



December 3, 2019

# Land Use, Transportation, and Infrastructure Committee

City and County of Denver  
2019 Building and Fire Code Amendments



**DENVER**  
COMMUNITY PLANNING  
& DEVELOPMENT

Denver Fire Department

# Agenda

- I. Overview – DBCA
  - a. Base Code
  - b. Denver Green Code
- II. Technical Advisory Committees
- III. Timeline / Transition Period
- IV. Specific Code Amendments
- V. Denver Green Code



# 2019 DBC New Codes

## ➤ 2018 Series

- International Building Code
- International Existing Building Code
- International Plumbing Code
- International Mechanical Code
- International Residential Code
- International Fuel Gas Code
- International Fire Code
- International Energy Conservation Code

## ➤ 2017

- National Electric Code



# Introduction / Denver Green Code

- The Denver Building and Fire Code establishes the minimum, **mandatory** standards for building construction in Denver. Denver's code is based on international standards for safe, habitable structures.
- Denver Green Code minimum **optional** standards to create a more sustainable high performance building.



# Technical Advisory Committees

## **IBC/IEBC:**

Alan Colussy  
Paul Schultz  
Stephen Sparrow  
Craig Johnson  
Jerry Maly  
Masoud Sabounchi  
Stephen Rondinelli  
Scott Prisco  
Eric Browning  
Gary Moore  
Chief FPE Tony Caro  
Juan Pasillas

## **IRC:**

Adam Przeszlowski  
Kyle Jackson  
Matt Wallace  
Nathan Skrdla  
Sarah Kaplan  
Kate Hilberg  
Carrie Baron  
Jim Sobey  
Brian Jacobs  
Dave Renn  
Amir Abu-Jaber  
Casey Vesque

## **IECC:**

Brandon Vandelaar  
Elizabeth Gillmor  
Nathan Kahre  
Paul Kriescher  
Paul Sweeney  
Sarah Kaplan  
Kevin Perri  
Scott Prisco  
Katrina Managan  
Christy Collins  
Keith Fox  
Carol Pafford  
Daniel Krausz  
Mike Walton

## **IFC / IFC – SC:**

Michael Passas  
George McNeill  
Greg Forge  
Jaclyn Gorman  
Masoud Sabounchi  
R. Douglas Yester  
Rob Geislinger  
Russell Holt  
Gregory Clair  
Tana M. Lane  
Chief FPE Tony Caro  
Robert Kmak  
Eric Browning  
Div Chief Almaguer  
Greg Bradshaw  
John M. McGovern  
Lyle Hays  
Mike Doyle  
Stephen Rondinelli  
Todd Daily  
David Kahn  
Ben Lombardo

## **IgCC:**

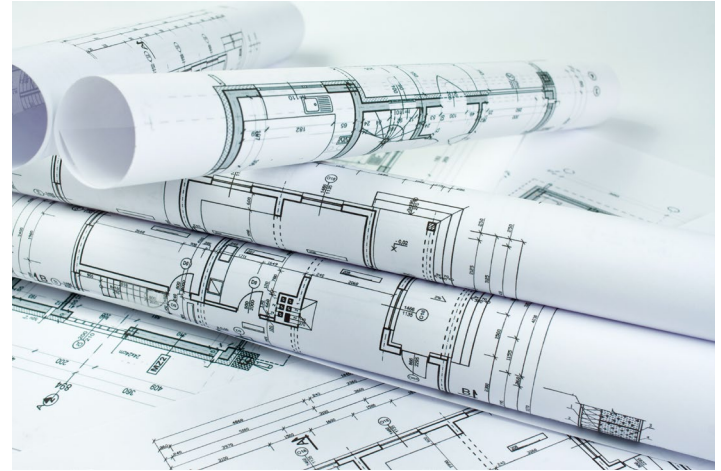
Cheryl Hoffman  
Dane Sanders  
Jeff Keeley  
Nate Huyler  
Paul Hutton  
Paul Kriescher  
Penny Cole  
Rachel Bannon-Godfrey  
Aaron Esselink  
Jeff Tejral  
Chris Gleissner  
Sonrisa Lucero  
David Carlson  
Scott Prisco  
Jim Turner  
TC Bohnet  
Katrina Managan  
Christy Collins

## **IMC / IPC / IFGC:**

Brian Kannady  
Mark Jelinske  
Michael Passas  
Sean Wyatt  
Danny Boncich  
Mike Montoya  
Troy Newman  
Charles Bartel

# Timeline / Transition Period

- Draft to City Council's Land Use, Transportation, and Infrastructure committee on Dec. 3
- **Anticipated:** City Council second reading and vote on Dec. 23
- **When adopted:** four-month transition period between adoption date and effective date





# 2018 IBC / IEBC Amendments

# Committee & Public Proposals

## International Building Code & Existing Building Code

- 11 voting members
- 121 IBC proposals submitted
- 17 IEBC proposals submitted

	IBC / IEBC
<b>Voting members</b>	
Alan Colussy	Architect - NAIOP
Paul Schultz	Architect - OZ Architecture
Stephen Sparrow	GC - Swinerton
Craig Johnson	BOMA
Jerry Maly	Struct. Engineer - SEAC
Masoud Sabounchi	ACE/Consultant
Stephen Rondinelli	Architect/Consultant - AIA, SFPE, NFPA
<b>City and County of Denver</b>	
Scott Prisco	Building Official
Eric Browning	A/S Supervisor
Gary Moore	CPD Bldg. Inspector
Chief FPE Tony Caro	Chief Fire Protection Engineer
<b>Non-voting member</b>	
Juan Pasillas	

# Chapter 3 – Use & Occupancy

## 310.6: New R-X Occupancy (community villages)

- Two or more detached sleeping units
- Occupants are primarily permanent in nature
- Permitted to be constructed per IRC (no sprinklers required)
- Community building with cooking & dining areas required for R-X projects



# Chapter 11 – Accessibility

1105.1: New amendment requires public entrances to be equipped with a power operated door.

- Group A with Occupancy Load > 300
- Group B, M, R-1 with Occupancy Load > 500





# Chapter 29 – Plumbing Fixtures & All-Gender Options

New amendments to allow “all-gender multi-user toilet rooms.”

