

Cambridge Green New Deal Zoning Petition

A scenic sunset over a city skyline, likely Cambridge, Massachusetts. The sky is a vibrant mix of orange, red, and purple. In the foreground, a wooden dock is filled with several colorful rowing boats (canoes) in shades of white, red, yellow, and purple. The city skyline, including the Prudential Tower, is visible in the background, reflected in the calm water. A watermark '©GREGDUBOIS.COM' is visible on the left side of the image.

Planning Board Presentation 6/29/2021

- **Esther Cull-Kahn** - CRLS Student, Sunrise Cambridge
 - *Climate Crisis: Urgency & Green New Deal*
- **Rev. Vernon K. Walker** - Communities Responding to Extreme Weather (CREW)
 - *Climate Crisis: Disparate Impacts*
- **Santos Carrasquillo** - Port resident, Cambridge Community Growers
 - *Economic Inequality and Opportunity*
- **Dennis Carlone** - City Councillor
 - *Why we need this zoning petition*
- **Quinton Zondervan** - City Councillor
 - *Zoning petition details*

Outline: Speakers & Topics

WE MUST ACT NOW!



The longer the crisis goes unaddressed, the more people are put at risk of food insecurity and starvation.



Climate Crisis Urgency



More jobs, better jobs, and
higher-paying jobs for all.

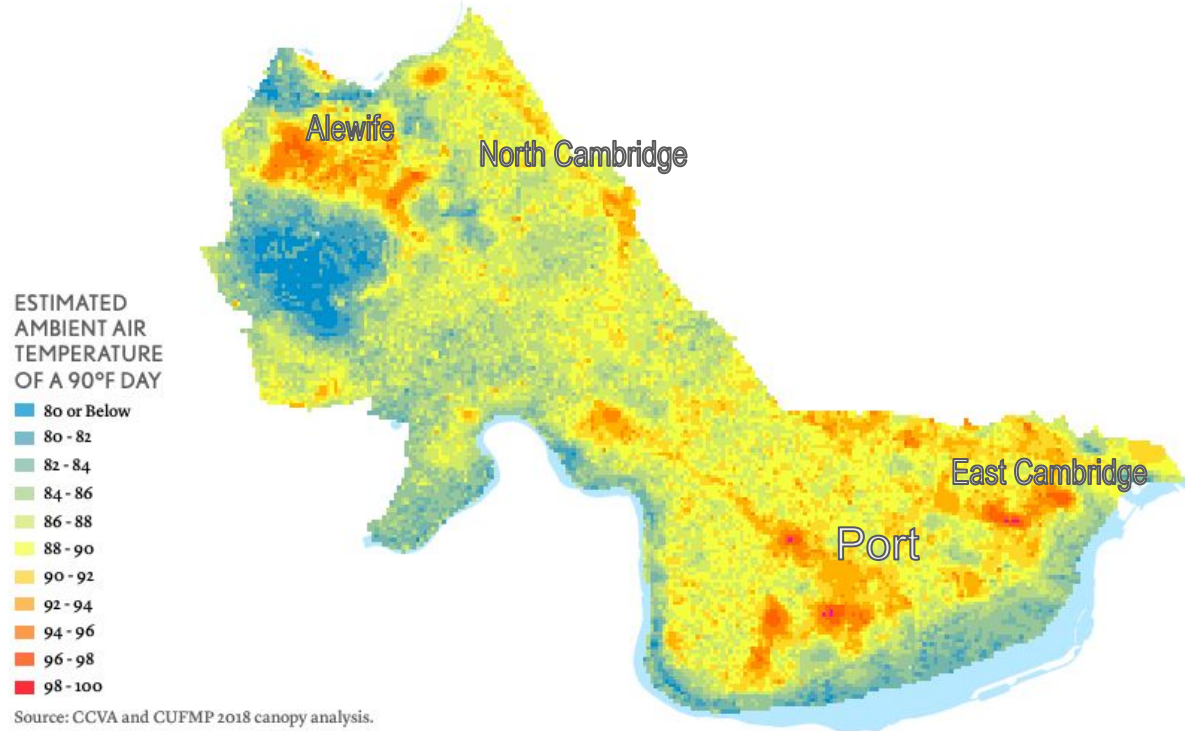
**THE GREEN NEW DEAL IS
OUR ONLY HOPE.**



