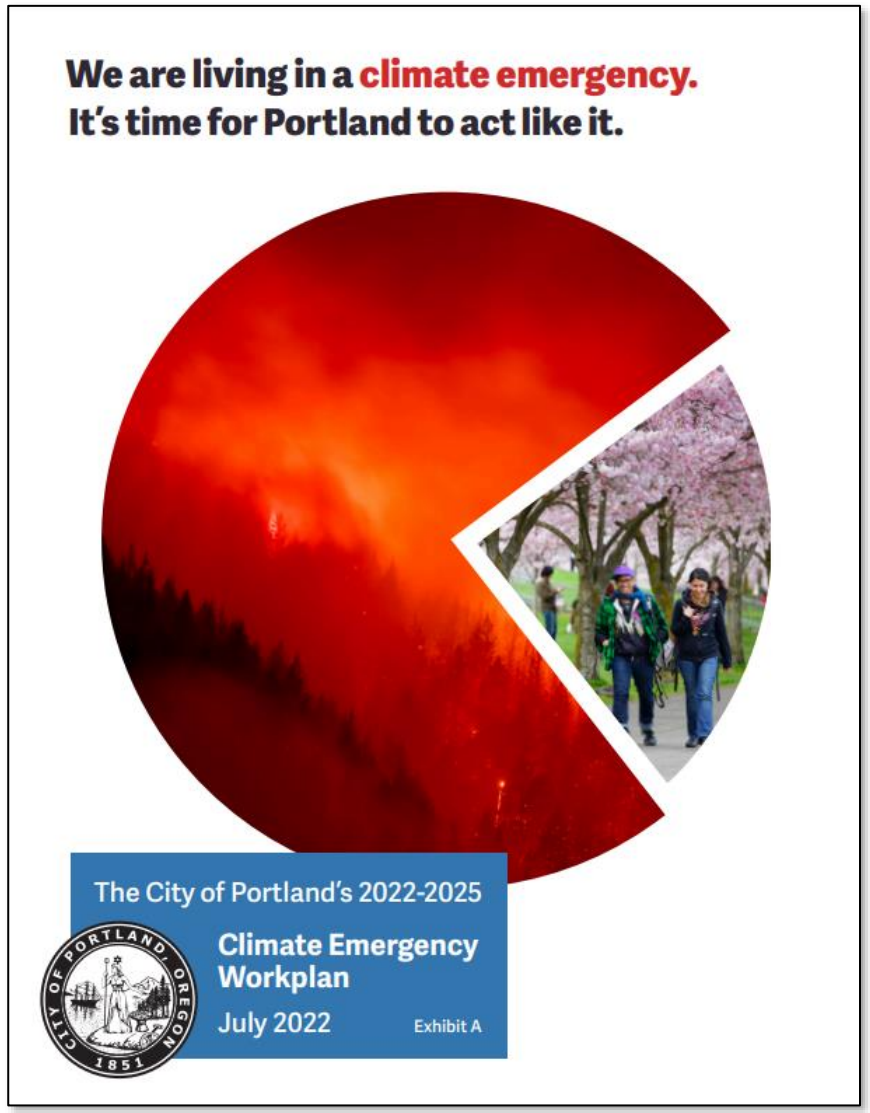
THE BUREAU OF PLANNING & SUSTAINABILITY

Strategy 13: Prevent the wasting of building materials

A focus on preventing the waste of construction materials, through incentives, education and investments in transfer systems for reused and surplus building materials preserves the embodied carbon in those materials and helps to reduce landfilled waste. Waste prevention and the use of reused and salvaged local building materials also reduces the upstream emissions from material transport and production of new building materials.

Year 1	13A. Scope ways to support development of new products that are fabricated from salvaged and surplus building material (e.g., mass timber, trusses, cladding, consumer goods).
	13B. Explore incentives and requirements for use of a minimum amount of salvage material in new projects, especially forward-facing exterior applications.
Year 1 and 2	13C. Advocate for and support Extended Producer Responsibility laws at the State and/or Federal level for building materials, to increase recovery (i.e., drywall, ceiling tiles, carpet)Advocate and support Extended Producer Responsibility laws at the state and/or Federal level for building materials to increase recovery (i.e., drywall, ceiling tiles, carpet)

Climate Emergency Workplan - 2022



Embodied carbon

- Building Materials
- Food
- Purchases of goods and services

★ Maps to Climate Emergency Declaration, 100% Renewable Energy Resolution, or 2035 Comprehensive Plan

	No.	Action	Bureau(s)	Council Request	Why This Matters	Resource Gaps	Fiscal Year
BUILDINGS	B–1	★ Eliminate carbon from existing buildings in the private market	BPS	Adopt climate and health standards for existing buildings.	When we look at carbon emissions by sector, heating, cooling and powering our buildings currently accounts for most of the city's local emissions. The climate crisis intersects with our housing crisis. Addressing health, safety, and carbon emissions in rental apartments is a community priority. BPS has been collaborating with the Build/Shift community members since 2019 to develop a racially just and equitable building decarbonization policy. Climate and health standards are the result of this long-term engagement.	👤👤👤👤👤✚ $$$$$	TBD
	B–2	★ Eliminate carbon from City operations.	BPS	Update the City Green Building Policy (ENB-9.01).	This helps maximize the City's efforts to decarbonize its own building stock, fleet vehicles and equipment. Accounting for the cost of carbon in decision making is considered a best practice among cities that have net-zero carbon goals. This demonstrates leadership by example.	👤 $	23-24
	B–3	Implement energy retrofits, including life, health, and safety improvements on homes owned by priority populations and on affordable multifamily and single family rental housing properties.	BPS (PCEF)	Support building decarbonization through deployment of community projects that insulate, weatherize, and install heat pump-based HVAC systems and water-heaters for low income households.	Carbon emission reductions, household stability, multigenerational wealth preservation, direct economic benefit through utility savings, improved indoor air quality, improved resilience to extreme weather events.	N/A	Ongoing
	B–4	★ Lower embodied carbon in the built environment.	BPS	Support policies that reduce the embodied carbon of building materials and construction through the use of low-carbon alternatives, adaptive reuse and whole-building life-cycle assessments (LCAs).	The embodied carbon of building materials refers to the lifecycle emissions associated with extracting, manufacturing, transporting, installing, maintaining, and disposing of these materials. As we work to decarbonize buildings, addressing the role these upfront impacts play becomes increasingly important as operational carbon emissions decline (from retrofits, accelerated energy efficiency, and renewable energy policies). Additionally, because the impacts of embodied carbon are locked in when a building is constructed, it's critical to lower embodied carbon through project design and material selection before construction begins.	Funded in FY 22-23	24-25

Accomplished Actions

- Deconstruction Grants
- Deconstruction Ordinance
- Deconstruction Workforce Training
- Deconstruction Ordinance Expansion
- State Building Code Amendment – use of ungraded salvaged wood
- Zoning Code Amendment - incentivizing salvaged wood
- City procurement of reclaimed products

Outcomes Since 2016

Economic

- More jobs
  - Deconstruction
  - Salvage retail
  - Makers
- 2 deconstruction companies to 17
- 3 new salvage retail stores
- 600 houses deconstructed
- Cost to deconstruct has come down

Outcomes Since 2016

Waste Diversion/Climate

- 600 houses deconstructed
- 6m lbs of lumber salvaged
- 7.6 metric tons CO_2eq carbon benefit/house
- Carbon benefit of 4,560 metric tons CO_2eq

Hazmat Benefits

- Less dust (lead-based paint)
- Increased opportunity to discover unabated asbestos

Advice

- Seek opportunities to embed deconstruction and reuse in guiding documents (e.g., CAP, Comp Plan, Strategy documents,)
  - All on different timelines
  - Lobby for inclusion
- Provides a roadmap to navigate over time
- Reference the policies/actions in those guiding documents when working to advance amend codes and pass new regs (carries weight)
- Look for cross-bureau opportunities (where implementation happens): Building Code, Codes for Municipal buildings, Zoning Code
- https://www.portland.gov/bps/climate-action/history-and-key-documents

Deconstruction and Circular Economy in San Antonio

Stephanie Phillips, AICP
Program Manager
Deconstruction & Circular Economy

CITY OF SAN ANTONIO — TEXAS
HISTORIC PRESERVATION

SEPTEMBER 8, 2022

CITY OF SAN ANTONIO
OFFICE OF HISTORIC PRESERVATION

San Antonio City Council Passes Deconstruction Ordinance

Beginning October 1, the city's oldest housing stock - if approved for removal - will be dismantled by hand to maximize material salvage and advance climate action, affordable housing, public health, zero waste, and workforce development goals.