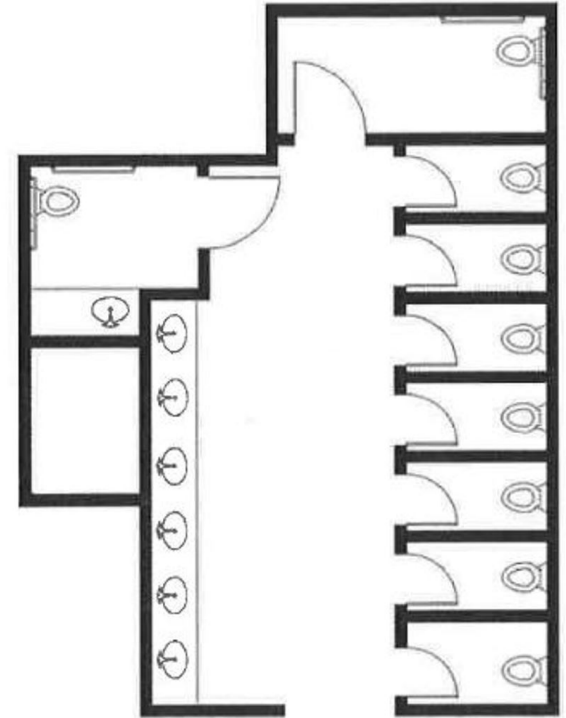
- Builds on 2016 DBCA that requires single-user rooms to have all-gender signage
- Further increases inclusiveness for LGBTQ community, caregivers of elderly or people with disabilities, and families with small children
- Pulled forward from 2021 IBC but with increased requirements



# Chapter 29 – Plumbing Fixtures & All-Gender Options

## 2902.7: All-gender multi-user toilet room requirements

- Minimum of 6 toilet compartments
- Exception for 3 toilet compartments + single-user toilet room
- Full height partitions and doors
- Exception allows walls to start within 4 ½" of floor and be 8' minimum in height
- No sightlines when door is closed



Conceptual layout of all-gender multi-user toilet room.

# DBC Appendix U – Tall Wood Buildings

The Mass Timber Provisions approved for the 2021 IBC have been brought forward into the 2019 Denver Amendments.

Three new Types of Construction:


- IV-A has FRR equivalent to IA – no exposed mass timber
- IV-B has FRR equivalent to IB – limited exposed mass timber
- IV-C has FRR equivalent to IB – exposed mass timber

Heights up to 270' and 18 stories

Substantial passive protection (gypsum wrap) of elements

Detailed special inspection requirements





# 2018 IFC / IFC-SC Amendments

# Committee & Public Proposals

## International Fire Code

- 13 voting members
- 107 proposals submitted

	IFC
<b>Voting members</b>	
Michael Passas	ACEC
George McNeill	Fire Alarm Association
Greg Forge	BOMA
Jaclyn Gorman	Denver Water
Masoud Sabounchi	Engineering consultant
R. Douglas Yester	Society of Fire Protection Engineers
Rob Geislinger	Natl. Fire Sprinkler Assoc.
Russell Holt	Conveyances
Gregory Clair	Denver Public Schools
Tana M. Lane	State of CO Architects Office
<b>City and County of Denver</b>	
Chief FPE Tony Caro	Chief Fire Protection Engineer
Robert Kmak	
Eric Browning	A/S Supervisor
<b>Non-voting member</b>	
Div Chief Almaguer	DFD Division Chief

# Committee & Public Proposals

## International Fire Code – Smoke Control

- 9 voting members
- 30 proposals Submitted

IFC – Smoke Control	
<b>Voting members</b>	
George Mcneill	Smoke Control – Controls/Balancing Industry
Greg Bradshaw	Fire Alarm/Electrical Contractor
John M. McGovern	Mechanical Engineer
Lyle Hays	Design Build - Engineer
Mike Doyle	Architect/Consultant - AIA, SFPE, NFPA
Stephen Rondinelli	Society of Fire Protection Engineers
Todd Daily	
<b>City and County of Denver</b>	Chief Fire Protection Engineer
Chief FPE Tony Caro	Mechanical Plan Review
David Kahn	
Ben Lombardo	
<b>Non-voting member</b>	DFD Division Chief
Div Chief Almaguer	Smoke Control – Controls/Balancing Industry

# Base IFC Changes

## New IFC 319:

- Mobile Food Preparation Vehicles
- DFD has been permitting since 2015
- Tank venting requirements added
- CNG appliances will be allowed in addition to LPG

## New IFC 916:

- Gas detection Systems
- Captures DFD Emergency Alarms

## New IFC Chapter 12:

- Energy Systems
- Generators
- Batteries
- No longer based on electrolyte quantities

## New IFC Appendices:

- “N” for Indoor Trade Shows & Exhibitions
- “K” for Existing Ambulatory Care Facilities



# IFC 909 – Smoke Control

- Design rates (5 & 15) unchanged for all occupancy types
- Acceptance test – building balanced to demonstrate 40% sealed & 80% exhaust rate when makeup air afforded
- This provides testers and engineers guidance for balancing
- Makeup air could include HVAC running, open stairway or exterior doors, dynamic fans
- Fan reductions for stairways at 20% & 10% for hoistways



# IFC 5707 – Mobile Fueling

- Operational permits
- Places parameters for where, how, when
- Anticipated that major on-line retailers will soon participate
- Limit switching to 30-gallon dispense quantity
- Vehicle limit to 1,200 gallons of I, II or III
- Not allowed on public right of way or inside buildings including parking garages



# IFC 912 – FDC's

- Retroactive
- Prevents theft
- Protects caps & swivels
- Prevent obstructions
- Operates off existing Denver Knox key



# Chapter 12 – Energy Systems

- Will maintain annual ops permits
- Triggered at 8Kwh  
(similar to 50 gallon electrolyte)
- Emergency & Standby Power
- Solar Photovoltaic
- Fuel Cells
- Electrical Energy (all type of batteries)



# IFC 919 – Elevators

- DFD currently running 8 entrapments daily (citywide)
- Calls consume personnel & equipment for extended periods of time, e.g., Chief Officer, Engine, Truck (9 personnel)
- New section requiring elevator mechanics to respond within 60-minutes or establish contact with Incident Commander
- DFD has been working with Elevator Industry for 6-years as a delegate of State of CO regulation (not typical nationwide)





# 2018 IRC Amendments

# Committee & Public Proposals

## International Residential Code

- 11 voting members
- 26 proposals submitted

IRC	
<b>Voting members</b>	
Adam Przeszlowski	Structural Engineer
Kyle Jackson	Structural Engineer
Matt Wallace	KB Home - HBA
Nathan Skrdla	Lyon Homes
Sarah Kaplan	Kephart - AIA, HBA
Kate Hilberg	Habitat for Humanity, architect
Carrie Baron	Architect
<b>City and County of Denver</b>	
Jim Sobey	Residential Plan Reviewer
Brian Jacobs	CPD Bldg. Inspector
Dave Renn	A/S Plan Reviewer
Amir Abu-Jaber	Residential Plan Reviewer
<b>Non-voting member</b>	
Casey Vesque	CPD Bldg. Inspector

# 2019 DBCA Section R101.2

## Exceptions:

2. The following shall be permitted to be constructed in accordance with this code without a fire sprinkler system:
  - 2.2. Detached dwelling units used as a congregate living facility or a boarding house (transient or non-transient) with 10 or fewer occupants.