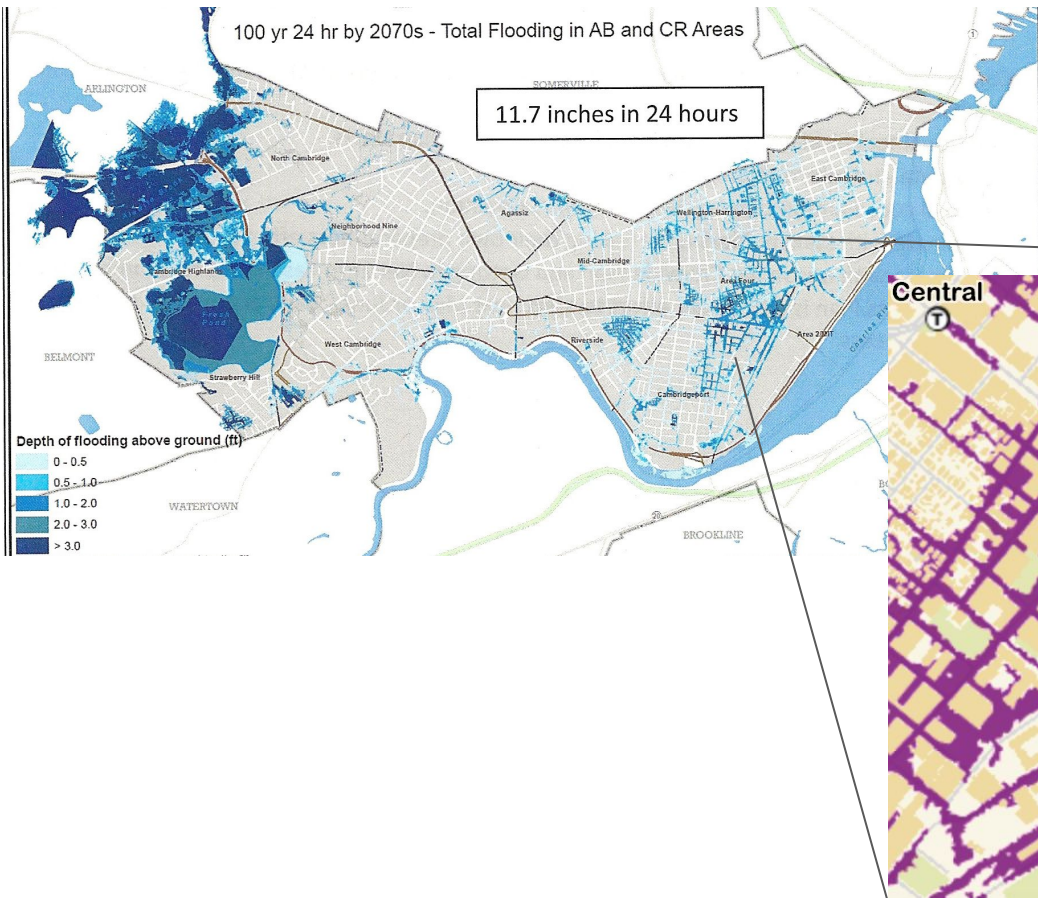
The Green New Deal

RESILIENCE