Learn more → www.sareuse.com

Three Phases:

1. **Effective October 1, 2022 (ACTIVE):**
   City-executed demolitions for residential (4plex or smaller) built in 1920 or earlier citywide, or 1945 and earlier for historic properties or conservation districts

2. **Effective January 1, 2023 (ACTIVE):**
   All demolitions (City and private) for residential (4plex or smaller) built in 1920 and earlier citywide, or 1945 and earlier for historic properties or conservation districts

3. **Effective January 1, 2025:**
   All demolitions (City and private) for residential (8plex or smaller) built in 1945 and earlier citywide, or 1960 and earlier for historic properties or conservation districts

On this day

6 years ago

Shanon Shea Miller
Nov 3, 2016 ·

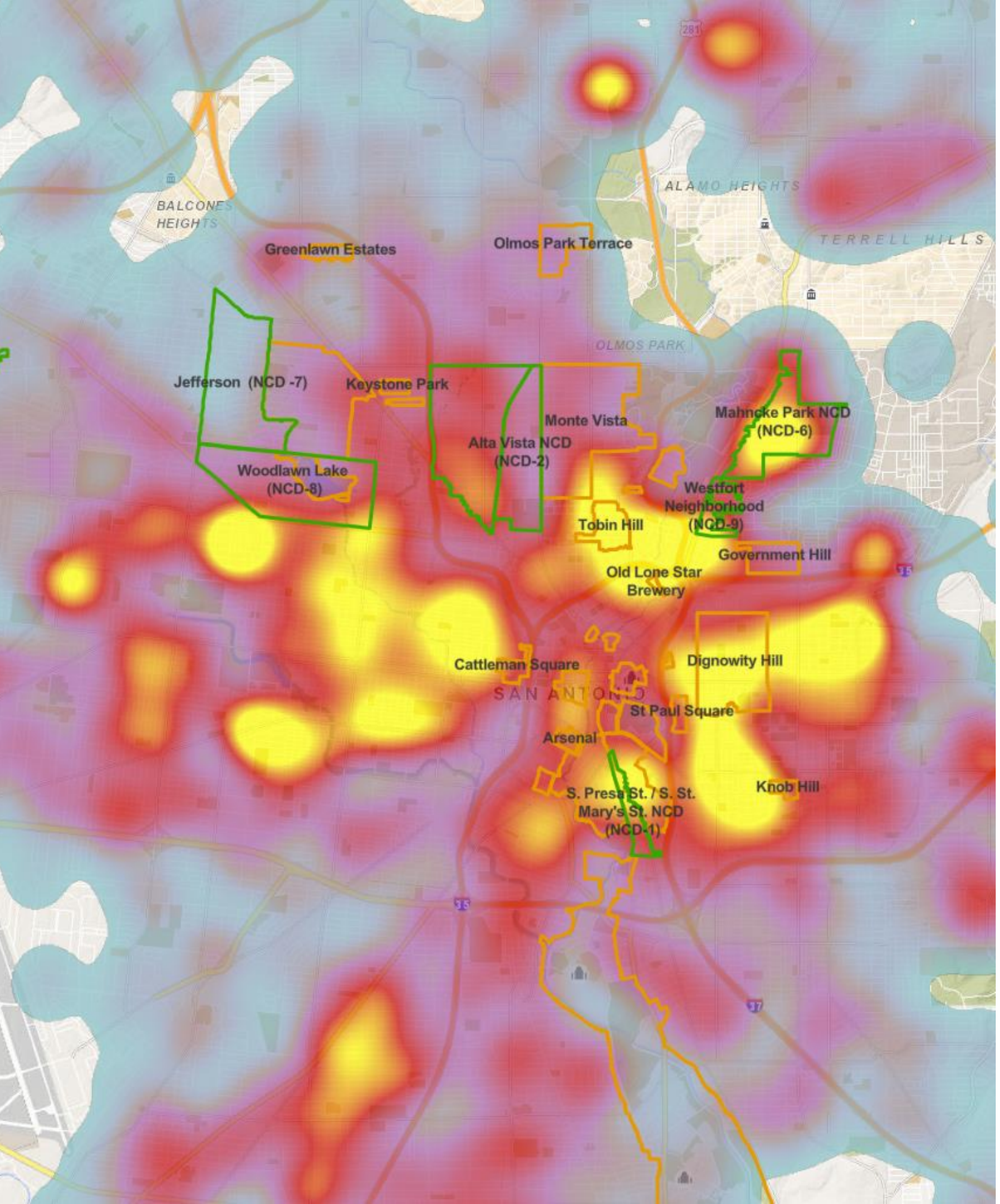
This is on my list for San Antonio. Let's do it in 2017. It makes sense for so many reasons. #sapreservation

John Leeke
Nov 2, 2016 ·

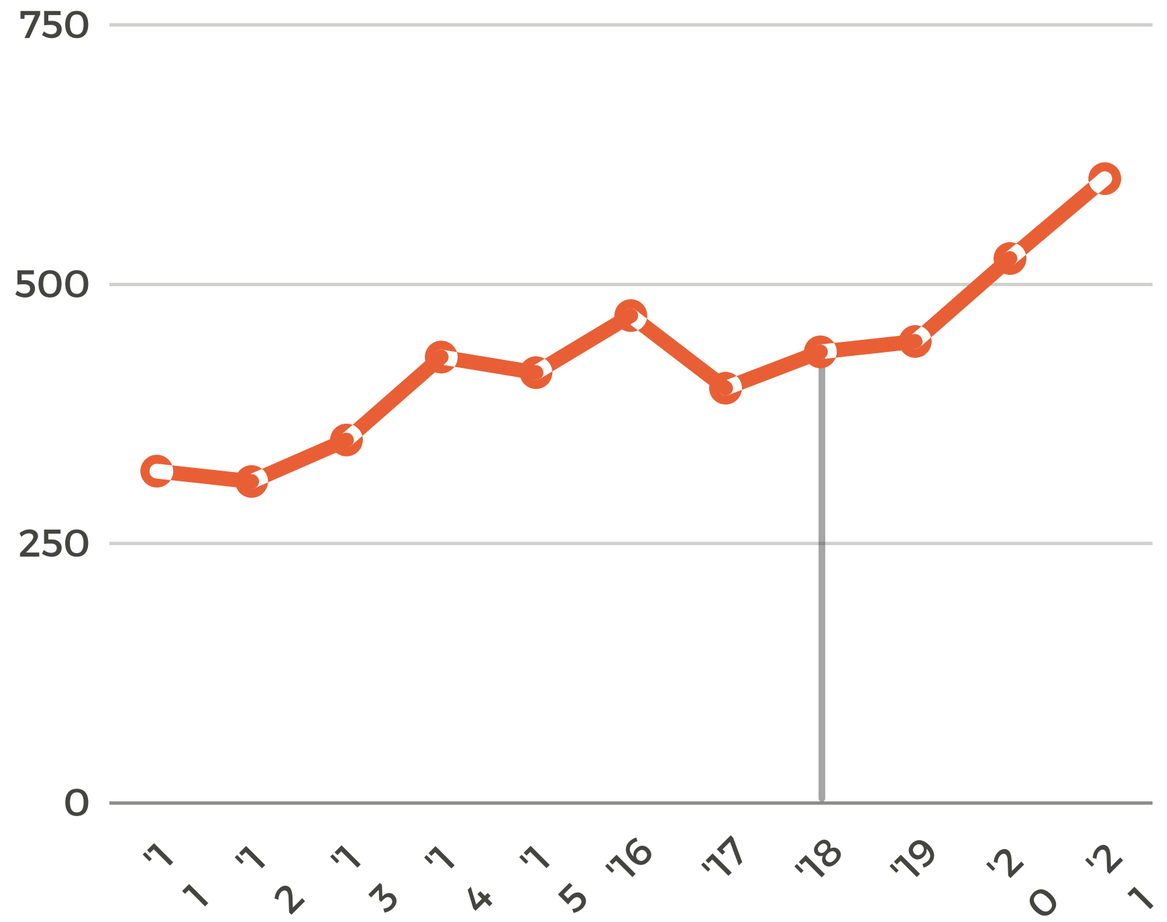
Amazing, not only because it will limit tear-downs and materials will get reused; but more importantly, because tradespeople will learn first hand h... See more

restoreoregon.org
Portland First in Nation to Mandate Deconstruction of Historic Homes

San Antonio



DEMOLITIONS BY FISCAL YEAR (PERMIT DATA)