CONGREGATE LIVING FACILITIES  
AND BOARDING HOUSES

# 2019 DBCA Section R101.2

## Exceptions:

5. A Family Child Care Home (FCCH) complying with the provisions of Appendix Chapter M of the International Residential Code and located within a one-family dwelling, a dwelling unit of a side-by-side two-family dwelling, or a townhouse unit with frontage within 125 ft. (38.1m) of a street or fire access road. Such FCCH shall be permitted to be constructed in accordance with this code without a fire sprinkler system.

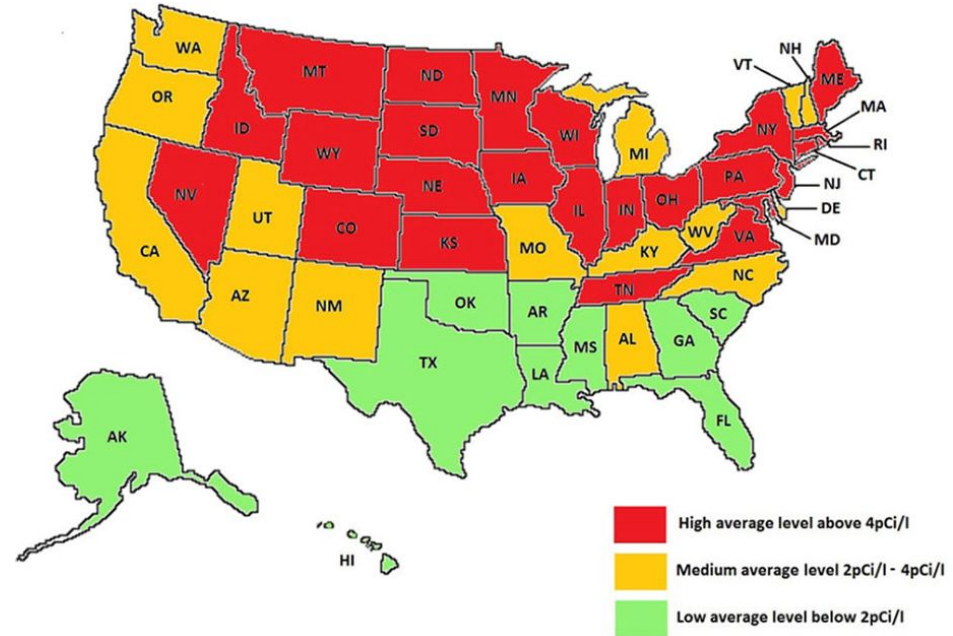
SCOPING PROVISIONS INTENDED TO  
ALIGN WITH STATE OF COLORADO  
DEPARTMENT OF HUMAN SERVICES  
RULES FOR CHILD CARE FACILITIES





## Appendix F – Radon Control Methods

- Appendix F contains provisions that are intended to mitigate the transfer of radon gases from the soil into dwelling units. Radon is a radioactive gas that has been identified as a cancer-causing agent and comes from the natural breakdown of uranium in soil, rock, and water.
- Requires detailing and construction to resist radon entry and prepare the building for installation of active submembrane or subslab depressurization systems if required in the future.



# Appendix Q – Tiny Houses

- Appendix Q relaxes various requirements in the body of the code as they apply to houses that are 400 square feet in area or less. Attention is specifically paid to features such as compact stairs, including stair handrails and headroom, ladders, reduced ceiling heights in lofts and guard and emergency escape and rescue opening requirements at lofts.





# 2018 IMC / IPC / IFGC Amendments

# Committee & Public Proposals

## International Mechanical, Plumbing, & Fuel Gas Codes

- 7 voting members
- 17 IMC proposals submitted
- 15 IPC proposals submitted
- 4 IFGC proposals submitted

IMC/IPC/IFGC	
<b>Voting members</b>	
Brian Kannady	Mech. Engineer - ASHRAE
Mark Jelinske	Mech. Engineer
Michael Passas	ACEC
Sean Wyatt	Plumbers Local 3
<b>City and County of Denver</b>	
Danny Boncich	M/P Supervisor
Mike Montoya	CPD Plumb. Inspector
Troy Newman	CPD Mech. Inspector
Charles Bartel	CPD

# Pollution Control Units (PCUs)

- **Section 506.3.13.2 Termination through an exterior wall is amended by adding the following sentence:**

Exhaust outlets shall be permitted to terminate through exterior walls when a pollution-control unit is used. The pollution control unit shall have 95% efficiency at the particle size of .3 microns in accordance with ASHRAE Standard 52.2 or equivalent.

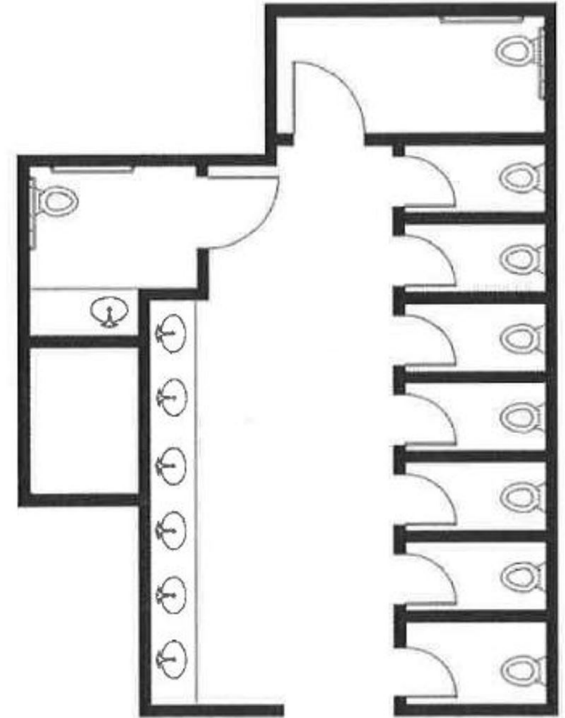
- **Section 506.5.2 Pollution-control units is amended by adding items 16-21**



# Single-User & All-Gender Toilet Facilities

Section 403.1.2 Single-user toilet facility and bathing room fixtures is replaced in its entirety

Section 403.7 All-gender multi-user toilet rooms and its subsections are added



Conceptual layout of all-gender multi-user toilet room.