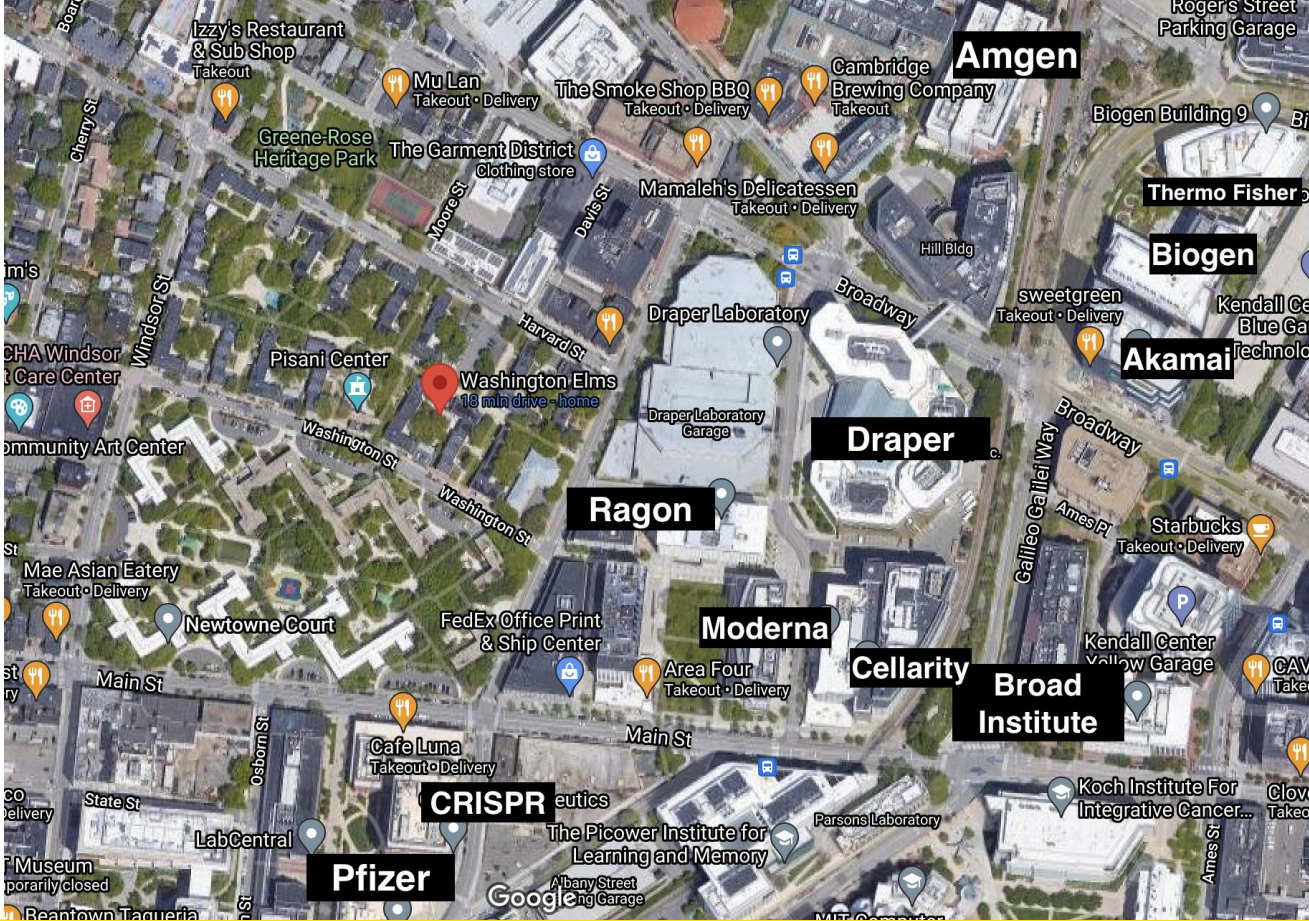
Heat island as felt in 2018 is not evenly distributed