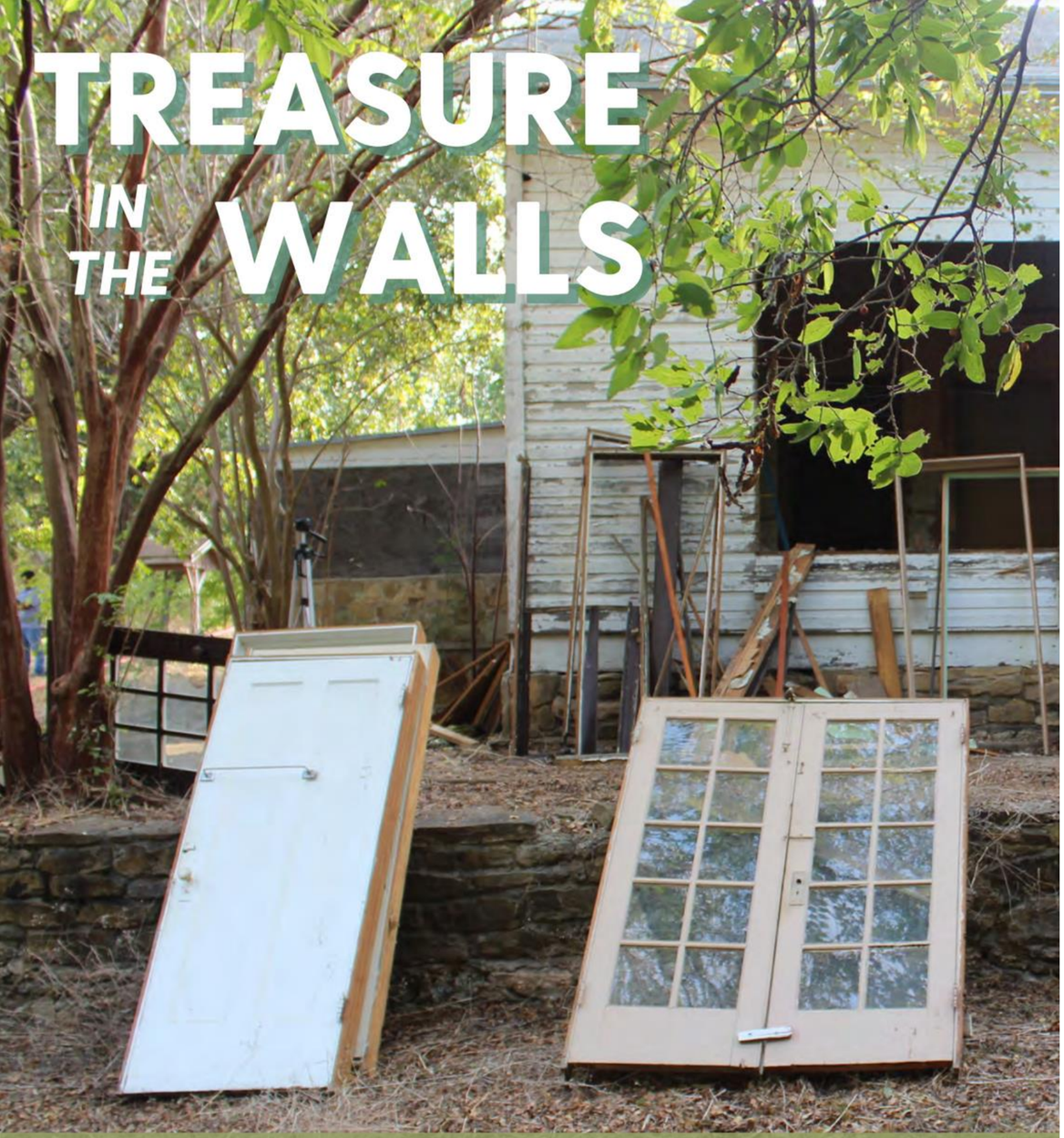


Deconstruction Advisory Committee (2018 - present)

- Solid Waste Management Department
- Office of Sustainability
- Development Services Department
- Neighborhood and Housing Services Department
- Metro Health
- Real Estate Council
- Build San Antonio Green
- Habitat for Humanity
- Alamo Area Council of Governments (AACOG)
- Local demolition, salvage, and house moving contractors
- Developers and real estate industry representatives
- UTSA Construction Science and Architecture educators
- The Conservation Society of San Antonio
- Community advocates
- Local architects and designers

Climate Action and Adaptation Plan (2019)

		STRATEGIES
ADVANCE THE CIRCULAR ECONOMY	14	COMMERCIAL WASTE REDUCTION Building on the City of San Antonio Solid Waste Management Department's ReWorksSA Program,[40] continue to reduce landfilled commercial waste.
★	15	RESIDENTIAL WASTE REDUCTION Continue to reduce landfilled residential waste with the goal of becoming a zero-waste community.
	16	ORGANICS DIVERSION Accelerate the diversion of organics from landfills to the highest and best use opportunities and ensure low-carbon composting solutions.
★	17	MATERIAL REUSE AND CIRCULARITY Support the development of a local circular economy to extend product lifespan through improved design and servicing and relocating waste from the end of the supply chain to the beginning.
★	18	REDUCED-LANDFILL CONSTRUCTION Building on CoSA's Deconstruction Pilot Program,[41] accelerate the acceptance of low-waste construction projects through education, incentives and partnerships, and continue to pursue zero-landfill waste practices for all construction projects.



Deconstruction Strategic Plan (Feb 2021)

On average, ~**$1.5 million** worth of salvageable materials has been landfilled annually since 2009.

2020 demolitions alone could have potentially salvaged **5.8 million board feet** of lumber via deconstruction, or the equivalent of structural framing for more than six hundred 1,500 square foot houses.

The amount of board feet that potentially went into the landfill is the equivalent of **7,700 mature trees.**

69% of demolition permits over the last 10 years were for residential structures. Those residential demolitions introduced ~**340 million pounds (170,000 tons)** into the San Antonio waste stream.

Link to study: bit.ly/treasureinthewalls

Key issues in San Antonio

Sources: www.SAreuse.com/reports

$16 million of building materials were landfilled in the past decade

Aiming to shift to sourcing local materials from our "urban forest" for near-immediate reuse

More than 500 buildings are demolished annually

A 68% increase since 2012; the most common building type demolished is older housing

Demolition disproportionality affects vulnerable communities

Increased safe abatement; reduction of water usage, GHG emissions, & waste

There is an equity issue in material access & availability

Limited reclaimed materials means limited access by a diverse array of stakeholders

REHABBER CLUB
SAPRESERVATION
★CERTIFIED★
Deconstruction Contractor

Material Innovation Center

Last stop before the landfill

A reclaimed material campus, training center, and community education space that expands the local market for reclaimed materials and advances the local circular economy.

CITY OF SAN ANTONIO — TEXAS

PORT SAN ANTONIO

POWER OF PRESERVATION

UTSA The University of Texas at San Antonio™

LHTA LIVING HERITAGE TRADES ACADEMY

INNOVATION ACADEMY Empower. Expand. Enhance.

San Antonio Tool Library

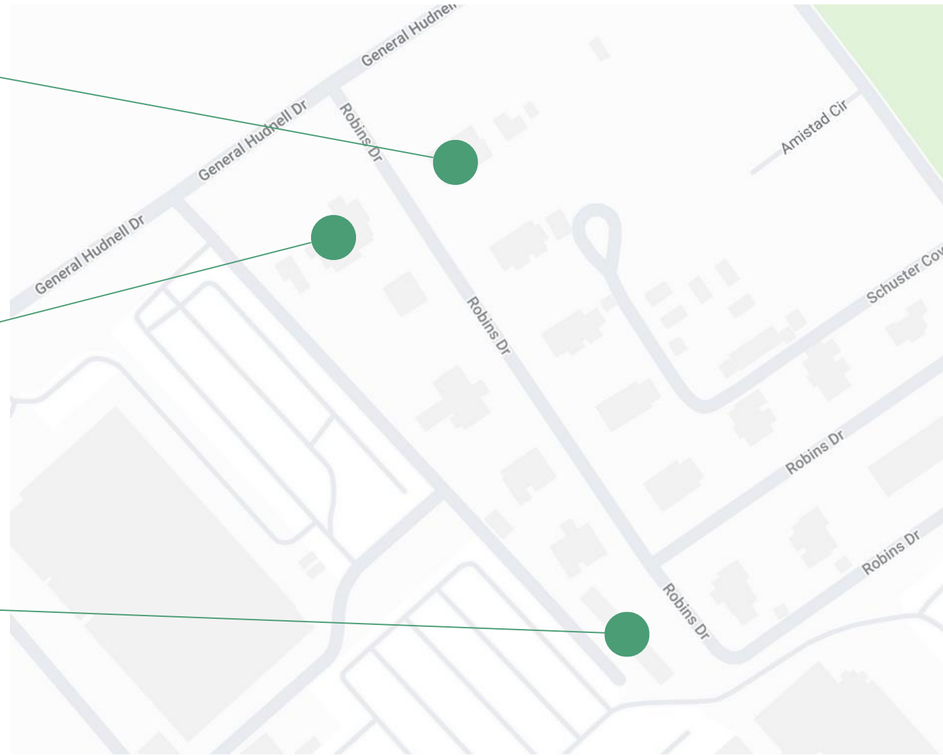
Building 107

Living Heritage Trades Academy HQ

Building 108

Material Innovation Center

12-bay garage + small office



Affordable Housing + Repair Programs

How Building Blocks Can Support Transformative Change

01

Fostering community through exchange

Creating a culture of abundance and knowledge-sharing for all of our neighbors

02

Equity of access and affordability of resources

Ensuring the opportunity for everyone to access tools and materials improve and repair their neighborhoods