# 2018 IECC Amendments 2018 Denver Green Code *Denver Community Goals*



# Denver Community Goals + Priorities

A background image of the Denver skyline at sunset, with various skyscrapers and a bridge in the foreground. Overlaid on the right side of the image is a list of community goals and priorities in a dark blue font.

Equity  
Respond to Climate Change  
Affordability  
Resiliency  
Health  
Inclusive  
Connected  
Safe  
Accessible  
Economically vibrant  
Active  
Authentic neighborhoods



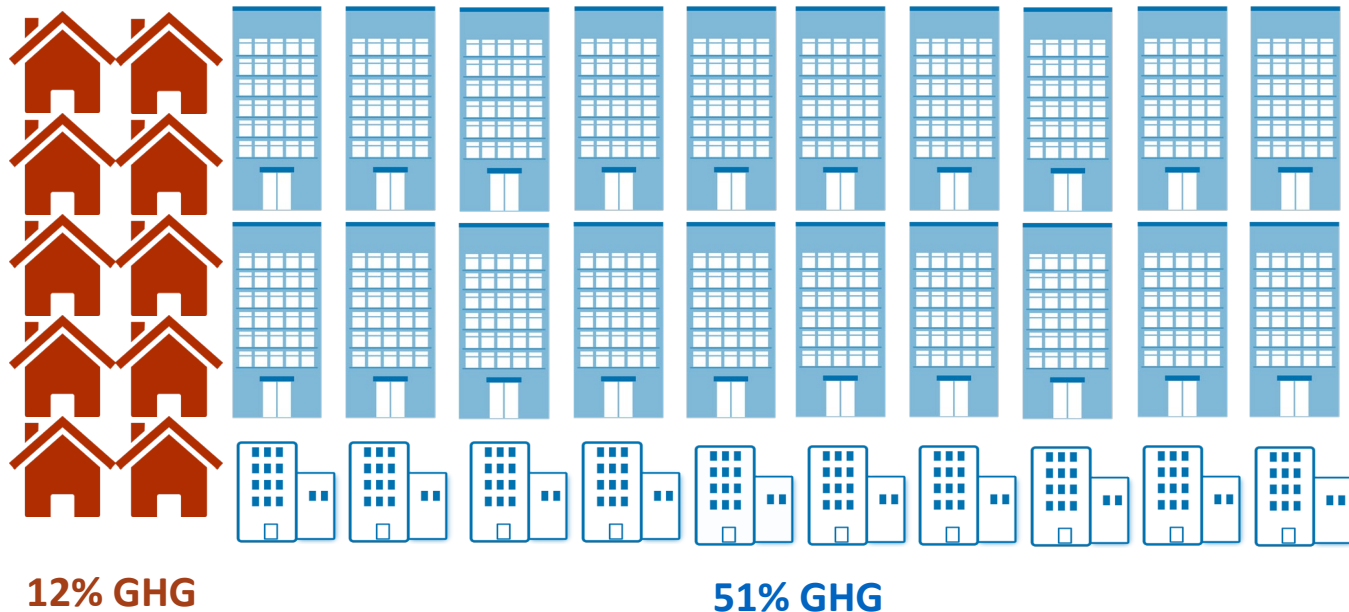
# Denver 80x50 Plan



GHG emissions  
**80%** below  
2005 levels by  
**2050**

# GHG Emissions + Buildings

Homes + buildings = 63% of Denver's GHG Emissions  
40% new by 2050



# Denver 2035 NZE New Buildings

- Five code cycles
- Implementation plan 2020
- IECC amendments
- Green Code, GBO
- Community stakeholders



# Denver 2035 NZE New Buildings

1. Energy efficiency
2. Renewables
3. Electrification
4. Grid Stabilization

Collectively

## Site Energy Use Intensity (EUI)

MEASURED FOR 365 DAYS



SPACE HEATING



PUMPS & FANS



SPACE COOLING



LIGHTING



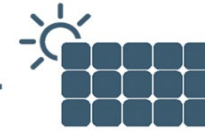
HOT WATER



OTHER LOADS



ENERGY  
CONSUMPTION



ON-SITE ENERGY  
PRODUCTION

(kBtu / YEAR)

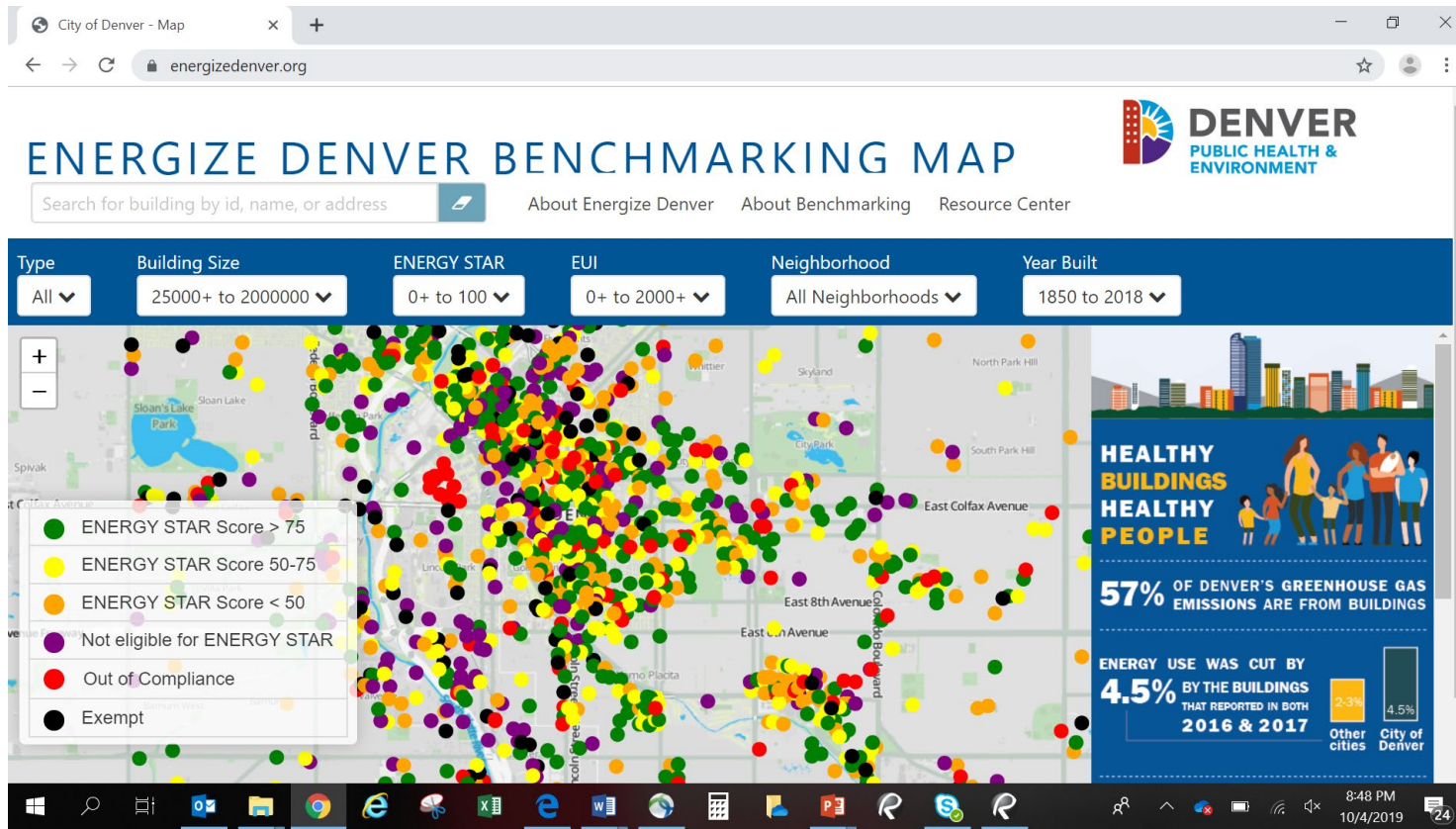
FLOOR AREA (SQ. FT.)



