Denver’s GBO Energy Program

August 25, 2020
Overview

• Community Goals
• Green Buildings Ordinance: Existing Buildings
  o Energy Program Details
  o Enrolling early OR at roof replacement
  o 2019 Energy Program
• Denver’s Climate & Sustainability work
Community Goals
Denver Community Goals + Priorities

Equity
Respond to Climate Change
Affordability
Resiliency
Health
Inclusive
Connected
Safe
Accessible
Economically vibrant
Active
Authentic neighborhoods
Denver’s Long Term Viability

- Social
  - Sustainable
    - Equitable
    - Viable
    - Affordable

- Economic

- Environment
Denver’s Climate Goals: 80% by 2050

Climate Goals:

Climate Recommendations:
Denver Buildings Climate Goals, 80x50 Plan

- Energy Efficient Existing Buildings
  - 10% less energy use in 2020
  - 30% less energy use in 2030
  - Heating emissions reduced 50% by 2040
  - 50% less energy use in 2050

- Net Zero Energy New Construction by 2035
Homes and Buildings Account for 63% of Denver’s GHG Emissions

12% GHG

51% GHG
Denver’s Building Sector

1. Multifamily
2. Office
3. K-12 & Schools
4. Hotels
5. Warehouse & Distribution Center
6. Manufacturing & Industrial
7. University
8. Retail
9. Hospital
10. Refrigerated Warehouse
Green Buildings Ordinance
From Green Roof to Green Buildings

Nov 7, 2017: Citizen-led Green Roof Initiative passes

Challenges: water law, code, weight, sector impact

Jan 19 – Jun 7, 2018: Task Force works and reaches consensus

Broad Stakeholders
More flexibility
Honors the vote

Oct 29, 2018: Green Building Ordinance passes

May 9, 2019: DDPHE Board Approves Rulemaking
Increased Benefits

- Urban Heat Island
- Green Spaces
- Water and Storm Water Management
- Greenhouse Gas Emission Reductions
Green Buildings Ordinance

Buildings of 25,000 square feet or more:

1. New buildings
2. Existing buildings – only if recovering/replacing roof
   - Early enrollment into Energy Program
   - At roof replacement
3. Additions
   - 25,000–49,999 sq. ft.
   - ≥ 50,000 sq. ft. or more
Green Buildings Ordinance

Buildings over 25,000 sqft

Cool Roof Required + ONE of the Following Compliance Options

Compliance Options for New Buildings
- Green Roof / Space
- Pay for Offsite Green
- Green + Solar or Energy Efficiency
- Solar or Energy Efficiency Certification

Compliance Options for Existing Buildings
- Green Roof / Space
- Pay for Offsite Green
- Solar or Energy Efficiency Certification
- Energy Program
Energy Program
Benefits

Save green
- Save money by saving energy
- Then keep saving money

Plan for the future
- Have 5 years to comply
- Can include recent

This Photo by Unknown Author is licensed under CC BY-SA
Green Buildings Ordinance

Buildings over 25,000 sqft

- Cool Roof Required
- + ONE of the Following Compliance Options

Compliance Options for *Existing Buildings*

- Green Roof / Space
- Pay for Offsite Green
- Solar or Energy Efficiency
- Certification
- Energy Program

*Energy Program* Options

- ENERGY STAR Score
- EUI Improvement
- EUI + Offsite Solar
- Onsite / Offsite Solar
- Certification
**Energy Program: Compliance Options for Existing Buildings**

**ENERGY STAR Score**
- Score of 85 or higher
  - Maintained annually
  - Energize Denver Benchmarking Map for recent data at energizedenver.org

**EUI Improvement**
- Annual weather normalized site EUI improvement
- Buildings 25,000 - 49,000 gross floor area (GSF):
  - 10% EUI improvement
- Buildings 50,000 GSF or larger:
  - 15% EUI improvement

**EUI + Offsite Solar**
- Buildings 25,000 - 49,000 GSF
  - 5% EUI improvement
  - Offsite solar equiv. to 10% of building energy use
- Buildings 50,000 GSF or larger
  - 7.5% EUI improvement
  - Offsite solar equiv. to 15% of building energy use

**Onsite / Offsite Solar**
- Anywhere on building or zone lot, or off-site
- Onsite solar or other renewable equiv. to your choice of:
  - 5% of the floor area
  - 42% of the total roof area
  - 100% of annual average electricity used at the building
- OR
  - Offsite solar equiv. to:
    - 100% of building electricity use