03

A more resilient and circular future

Breaking our make-take-waste cycle and establishing the foundation for a local circular economy

If we can do it, you can, too!

stephanie.phillips@sanantonio.gov

www.SApreservation.com
www.SAreuse.com

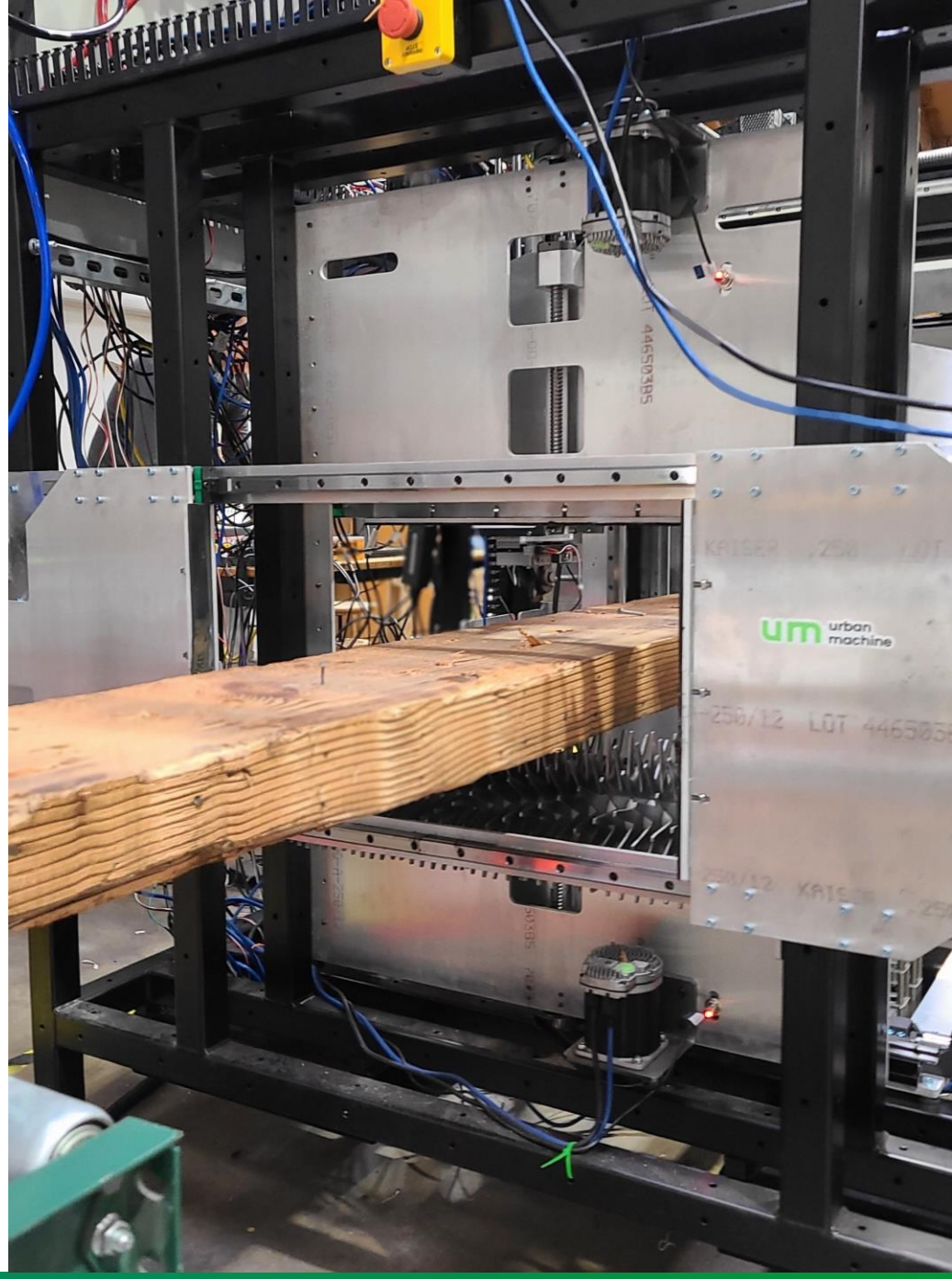
STOPWASTE

at home • at work • at school

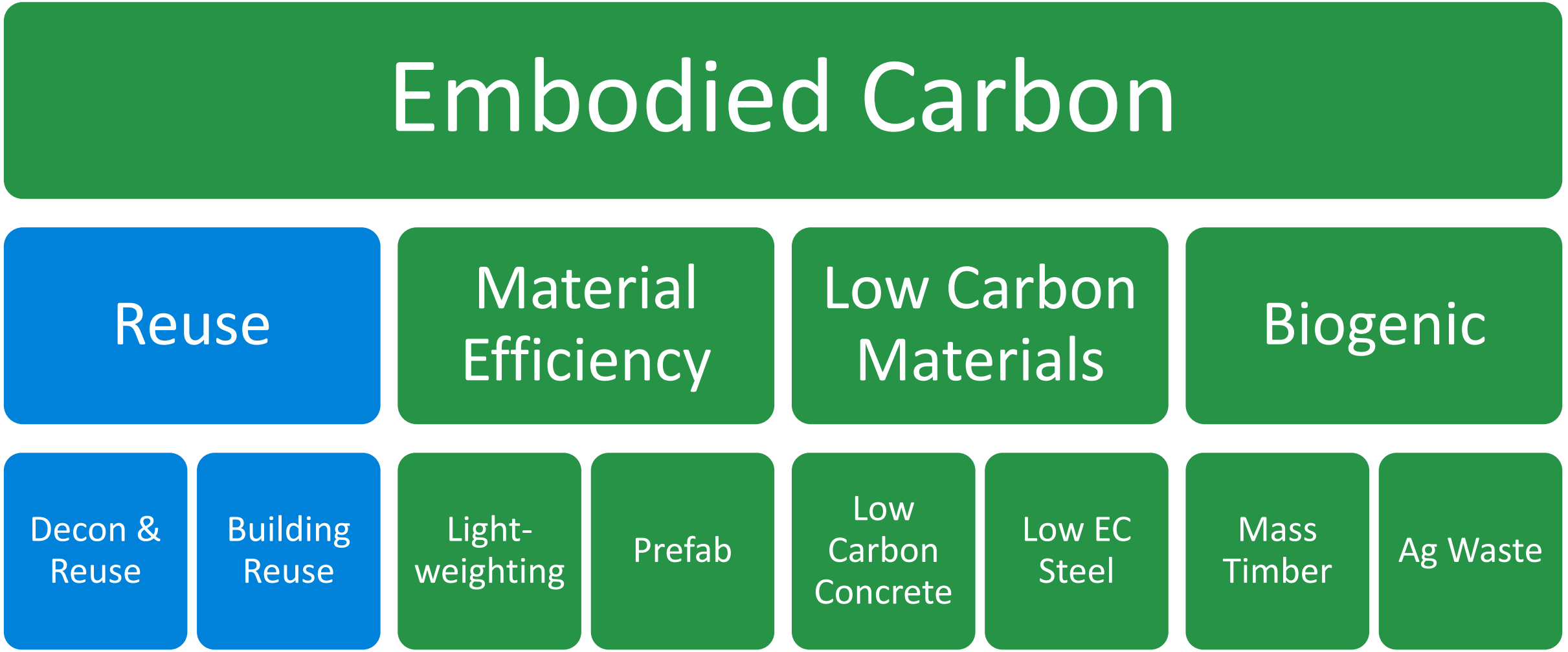
Deconstruction for Climate Action

EPA Webinar

April 3, 2023



Embodied Carbon Opportunities



CALGreen Carbon Reduction Collaborative Proposal

Would apply to 100K+ sq ft nonresidential and 50K+ sq ft schools

Pathway	Mandatory	Tier 1	Tier 2
Option 1: Building Reuse	45% of the structure and enclosure to be reused	75% of the structure and enclosure to be reuse	75% of the structure and enclosure to be reused AND 30% of interior non-structural elements to be reused
Option 2: Whole Building LCA (WBLCA)	10% reduction from baseline	15% Reduction from baseline	20% Reduction from baseline
Option 3: Prescriptive Approach	175% of industry-wide Environmental Product Declarations Global Warming Potential limits	150% of industry-wide Environmental Product Declarations Global Warming Potential limits	100% of industry-wide Environmental Product Declarations Global Warming Potential limits