# Existing Buildings + Xcel

Separate  
efforts

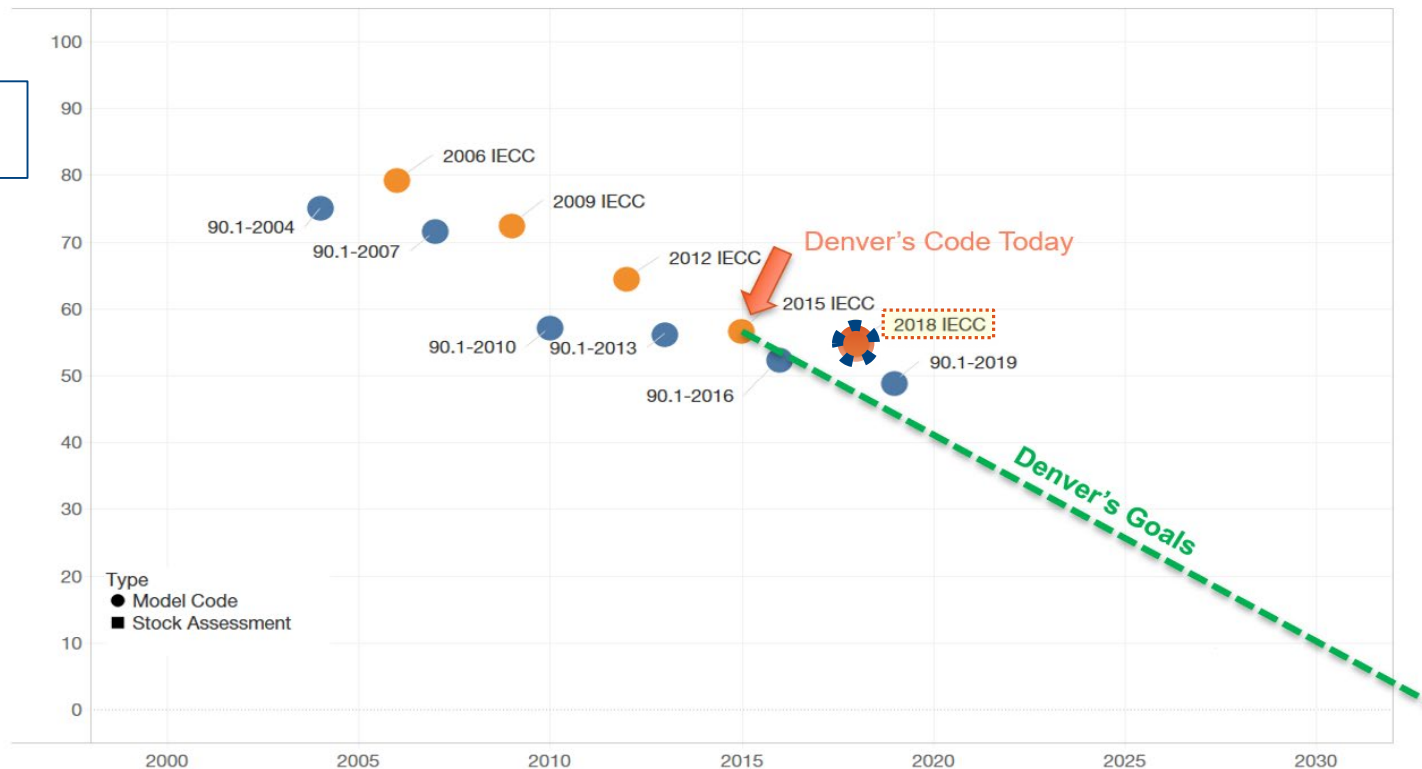
Community  
stakeholders



# 2018 IECC Denver Amendments

Commercial

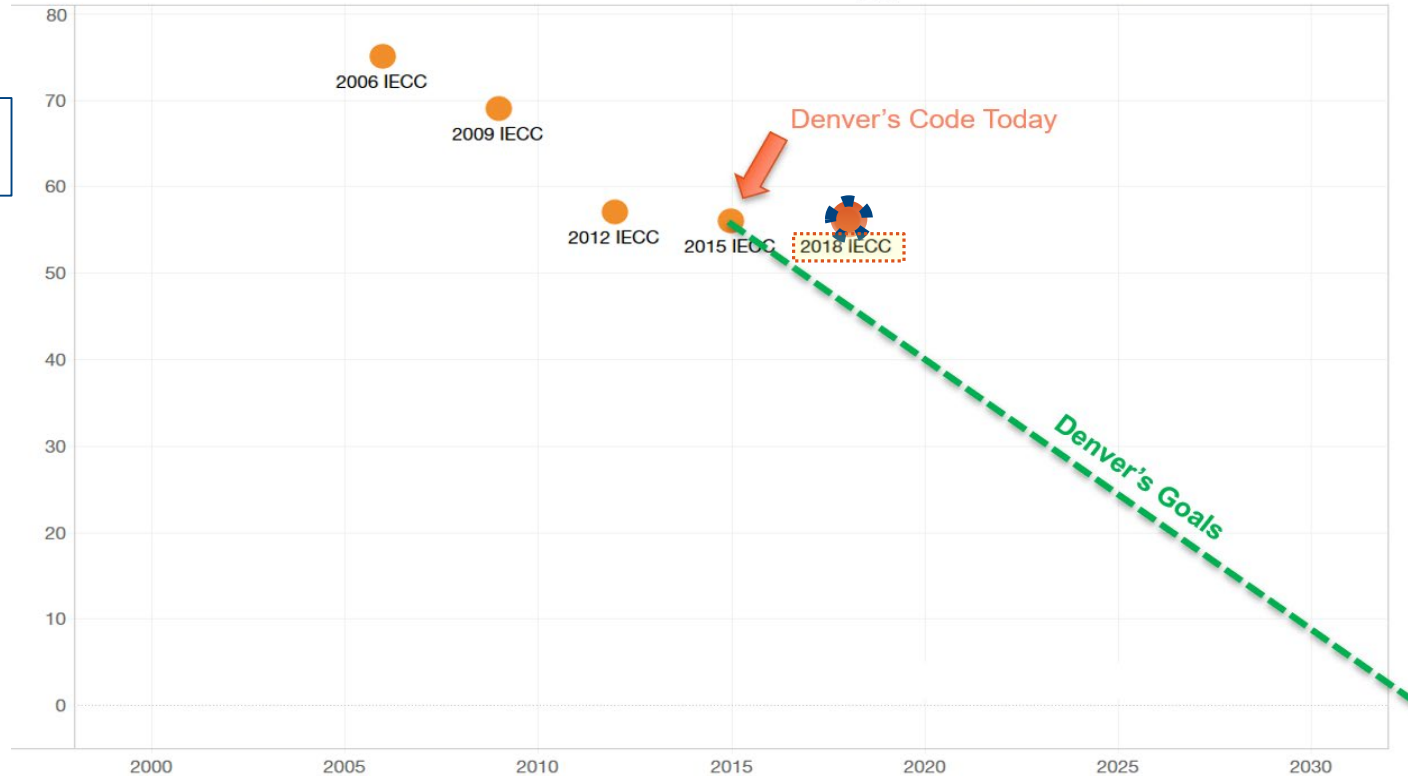
Denver's Path To Net Zero Energy – Commercial



# 2018 IECC Denver Amendments

Residential

Denver's Path To Net Zero Energy – Residential





# 2018 Denver Green Code

Voluntary

Preview

Energy, water  
waste, wellness







# 2018 IECC Amendments

# Committee & Public Proposals

## International Energy Conservation Code

- 14 voting members
- 81 proposals submitted

IECC	
<b>Voting members</b>	
Brandon Vandelaar	Hensel Phelps
Elizabeth Gillmor	Energetics
Nathan Kahre	Thrive Homes - HBA
Paul Kriescher	Lightly Treading
Paul Sweeney	GE Johnson
Sarah Kaplan	Kephart - AIA, HBA
Kevin Perri	Noresco
<b>City and County of Denver</b>	
Scott Prisco	Building Official
Katrina Managan	DDPHE Climate Smart Buildings Team Lead
Christy Collins	Green Buildings Specialist
Keith Fox	Mechanical plan review
Carol Pafford	Electrical plan review supervisor
Daniel Krausz	A/S plan review
Mike Walton	Residential plan review

# Key changes to the IECC process

- Increased focus on **plan reviews** for IECC compliance
- Increased focus on **IECC compliance** measures in **field inspections**



- First step towards **Increased Energy Efficiency**

# Key overall changes to the 2018 IECC

- **Continuous Air Barriers and Sealing Details are Required**
- **Thermal Envelope** continuous, testing now required
- **R-2** is moving to the Commercial Code
- Increased **Solar Readiness** in new construction



# Commercial

## Thermal Envelope Updates:

Increased restrictions on **Air Barriers**  
(C402.5.1)

Continuous **Thermal Envelopes** and **air leakage testing** per ASTM  
E779  
(C402.5.1.2.3)

**Continuous Air Barrier** on drawings and tested for in field  
inspections  
(C402.5.1.3)

**Commissioning Report** requirements (brought in from policy)  
(C408)



# Commercial

## Lighting / Electrical Changes:

Changes to **Lighting Power Allowances**  
for Interior and Exterior applications (C405.3.2)

Updated **Daylighting Controls** (C4.5.2.3)