Climate Crisis Disparate Impacts: Heat



Climate Crisis Disparate Impacts: Flooding

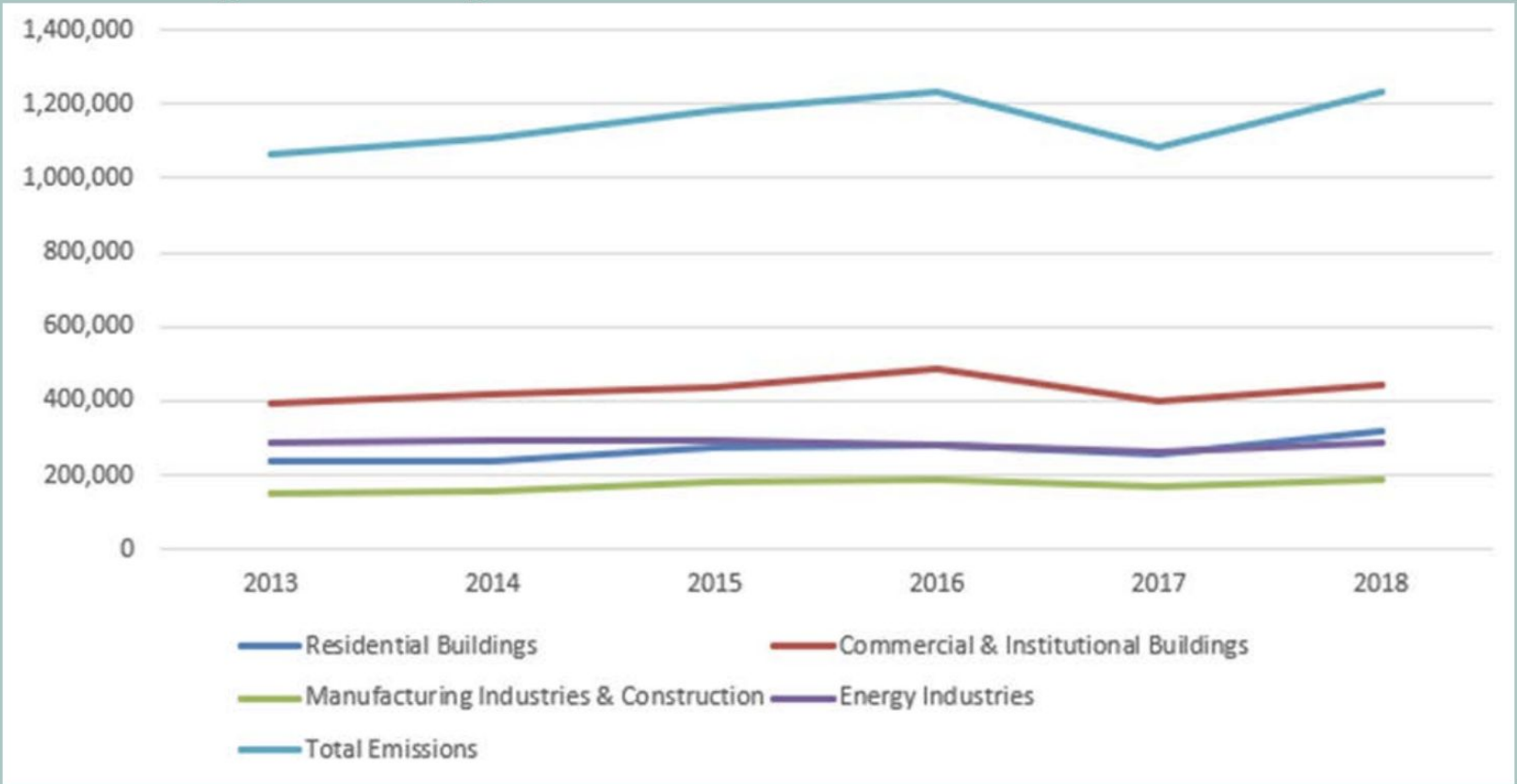


Economic Inequality in the Port



Create More Economic Opportunity

Cambridge Building Sector Emissions Trends 2013-2018



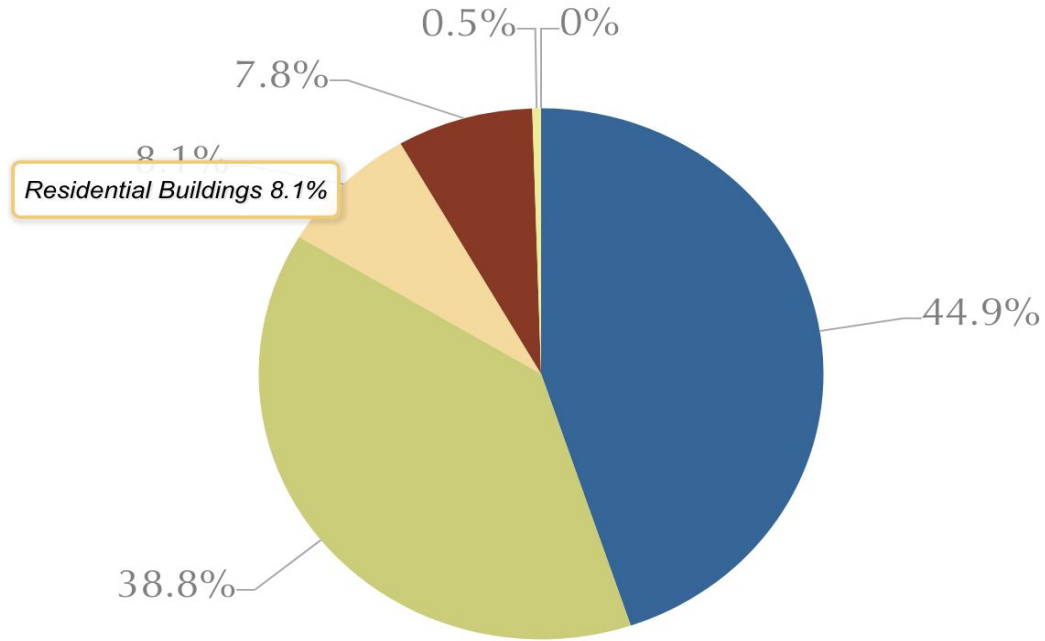
Why we need this zoning petition

- Zoning details:
 - Article 22 amendments
 - Why commercial buildings
 - Emissions accounting
 - Use of mitigation funds
 - Zoning context and compliance