Embodied Carbon in Bay Area Climate Action Plans

Albany

Dublin

Livermore

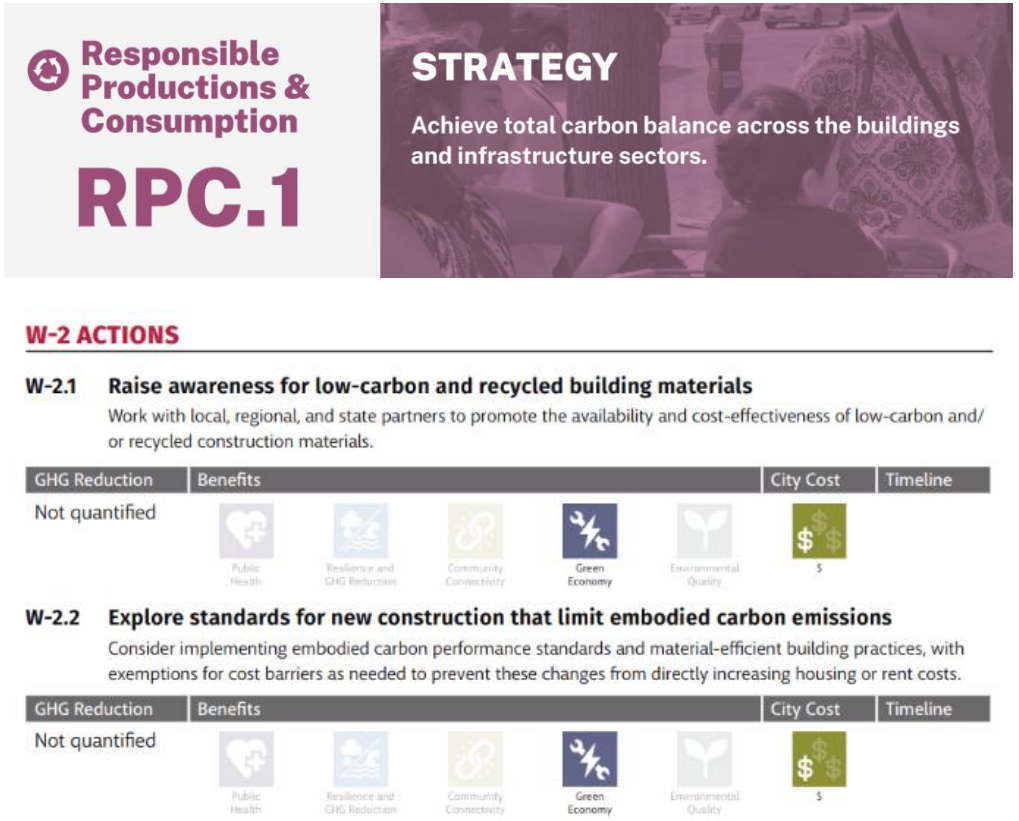
Oakland*

Marin County

Pleasanton

San Francisco*

San Leandro



Responsible Productions & Consumption

RPC.1

STRATEGY

Achieve total carbon balance across the buildings and infrastructure sectors.

W-2 ACTIONS

W-2.1 Raise awareness for low-carbon and recycled building materials

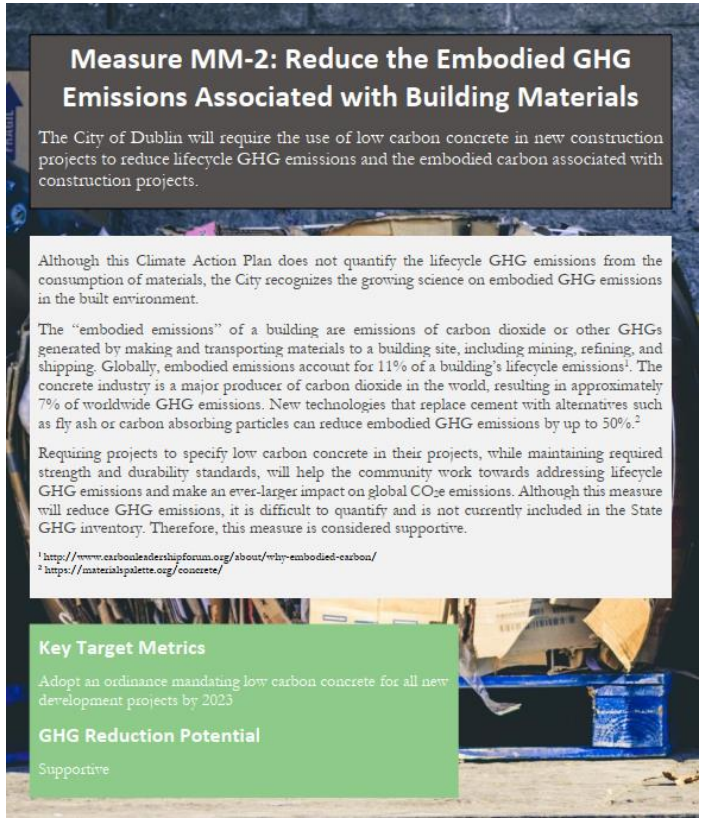
Work with local, regional, and state partners to promote the availability and cost-effectiveness of low-carbon and/or recycled construction materials.

GHG Reduction	Benefits	City Cost	Timeline
Not quantified	Public Health; Resilience and GHG Reduction; Community Connectivity; Green Economy; Environmental Quality	$	

W-2.2 Explore standards for new construction that limit embodied carbon emissions

Consider implementing embodied carbon performance standards and material-efficient building practices, with exemptions for cost barriers as needed to prevent these changes from directly increasing housing or rent costs.

GHG Reduction	Benefits	City Cost	Timeline
Not quantified	Public Health; Resilience and GHG Reduction; Community Connectivity; Green Economy; Environmental Quality	$	



Measure MM-2: Reduce the Embodied GHG Emissions Associated with Building Materials

The City of Dublin will require the use of low carbon concrete in new construction projects to reduce lifecycle GHG emissions and the embodied carbon associated with construction projects.

Although this Climate Action Plan does not quantify the lifecycle GHG emissions from the consumption of materials, the City recognizes the growing science on embodied GHG emissions in the built environment.

The "embodied emissions" of a building are emissions of carbon dioxide or other GHGs generated by making and transporting materials to a building site, including mining, refining, and shipping. Globally, embodied emissions account for 11% of a building's lifecycle emissions[1]. The concrete industry is a major producer of carbon dioxide in the world, resulting in approximately 7% of worldwide GHG emissions. New technologies that replace cement with alternatives such as fly ash or carbon absorbing particles can reduce embodied GHG emissions by up to 50%.[2]

Requiring projects to specify low carbon concrete in their projects, while maintaining required strength and durability standards, will help the community work towards addressing lifecycle GHG emissions and make an ever-larger impact on global CO_2e emissions. Although this measure will reduce GHG emissions, it is difficult to quantify and is not currently included in the State GHG inventory. Therefore, this measure is considered supportive.

[1] http://www.carbonleadershipforum.org/about/why-embodied-carbon/
[2] https://materialspalette.org/concrete/

Key Target Metrics

Adopt an ordinance mandating low carbon concrete for all new development projects by 2023

GHG Reduction Potential

Supportive

Approach: Reduce emissions embodied in goods and materials.				
3.2.5	**Partner with regional entities to encourage carbon-smart building materials.** This includes educating architects, designers, and contractors. This action would enable and promote carbon-sequestering building materials in new construction and renovations. Ultimately, this action could lead to requirements for the disclosure and/or limit the embodied carbon emissions of buildings through whole-building or material-specific policies.			Near-term