**90% of Luminaires in Multi-Family Dwelling Units must be High Efficiency** (C405.1.1)

**Parking Garage lighting controls** (C405.2.7)



# Commercial

## Mechanical / Plumbing Changes:

Upgraded Efficiencies required

Increased Energy Recovery Systems (C403.7.4)

Upgraded Fan Efficiencies (C403.8.6)

Upgraded Service Water Heating efficiencies (C404.2.1)



# Commercial

## Changes to Renewables:

Solar Readiness

**Drawings must indicate the  
Solar-ready zone**

(Appendix CA)

Increased **Electric Vehicle (EV)  
Readiness** (C405.10) – progressive  
requirements to promote  
electrification





# Commercial

## Electric Vehicle Definitions:

### EV Ready:

A parking space provided with a dedicated branch circuit for EVSE, terminated at a receptacle at parking space.

### EV Capable:

A parking space provided with conduit from the panelboard to the parking space, and space in the panelboard, but wire is not run to space.

### EVSE Installed:

A parking space with EV supply equipment installed at the parking space.



# Commercial

## Electric Vehicle Requirements:

(now affect multiple occupancy types)

**Group R Occupancies:** (three or more dwelling units)

Table C405.10.1.

	Number of <i>EV Ready Spaces</i>	Number of <i>EV Capable Spaces</i>	Number of <i>EVSE Installed Spaces</i>
1 space	1	None	None
2 to 9 spaces	1	20% of spaces	None
10 or more spaces	15% of spaces	Remainder of spaces	5% of spaces

**Group A, B, E, I, M, S-2 Occupancies:**

Table C405.10.2.

	Number of <i>EV Ready Spaces</i>	Number of <i>EV Capable Spaces</i>	Number of <i>EVSE Installed Spaces</i>
1 space	1	None	None
2 to 9 spaces	1	1	None
10 or more spaces	10% of spaces	10% of spaces	5% of spaces

# Residential

## Lighting / Electrical Changes:

90% High Efficacy Lamps required  
(R404.1)

Increases to **Lighting Efficiency**-  
Interior and Exterior



# Residential

## Changes to Renewables:

Solar Readiness

**Drawings must indicate the  
Solar Ready Zone**  
(Appendix RA)

Increased **Electric Vehicle (EV)  
Readiness** in Multi-Family  
Residential (Table R404.2.2)



# Residential

## Electric Vehicle Requirements:

Group R Occupancies: (all dwelling units)

Table R404.2.2.