- In Article 22 Sustainable Design and Development (Green Buildings Zoning Ordinance), add a **Section 22.24.4 Emissions Accounting**
 - Applies to new commercial buildings only
 - Requires a calculation of total expected emissions
 - Requires a payment plan to offset the total emissions
 - Specifies how the funds are to be used



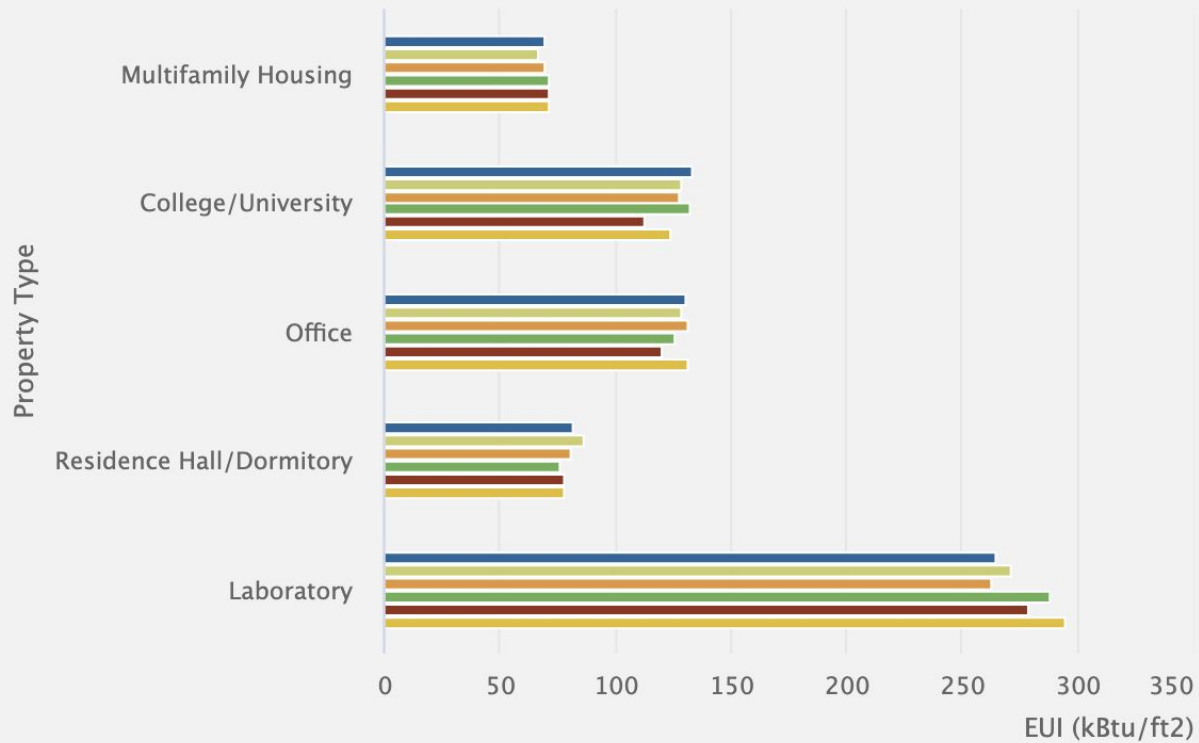
Article 22 Amendments



From CDD Sustainability
Dashboard 1.0

- Commercial & Institutional Buildings and Facilities
- Energy Industries
- Residential Buildings
- Transportation
- Manufacturing Industries & Construction
- Construction

Why Commercial Buildings?