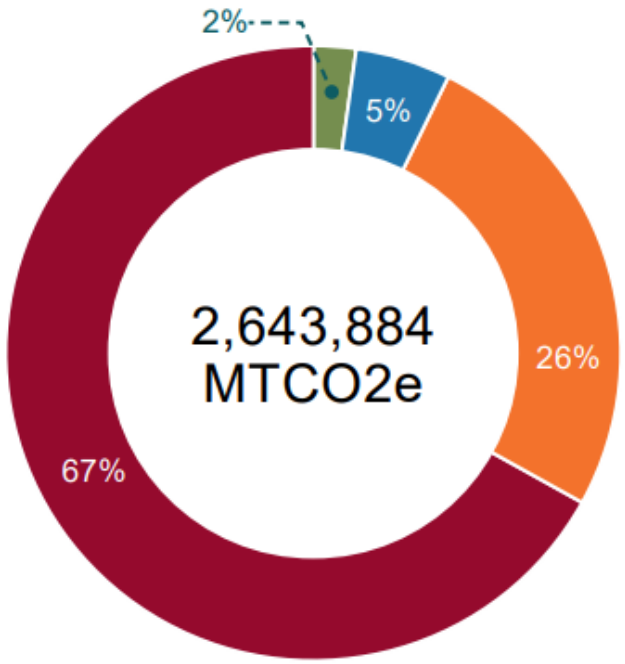
Google doc link

Best Practices

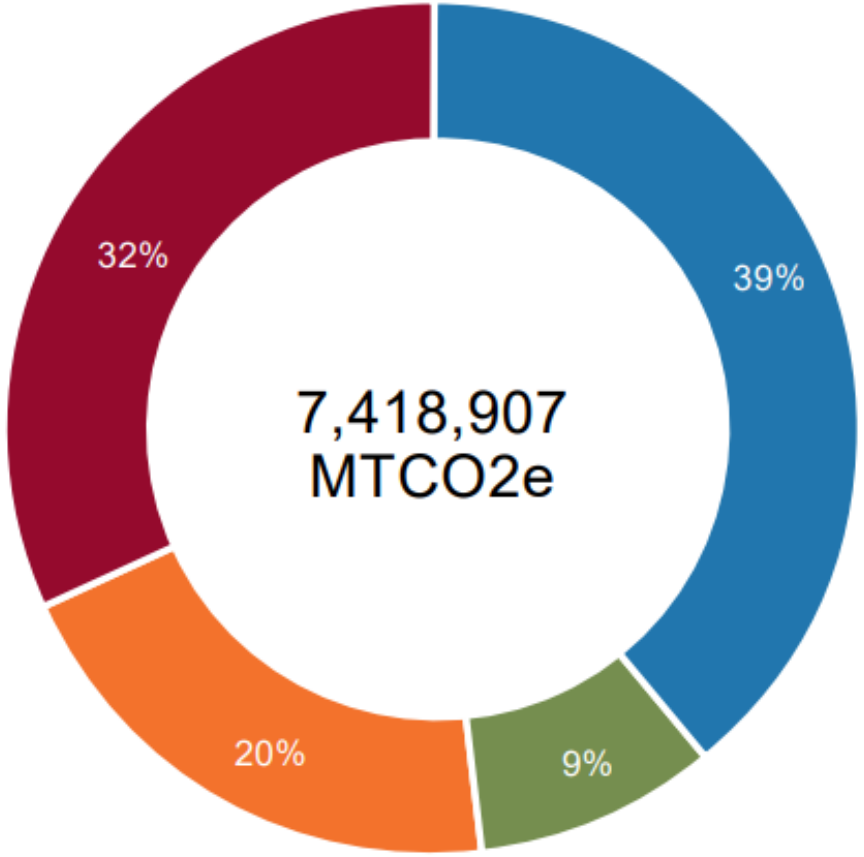
- Include lifecycle emissions (or scope 3 emissions) in climate action planning
- Demonstrate reuse’s embodied carbon reduction benefit
- Include equity and job training benefits of deconstruction and building materials reuse
- Pair deconstruction with incentives or requirements to build with reused materials
- Focus on creating markets and business models for deconstruction

Oakland Equitable Climate Action Plan

2017 Local Emissions



2017 Lifecycle Emissions



Transportation
Buildings
Waste
Port

Oakland's Equitable Climate Action Plan

BUILDINGS

B-4

Reduce Lifecycle Emissions from Building Materials

Lead Agency	Climate Benefit	Cost	Benefits
PBD		$ $ $ $	

By 2023, adopt a concrete code for new construction that limits embodied carbon emissions. In subsequent building code updates, implement improved embodied carbon performance standards including additional materials and material-efficient building practices, with exemptions for cost barriers as needed to prevent these changes from directly increasing housing or rent costs. Ensure requirements are at least as stringent as the State of California procurement standards in effect at the time of the building code adoption. Explore ways of supporting local market development for low-lifecycle-emission and carbon-storing biogenic building materials.

Oakland's Equitable Climate Action Plan

MATERIAL CONSUMPTION + WASTE

MCW-6

Establish a Deconstruction Requirement

Lead Agency	Climate Benefit	Cost	Benefits
PBD		$ $ $ $	

Establish a deconstruction requirement to reduce demolition waste from construction and renovation and facilitate material reuse. Regulate hauling and processing of construction and demolition debris to ensure that salvageable materials are identified and removed for reuse instead of being recycled or disposed to landfill.

Oakland's Racial Equity Impact Assessment + Implementation Guide MCW-6 Establish a Deconstruction Requirement Considerations

https://www.oaklandca.gov/resources/2030-ecap-racial-equity-impact-assessment-implementation-guide

Frontline Communities	Equity Gaps	Address Equity Gaps	Desired Equity Outcomes
✓ Latinx and African American household community	✓ Over 46% of Latinx households do not earn a living wage (DRE), compared to 37.6% of African Americans and only 12.3% of Whites.	✓ Targeted local hiring and job training in high-unemployment and majority POC census tracts. ✓ Supporting pathway to employment in high wage industries for POC, formerly incarcerated individuals, and unemployed individuals with barriers to employment.	✓ Increase in the number of local residents in Jobs paying Living Wage and high wage industries (such as building trades construction and renovation jobs doing deconstruction and salvage of materials) is representative of Oakland's diversity.
✓ Formerly incarcerated individuals ✓ Unemployed / not participating in labor force	✓ Living wage jobs are not representative of Oakland's diversity.		
✓ People living adjacent to demolition sites	✓ Frontline community members (especially adjacent to / impacted by demolition sites) may not have access to the salvageable materials removed for reuse.	✓ Partner with community organizations to ensure that salvageable materials for reuse go to frontline communities and small, local DBEs.	✓ Communities of color are also benefiting from the deconstruction requirement, via jobs, economic benefits, and access to salvageable materials for reuse.

Oakland's Equitable Climate Action Plan

- **Progress**
  - Disrupted by Shelter-In-Place
  - Research Incomplete
- **Next Steps?**
  - Complete Research
    - Building Inventory/Stock Assessment
    - Best Practices & Lessons Learned By Other Jurisdictions
  - Amend OMC 15.34 or Write New Chapter

carbonleadershipforum.org/pcc-policy-case-studies

Part of Pacific Coast Collaborative

Oakland ECAP highlights:

- **Requires collaboration**
  - City departments: Planning and Building, Public Works, Economic and Workforce Development
  - External Stakeholders: Chambers of Commerce, waste management parties, building and trades, organized labor
- **Challenges**
  - Market concerns of cost and availability
  - Impact on overall construction worker shortage, inflation, and potential recession
- **Keys to Success**
  - Policy champions: City's Zero Waste team, climate advocates, waste advocates
  - Pair embodied carbon with econ and workforce
  - Collaborate with neighboring governments

Contact Information

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Environmental Services Division

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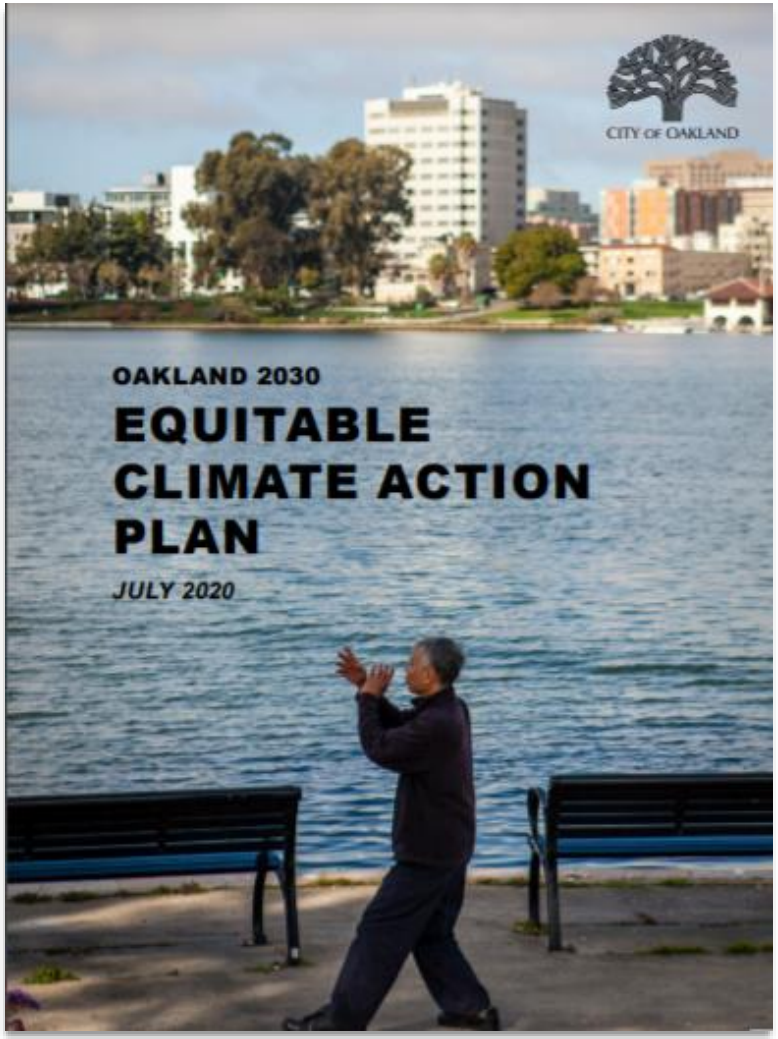
510/238-6920