	Number of <i>EV Ready Spaces</i>	Number of <i>EV Capable Spaces</i>	Number of <i>EVSE Installed Spaces</i>
1 space	1	None	None
2 to 9 spaces	1	20% of spaces	None
10 or more spaces	15% of spaces	Remainder of spaces	5% of spaces



# 2018 Denver Green Code

# Committee & Public Proposals

## International Green Construction Code (Baseline for Denver Green Code)

- 18 members

### Process:

- Started with 2018 IgCC
- Tailored each section to Denver
- Balanced mandatory + optional requirements for Denver

	IgCC
<b>Members</b>	
Cheryl Hoffman	Hensel Phelps
Dane Sanders	Clayton Associates
Jeff Keeley	Craft Companies - HBA
Nate Huyler	Studio Completiva
Paul Hutton	Cunningham - AIA
Paul Kriescher	Lightly Treading
Penny Cole	DLR Group
Rachel Bannon-Godfrey	Stantec
Aaron Esselink	Xcel Energy
Jeff Tejral	Denver Water
<b>City and County of Denver</b>	
Chris Gleissner	Project Coordination Supervisor
Sonrisa Lucero	Office of Sustainability
David Carlson	CPD Electrical Plan Reviewer
Scott Prisco	CPD Building Official
Jim Turner	Public Works Engineer Supervisor
TC Bohnet	SUDP Plan Review Supervisor
Katrina Managan	DDPHE Climate Smart Buildings Team Lead
Christy Collins	Green Buildings Specialist

# Denver Green Code Purpose

- Denver community priorities
- Base code preview
- Stretch code
- Support NZE new buildings 2035
- Leadership



# Denver Green Code **Incentives**

- Five (5) commercial pilots
- Residential
- Recognition
- Expedited permitting



# Chapter 1 – Scope + Administration

## Commercial + Residential Compliance Options:

# 1

Denver  
Green Code



Photo Credit: International Code Council

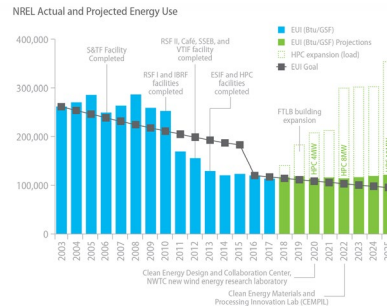
# 2

LEED  
Platinum



# 3

Net Zero  
Energy



# 4

Passive House +  
Non-energy DGC



# Chapter 4 – Residential Energy Efficiency



## New + Alterations

- Passive House
- Net Zero Energy + electric ( *\*new only* )
- ERI <50 + electric



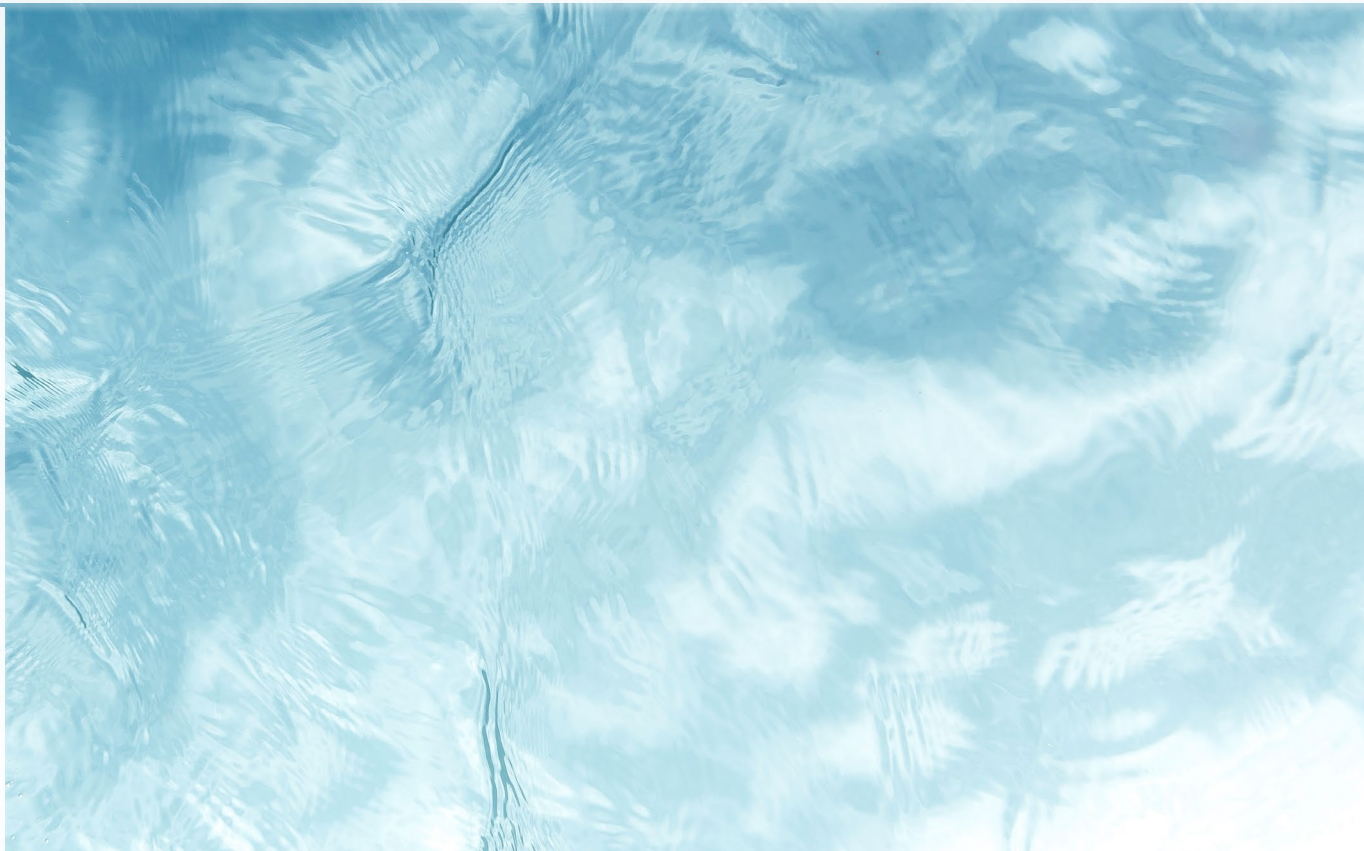
# Chapter 5 – Site Sustainability

- Preconstruction site evaluation
- Stormwater
- Heat island
- Light pollution
- Electric vehicles
- Site waste
- Soil amendment