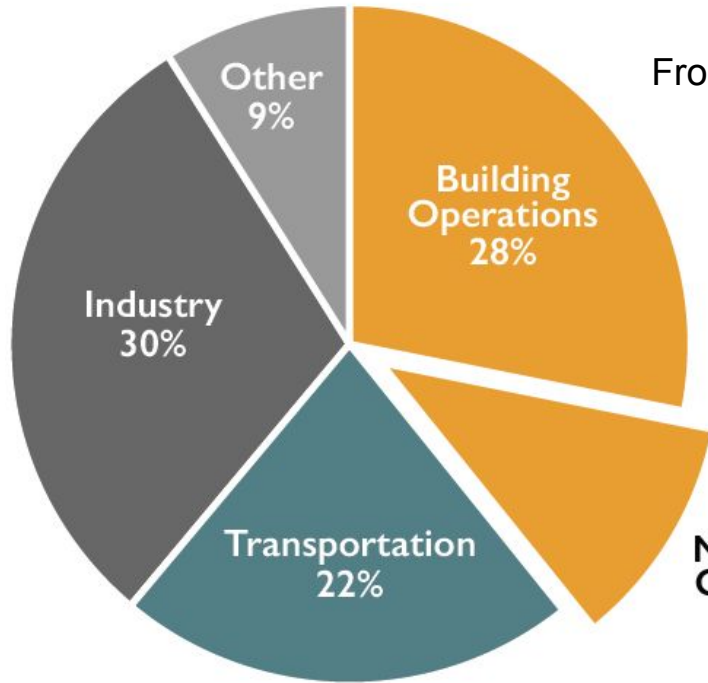


From CDD Sustainability
Dashboard 2.0

● 2014 ● 2015 ● 2016 ● 2017 ● 2018 ● 2019

Why Commercial Buildings?

Global CO₂ Emissions by Sector

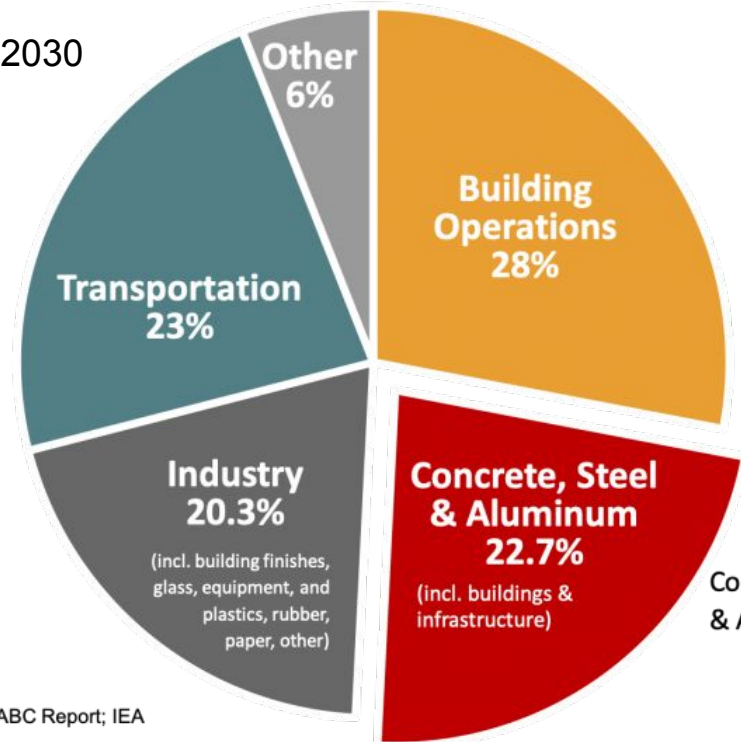


From: Architecture 2030

Building Materials and Construction
11%

Source: © 2018 2030, Inc. / Architecture 2030. All Rights Reserved. Data Sources: UN Environment Global Status Report 2017; EIA International Energy Outlook 2017