https://www.oaklandca.gov/projects/2030ecap

REBUILDING EXCHANGE

Deconstruction & Reuse as part of Climate Action Planning

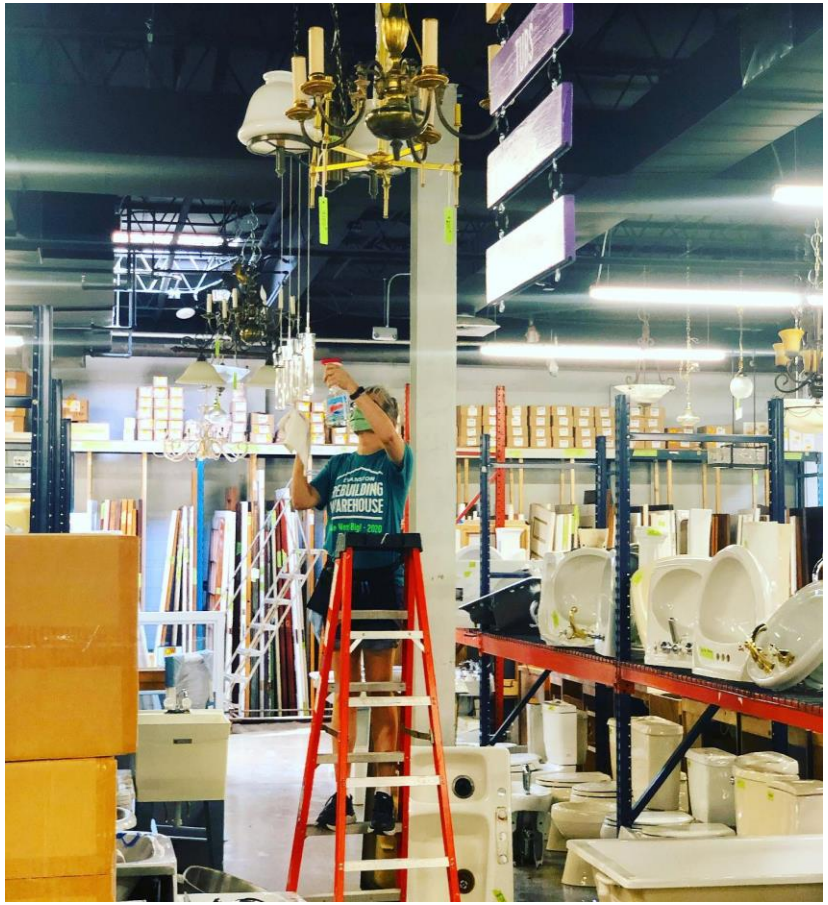
April 3, 2023

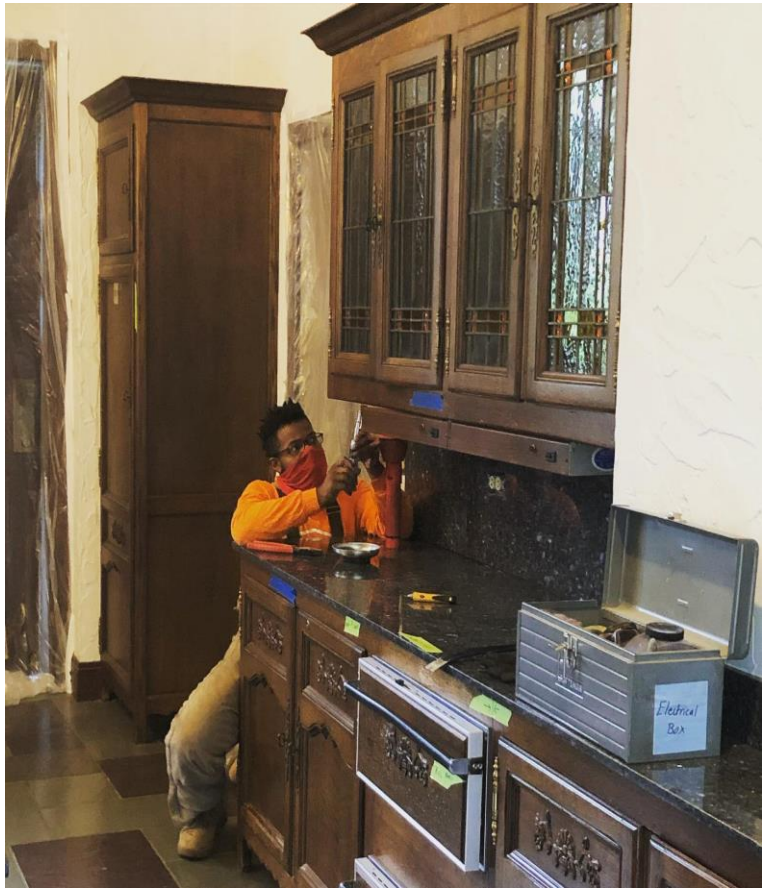
About Us

REBUILDING EXCHANGE

The Rebuilding Exchange is a non-profit social enterprise that reuses building materials, reduces construction waste, and trains, connects, and supports folks seeking careers in the building trades.

We have two reuse retail stores that are open to the public; educational programming on reuse and repair; deconstruction services; and workforce training.





City of Evanston: Climate Action & Resilience Plan, passed in 2018

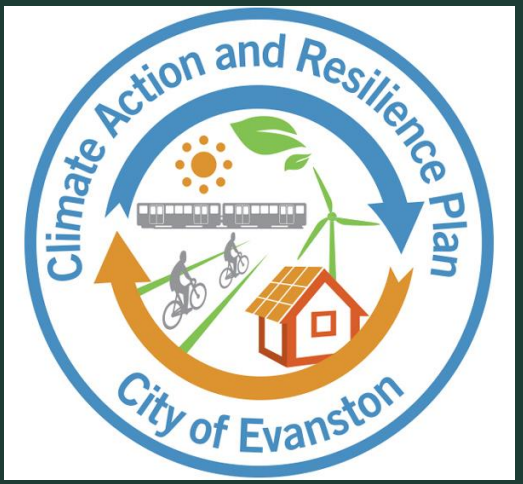
- **Carbon Neutral by 2050**

- **Zero Waste by 2050 (~2%of community emissions, current 2017 diversion rate of ~ 20%)**

- **Proposed Action Steps Relevant to C&D**
  1. Reduce construction and demolition waste by ensuring that strong recycling and reuse requirements are met for all building-related permits. Require that all real estate developments that receive financial assistance from the City or special zoning approval adhere to a higher standard of recycling and reuse.
  2. Enforce the Cook County Demolition Debris Diversion Ordinance and strive to exceed minimum requirements in the revised building code.
  3. Support the preservation, reuse, repurposing and retrofit of existing structures to reduce demolition waste, preserve the embodied energy and materials, while avoiding the energy usage related to demolition

REBUILDING EXCHANGE

City of Evanston: 2021 - present



- **Supporting specific strategies and policies towards zero waste goal:** Waste Subcommittee > Zero Waste Subcommittee > Circular Evanston
- **CARP Proposed Action Steps Relevant to C&D**
  1. Reduce construction and demolition waste by ensuring that strong recycling and reuse requirements are met for all building-related permits. Require that all real estate developments that receive financial assistance from the City or special zoning approval adhere to a higher standard of recycling and reuse.
     - Currently consistent with the Cook County Ordinance
  2. Enforce the Cook County Demolition Debris Diversion Ordinance and strive to exceed minimum requirements in the revised building code.
     - Ordinance from 2013, 70% diversion + 5% reuse on residential
  3. Support the preservation, reuse, repurposing and retrofit of existing structures to reduce demolition waste, preserve the embodied energy and materials, while avoiding the energy usage related to demolition
     - Concerted effort by City Council to embrace deconstruction and reuse on large land acquisition project