**Green Building Certification**
- One of the following:
  - LEED Certification, minimum silver
  - Enterprise Green Communities certification
  - National Green Building Standard ICC/ASHRAE 700
  - Equivalent certification approved by the building official

**At Roof Replacement:** Cool Roof Required* plus ONE of the Following Options:

* If the roof is a character-defining roof, CPD may allow alternative roof materials
Annual Reporting

• Required for the Energy Program

• Annual benchmarking report also used for the Energy Program

• The report is sent to the City via ENERGY STAR Portfolio Manager

• Meet **ONE** Energy Program option each year
Specify EUI Baseline Year

• Baseline year = calendar year
• Used for EUI savings
• Default year is prior year to enrollment
• Baseline can be up to 5 years earlier
• Data submitted through ENERGY STAR Portfolio Manager
Does Your Building Already Comply?

- Over 400 buildings already qualify
- Energize Denver Benchmarking data
  - ENERGY STAR score of 85 or higher
  - 10%-15% improvement in energy use intensity (EUI)
  - Energize Denver Benchmarking Map
    energizedenver.org
Energy Program Enrollment

Enroll early to lock in your savings before it’s time for a roof replacement!

Can enroll early OR at roof replacement

• Early: lock in energy-efficient savings
• Choose a “baseline year” from the last five years
• Enroll now: www.denvergov.org/EnergizeDenver > Energy Program
• Enrollment is valid for 20 years or through one roof replacement (whichever is longer)
Value to Owners & People Inside

• Lower energy costs
• Plan for the future

• Increased tenant retention, attraction, & satisfaction
• Enhanced productivity
• Health benefits of natural daylight
• Enhanced air quality for allergies
• Increased comfort
C-PACE Financing Pays 100% of Improvements

- New Way financing that provides C&I building owners a smarter way to modernize their buildings or build new buildings smarter:
  - 100% financing for retrofits
  - Energy efficiency, renewable energy, water conservation
  - 15-20% total construction budget financing for new construction
  - Meet or exceed IECC 2015
  - Long term financing, up to 25 years
  - Special purpose assessment (akin to sewer assessment)
  - Lower energy costs
Denver's Green Buildings Ordinance (GBO): Existing Buildings Flow Chart

Please verify any exemptions by calling or emailing prior to submittal.

CONNECT WITH US  311 | POCKETGOV | DENVERGOV.ORG | DENVER 8 TV

@DenverCASR | @SustainableDen | @denvercasr
2019 GBO Report Results

33 existing buildings issued permits under GBO

Figure 12 – GBO Compliance Options Selected by Existing Buildings from May-December 2019
Office of Climate Action, Sustainability & Resiliency

Energize Denver & Existing Buildings
Energize Denver
Energy Efficiency in Buildings

<table>
<thead>
<tr>
<th>BENCHMARKING ORDINANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Requires owners of buildings over 25,000 square feet to annually measure and report energy performance.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ENERGY PROGRAM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sign-up now so your energy efficiency projects count for compliance with Denver's Green Building Policy next time your need to replace your roof.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>BUILDING ENERGY PERFORMANCE MAP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Check out the energy performance ratings of buildings across Denver, similar to MPG ratings for cars or nutrition labels on food.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NET ZERO NEW BUILDINGS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learn more about Denver's goal for all new buildings to achieve net-zero energy by 2035.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RESOURCE CENTER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learn how to improve your building’s energy efficiency and explore technical resources and financing options to help you get there.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SMART LEASING PROGRAM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tools, training, &amp; recognition to align tenant and landlord interests to achieve high performance, healthy, energy-efficient buildings.</td>
</tr>
</tbody>
</table>
Awards and Outreach

Energize Denver Awards

Smart Leasing
Building Electrification Implementation Plan

• Under Development in 2020
Net Zero New Buildings Implementation Plan

• Under Development
  Fall 2019 - 2020
Energy Future Collaboration:
Strategic Building Electrification Working Group
Keys to Success

Lessons learned from other cities
- Benefits, incentives

Robust stakeholder process
- Talk with key stakeholders

Get involved?
- Energize Denver Advisory Group
Want more?

Updates & News
• CPD Webinars & Newsletters
• Energize Denver Newsletters
• Awards (nominations open!)

Plans
• Existing Building Electrification
• Net Zero New Buildings

Reports
• Climate Action Task Force Recommendations
• Denver’s 80x50 Climate Action Plan
Web: www.denvergov.org/EnergizeDenver

Amber Wood
Email: amber.wood@denvergov.org
Phone: 301-520-5864