Global CO₂ Emissions by Sector



Source:
2018 Global ABC Report; IEA

Concrete 11.1%, S
& Aluminum 1.5%

Zoning Details: Emissions Accounting

- Total Emissions = Embedded Emissions + Lifetime Emissions

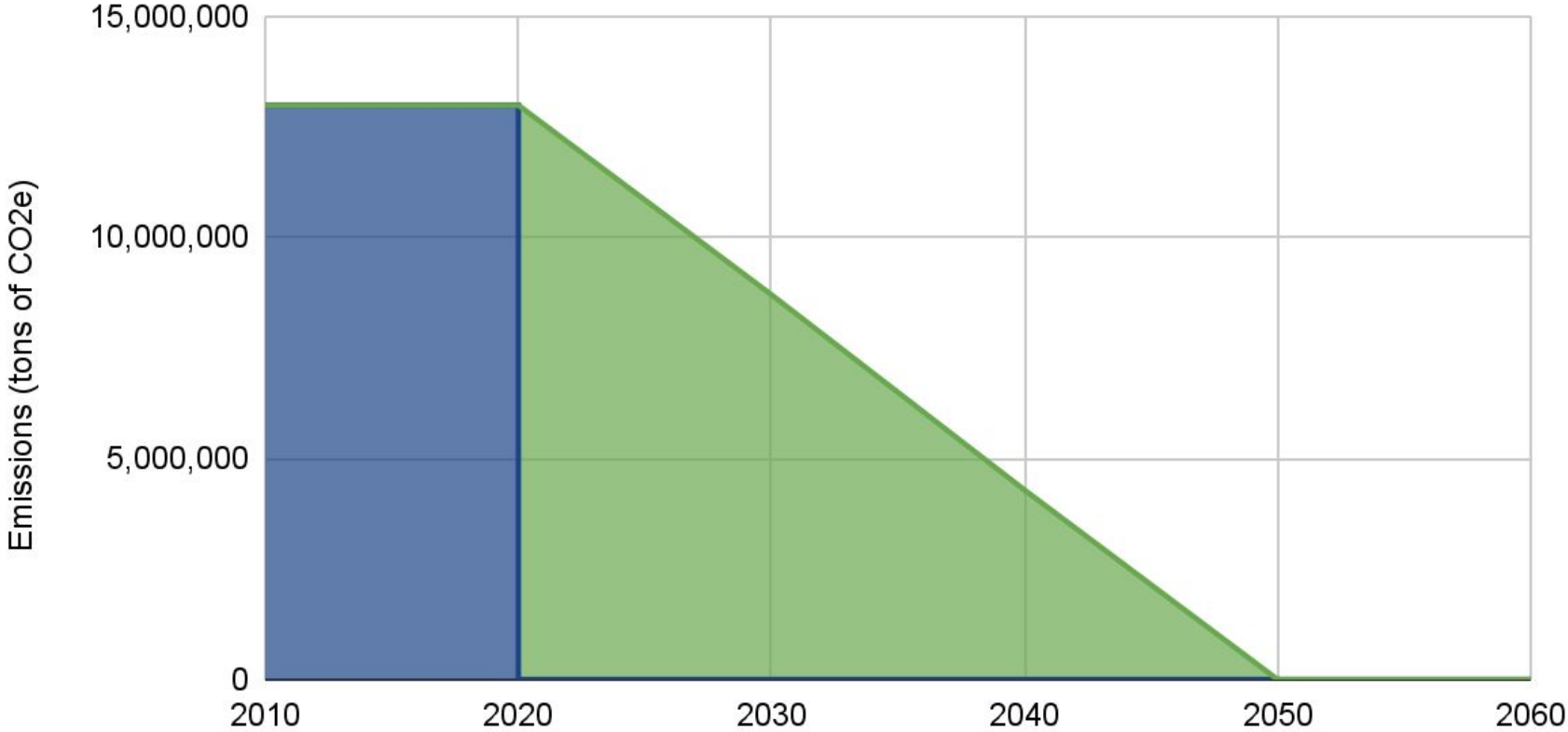


- Sample Calculation of Lifetime Emission costs for average energy efficiency 100,000 square foot lab building based on 2016 BEUDO EUI: \$3 million