REBUILDING EXCHANGE

Evanston: Deconstruction on City Owned Projects

CITY OF EVANSTON

REQUEST FOR PROPOSAL

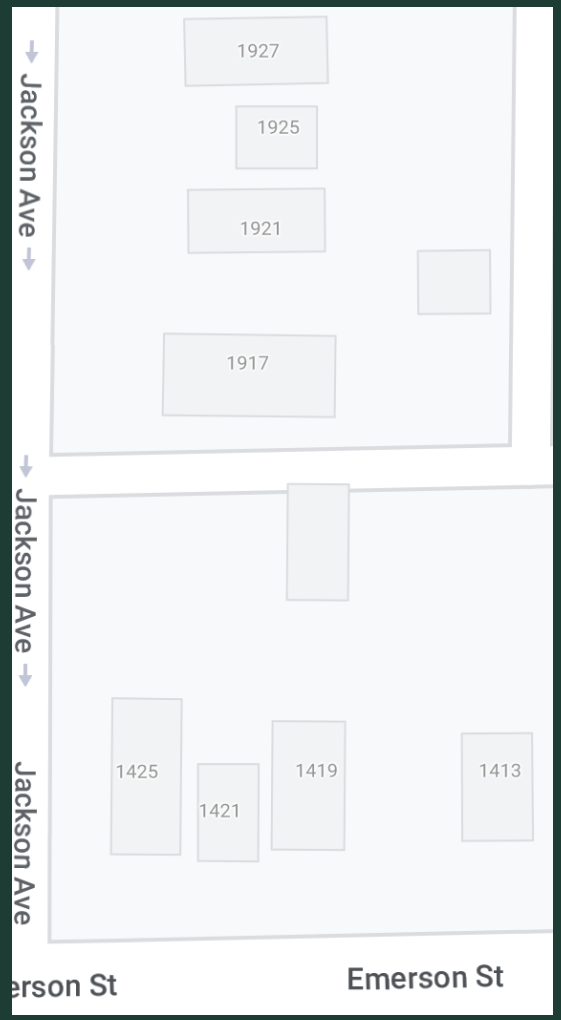
NUMBER: 22-63

For

Request for Demolition or Deconstruction Services of the Emerson/Jackson Site

November 3, 2022

City of Evanston™



REBUILDING EXCHANGE

Evanston: Deconstruction on City Owned Projects

REBUILDING EXCHANGE

City of Chicago: Emerging Advocacy

ENVIRONMENT, CLIMATE & ENERGY

ENVIRONMENT, CLIMATE & ENERGY

Goals
Prioritize climate resiliency efforts in overburdened communities and for low-income individuals through both public and private sector efforts.
Use environmental justice principles to establish criteria and policies for neighborhoods harmed by environmental degradation.
Foster public and private partnerships to reduce waste and encourage the reuse of materials, locally produced goods, services, and energy.
Maintain and expand green space, natural resources, and conservation efforts for the benefit of all Chicagoans.
Mitigate then eliminate sources of carbon emissions in alignment with national and global climate goals.

Related City Initiatives: Climate Action Plan; Chicago Recovery Plan; Equitable Transit Oriented Development (ETOD); Our Roots Chicago

REBUILDING EXCHANGE

REBUILDING EXCHANGE

Anne Nicklin
Director of Workforce Training
anne@rebuildingexchange.org
224-267-5708

Climate Action Plans Deconstruction & Reuse (Incomplete List)

Minnesota	https://climate.state.mn.us/sites/climate-action/files/State%20action%20steps.pdf
Oakland, CA	https://cao-94612.s3.amazonaws.com/documents/Oakland-ECAP-07-24.pdf https://www.oaklandca.gov/resources/2030-ecap-racial-equity-impact-assessment-implementation-guide
San Francisco, CA	•https://sfenvironment.org/sites/default/files/2021_climate_action_plan.pdf
Palo Alto, CA	https://www.cityofpaloalto.org/files/assets/public/sustainability/policies-and-plans/2022-scap-goals-and-key-actions.pdf
Marin County, CA	•https://www.marincounty.org/-/media/files/departments/cd/planning/sustainability/climate-and-adaptation/draft-climate-action-plan-2030.pdf
San Antonio, TX	https://www.sanantonio.gov/Portals/0/Files/Sustainability/SAClimateReady/SACRReportOctober2019.pdf
Austin, TX	•https://www.austintexas.gov/sites/default/files/files/Sustainability/Climate%20Equity%20Plan/Climate%20Plan%20Full%20Document__FINAL.pdf
Portland, OR	•https://www.portland.gov/sites/default/files/2019-07/cap-2015_june30-2015_web_0.pdf
Beaverton, OR	•https://content.civicplus.com/api/assets/a4e74bca-096a-4a5b-81ee-71d48f701daa
King County, WA	•https://your.kingcounty.gov/dnrp/climate/documents/scap-2020-approved/2020-king-county-strategic-climate-action-plan.pdf
Tacoma, WA	•https://www.cityoftacoma.org/UserFiles/Servers/Server_6/File/cms/enviro/Sustain/CAP%20Final/Tacoma%20CAP%20Sections.pdf
Evanston, IL	https://www.cityofevanston.org/home/showpublisheddocument/45170/636789554133930000
Chicago, IL	•https://www.chicago.gov/content/dam/city/sites/climate-action-plan/documents/Chicago-CAP-071822.pdf
Washington, DC	https://cdn.locomotive.works/sites/5ab410c8a2f42204838f797e/content_entry5ab410faa2f42204838f7990/5ad0e4be74c4837def5d2938/files/Sustainable_DC_2.0_Plan.pdf?1606337075
Boulder, CO	https://bouldercolorado.gov/future-climate-action
Summit Community, CO	https://www.sustainablebreck.com/_files/ugd/c6fd20_f22942af799b49f2bfaedaee8f95a6da.pdf
Charleston, SC	https://www.charleston-sc.gov/DocumentCenter/View/1458/Charleston-Green-Plan?bidId=
Honolulu, HI	•https://static1.squarespace.com/static/5e3885654a153a6ef84e6c9c/t/6080c33e91bbf23a20b74159/1619051381131/2020-2025+Climate+Action+Plan.pdf
Atlanta, GA	•https://atlantaclimateactionplan.files.wordpress.com/2016/02/atlanta-climate-action-plan-07-23-2015.pdf
Austin, TX	•https://www.austintexas.gov/sites/default/files/files/Sustainability/Climate%20Equity%20Plan/Climate%20Plan%20Full%20Document__FINAL.pdf
Bayfield, WI	http://www.cityofbayfield.com/uploads/1/1/1/5/11158030/2012-july_sustainability_plan_final_version.pdf
Burlington, VT	https://www.burlingtonvt.gov/sites/default/files/Legacy/About_Us/Climate%20Action%20Plan.pdf
Phoenix, AZ	https://www.phoenix.gov/oepsite/Documents/2021ClimateActionPlanEnglish.pdf
Reno, NV	https://www.reno.gov/home/showdocument?id=82214

Federal Requests for Information on Low Embodied Carbon Construction Materials and Products

EPA RFI Low Embodied Carbon Construction Materials and Products - $350 million for grants, technical assistance and labeling
Program Information: https://www.epa.gov/inflation-reduction-act/inflation-reduction-act-programs-fight-climate-change-reducing-embodied
RFI and Submit Comments Online: https://www.regulations.gov/docket/EPA-HQ-OPPT-2022-0924/document
Specific Salvage and Reuse Questions: 2 & 17
Comments Due: May 1, 2023

Department of Energy Circular Economy Request for Information
RFI and Submit Feedback Online: https://www.energy.gov/eere/amo/2023-circular-economy-request-information-challenges-and-opportunities-increasing
Comments Due: May 1, 2023

Federal Funding Opportunities

Search for all federal grants: https://www.grants.gov

- **Environmental Justice Grants and Technical Assistance** https://www.epa.gov/environmentaljustice/environmental-justice-grants-funding-and-technical-assistance
- **Pollution Prevention Environment Justice Grants** https://www.epa.gov/p2/grant-programs-pollution-prevention – Deadlines: Grant Partner Connection List – April 6; Applications – June 6, 2023
- **Greenhouse Gas Reduction Fund** https://www.epa.gov/greenhouse-gas-reduction-fund
- **Solid Waste Infrastructure for Recycling Grants** https://www.epa.gov/infrastructure/solid-waste-infrastructure- recycling-grant-program
- **Small Business Innovative Research (SBIR) Program:** https://www.epa.gov/SBIR

Register to apply for Federal Grants

- **It can take months to register to apply** for federal grants
- **Some organizations may want to partner with established federal grant recipients instead**

- **Step 1 – Obtain a SAM Number:** https://sam.gov/content/entity-registration
  - **SAM Entity Registration Checklist**
  - **SAM.gov assistance** - fsd.gov

- **Step 2 – Register in Grants.gov** https://www.grants.gov/register.html

- **Step 3 – Submit your Application on** https://ww.Grants.gov
  - **Grants.gov User Guide** https://www.grants.gov/help/html/help/index.htm?callingApp=custom#t=GetStarted%2FGetStarted.htm
  - **Grants.gov Training Resources & Videos** - https://www.grants.gov/web/grants/applicants/applicant-training.html
  - Grants.gov assistance 1-800-518-4726 or support@grants.gov

Questions & Answers

Thank you!