# Chapter 6 – Water Use Efficiency

- Potable + nonpotable
- Site + building
- Measurement + data
- On-site water treatment
- Irrigation
- Plumbing fixtures
- Appliances
- Water features
- Specialties





# Chapter 7 – Energy Efficiency

Prescriptive  
or

Performance:  
10% better



# Chapter 7 – Energy Efficiency

- Opaque envelope + fenestration U-values
- Air infiltration rates
- Equipment efficiency
- Duct leakage + insulation
- Lighting
- Appliances





# Chapter 8 – Indoor Environmental Quality

- Ventilation
- Filtration
- Building pressure
- Humidity
- Soil-Gas



- Acoustics
- Glare
- Daylighting
- VOCs



# Chapter 9 – Materials + Resources

## Construction + waste diversion:

- Refrigerants
- Mercury
- Recyclables
- Regional
- Biobased
- Reporting





# Chapter 10 – Construction + Plans for Operation

## Construction

- Systems functional + performance testing
- Commissioning
- IAQ
- Waste diversion tracking


## Operations Plans

- Building water + energy
- Maintenance
- Transportation management
- Tenants



# Denver Green Code + Green Buildings Ordinance

**Satisfies**  
**GBO**  
**compliance**  
**requirement**

**DENVER**  
THE MILE HIGH CITY

NeighborhoodBusinessVisitingGovernmentOnline ServicesDirectory

Search

Denver Development Services

Home ProjectsCommercial ProjectsSmall Business ServicesHelp Me Find...Contractor LicensesContact Us

Denver Development Services / Commercial Projects / Green Buildings Ordinance

## DENVER'S GREEN BUILDINGS ORDINANCE

A Green Buildings Ordinance was approved by Denver City Council on October 29, 2018, and took effect Friday, November 2, 2018.

On November 15, 2018, Community Planning and Development (CPD) held an open house discussing the flexible options available for buildings under the new ordinance.

**Building Permits for Projects under the Green Buildings Ordinance**


- Download slide deck** (PDF)
- Download summary** (PDF)

Download the ordinance

**Rules and Regulations**

CPD and the Denver Department of Public Health & the Environment (DDPHE) have jointly adopted administrative rules and regulations for implementing the green buildings requirements.

- Read the rules and regulations** (PDF) - *final & adopted*





# Green Buildings Ordinance

Mandatory

New + existing buildings 25,000GSF+

20 Page Document

Voter initiated

Mainstream:  
Achievable for mainstream today

# Denver Green Code

Voluntary

All new buildings

IgCC Code Book

CPD + DDPHE initiated

Leadership:  
Achievable for motivated today

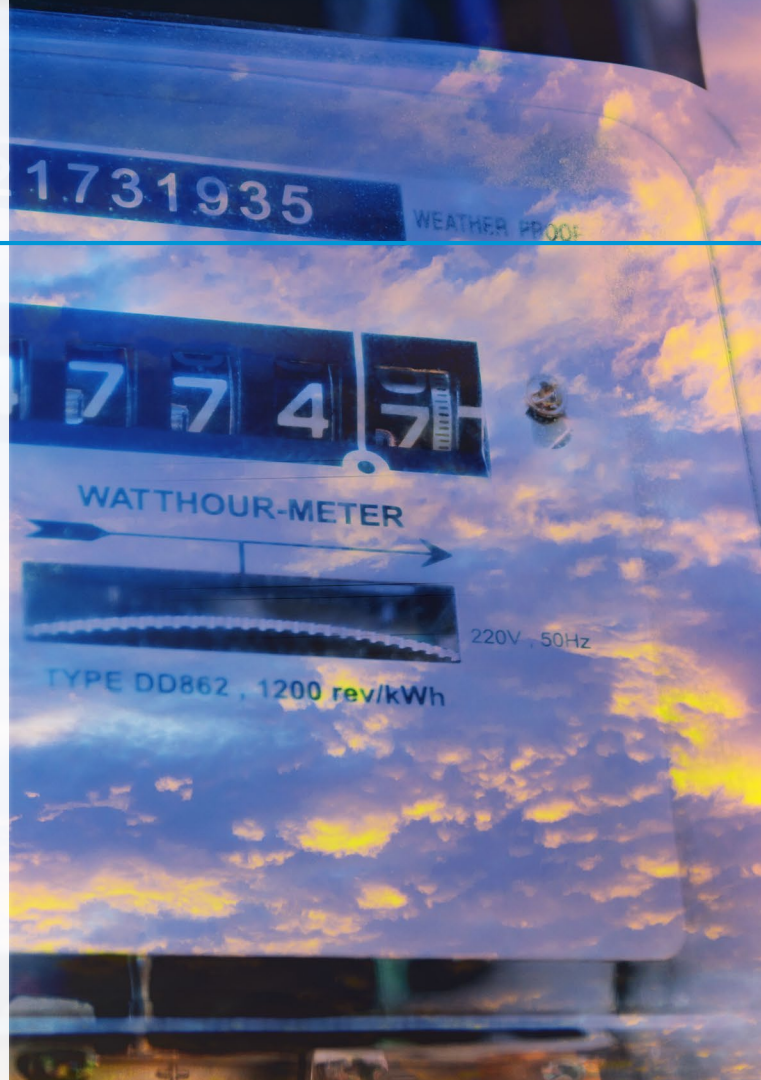


# Green Buildings Ordinance

## Compliance options (9)

### Focus:

- holistic:  
LEEDv4 Gold / Silver
- energy efficiency  
(12% / 10-15%)
- renewables
- green space



# Denver Green Code

## Compliance options (4)

### Focus:

- holistic:
  1. LEEDv4.1 Platinum
  2. DGC as written
- energy efficiency:
  3. net zero energy
  4. passive house + DGC non-energy chapters



# Green Buildings Ordinance

# Denver Green Code

## Goal

- honor the Green Roof Initiative vote
- modestly exceed code
- prioritize design goals
- address urban heat island, rain water management, green experiences, GHG emissions

## Goal

- base code preview for future success
- far exceed code
- introduce outcome focus
- zero net energy new buildings by 2035 as part of 80% reduced GHG emissions by 2050





Thank you!

Questions & Answers



**DENVER**  
COMMUNITY PLANNING  
& DEVELOPMENT



**DENVER**  
THE MILE HIGH CITY

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