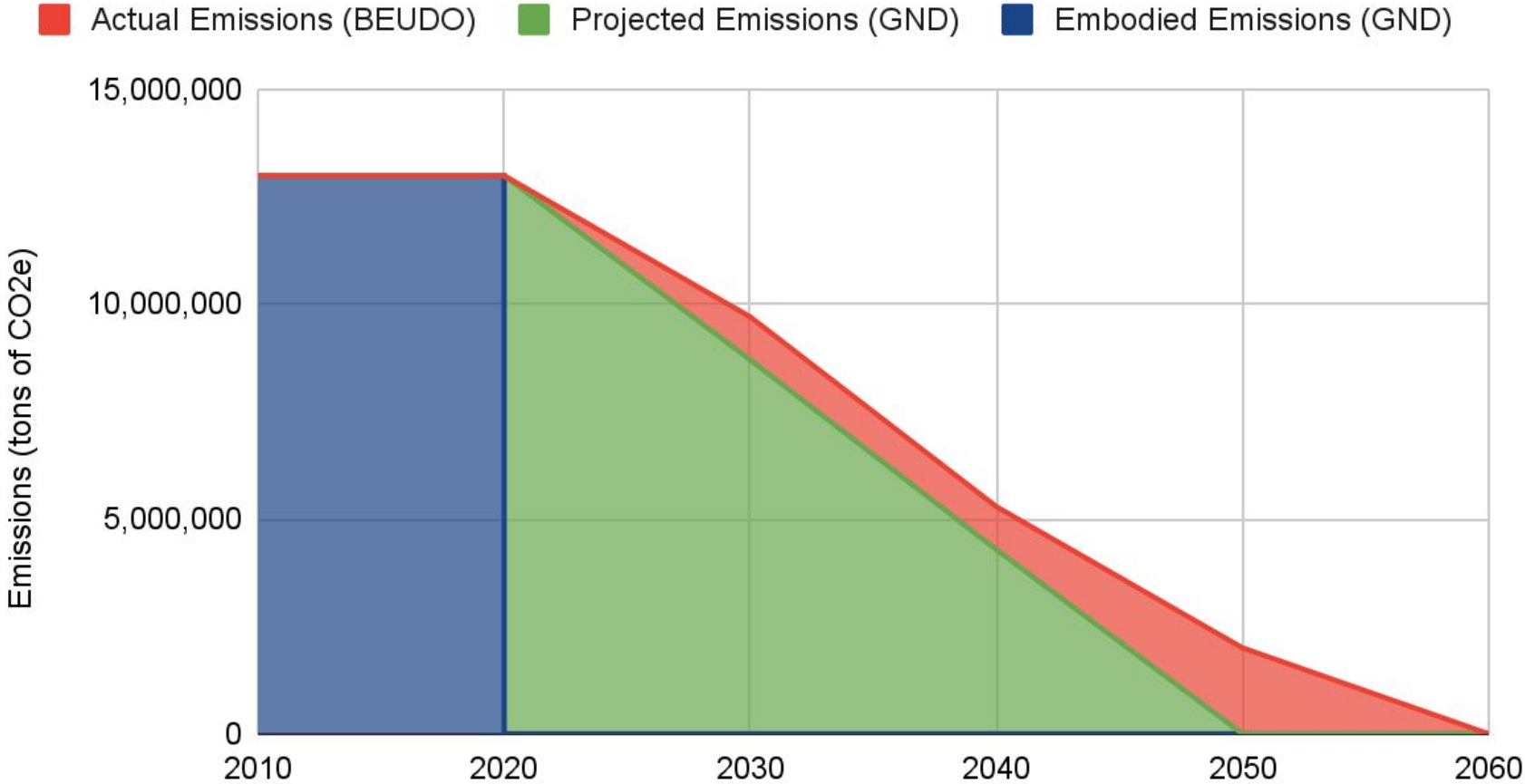
Zoning Details: Emissions Calculation

Hypothetical Emissions Breakdown for Average Lab Building

■ Projected Emissions ■ Embodied Emissions



Interconnect with Building Energy Use Disclosure Ordinance



1. Energy efficiency upgrades to Cambridge's existing building stock
2. Payment into Cambridge's Revolving Fund
3. Creation of new solar PV systems in Cambridge
4. Creation of community solar PV installations that benefit Cambridge residents by making discounted solar generated electricity available to them.
5. Payment for direct supply contracts of 100% renewable electricity from sources within the FERC ISO New England assigned to another building(s) in the City of Cambridge, including via participation in Cambridge's Community Choice Electricity (CCE) program.

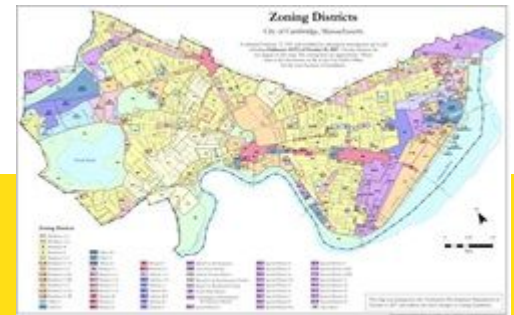
Zoning Details: Use of mitigation funds

No less than 25% of the mitigation funds shall be spent on green jobs development programs, including education and training, to help build capacity for energy efficiency and renewable energy projects in Cambridge. Any such program must be **free of cost to participants**, and successful completion of the program must lead to a **certification in a specific skill** such as, for example: Solar Installer, Weatherization Installer and Technician, Building Energy Analyst, Urban Forestry or Urban Agriculture. Specific criteria and certifications will be set by CDD via regulation.



Green Jobs & Economic Opportunity

- Imposes a requirement (emissions accounting) during the design phase (Special Permit)
- Requires impact assessment, analogous to linkage fee
- Requires mitigation in the public interest, analogous to inclusionary
- Requires certain community benefits based on climate impacts, similar to other community benefits
- Post-occupancy enforcement happens all the time, e.g. public access to private open spaces or other amenities



Zoning context and compliance



Q & A