

# City of Boulder

## *Building Performance Ordinance: One-time Lighting Upgrades*



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# Boulder Building Performance Ordinance

All attendees will be on mute for the duration of the presentation.

Please feel free to enter questions in the chat box or to raise your hand and ask at the allotted time at end of presentation.

This entire session will be recorded.

A video link and pdf of the presentation will be emailed to all participants

# Boulder Building Performance Ordinance

In support of community energy and climate goals, the Boulder City Council adopted the Boulder Building Performance Ordinance ([Ordinance No. 8071](#)) on Oct. 20, 2015.

Energy consumption from the Commercial & Industrial sector accounts for over 50 percent of the City of Boulder's **greenhouse gas (GHG) emissions footprint**.

The ordinance is a key initiative toward achieving the City of Boulder's **Climate Commitment** goal of an 80 percent reduction in community GHG emissions by 2050, which was adopted by City Council in Dec. 2016.

# Boulder Building Performance Ordinance

- 1) Annually rate and report (R&R) building energy consumption using [ENERGY STAR Portfolio Manager](#) (or approved alternative);
- 2) Perform energy assessments within three years of first energy use [reporting deadline](#) and every ten years thereafter;
- 3) Perform retro-commissioning (RCx) within three years of first reporting deadline and every ten years thereafter with cost effective RCx measures implemented within two years of the study; and
- 4) Implement one-time lighting upgrades to meet specific sections of the current [International Energy Conservation Code \(IECC\) requirements](#).

# Boulder Building Performance Ordinance

Buildings **50,000** sf  
and larger begin  
annual reporting

**2016**

Buildings **30,000** sf  
and larger begin  
annual reporting

**2018**

Buildings **20,000** sf  
and larger begin  
annual reporting

**2020**

# Boulder Building Performance Ordinance

## Efficiency Requirement Compliance Deadlines

Affected Buildings	Energy Assessment	Retro-commissioning	RCx Measure Implementation	Lighting Upgrade
City buildings $\geq 10,000$ sf*	May 1, 2019	May 1, 2021	May 1, 2023	May 1, 2021
Existing buildings** $\geq 50,000$ sf New buildings*** $\geq 10,000$ sf	June 1, 2019	June 1, 2021	June 1, 2023	June 1, 2021
Existing buildings $\geq 30,000$ and $< 50,000$ sf	June 1, 2021	June 1, 2023	June 1, 2025	June 1, 2023
Existing buildings $\geq 20,000$ and $< 30,000$ sf	June 1, 2023	June 1, 2025	June 1, 2027	June 1, 2025

\*City buildings  $\geq 5,000$  sf must complete lighting upgrades but are not subject to energy assessments or retro-commissioning.

\*\*Existing buildings that meet the definition of a Large Industrial Campus (three or more buildings, at least partially used for manufacturing, served by a central plant or single utility meter) have [custom requirements and deadlines](#) due to their unique nature.

\*\*\*Any commercial or industrial building for which an initial building permit was issued on or after January 31, 2014.

# Boulder Building Performance Ordinance

## Ordinance Benefits

- IMPROVE the quality of Boulder's commercial building stock
- SAVE MONEY through cost-effective efficiency measures
- HELP building owners understand and manage their buildings' energy use
- EDUCATE tenants and real estate professionals about building energy performance
- INFORM future energy programs and services
- MARKET buildings in compliance as efficient and high performing

# One-time Lighting Upgrade - Overview

The City of Boulder's Building Performance Ordinance requires that building owners implement one-time lighting upgrades within five years of the building's first R&R deadline

Lighting has been shown to be one of the most cost-effective efficiency improvements, saving businesses substantial amounts of money in monthly utility costs and reducing electricity usage by 30 percent or more.

Any exterior lighting upgrades must also comply with the [City of Boulder Outdoor Lighting Ordinance](#) passed in 2003 that seeks to prevent light trespass, reduce light pollution, reduce excessive glare, promote energy conservation, and improve safety and security.



# One-time Lighting Upgrade - Overview

Lighting Requirement	Code	Section
Occupancy Sensor Controls	2017 COBECC	C405.2.2.2
Time-switch Controls	2017 COBECC	C405.2.2.1
Exterior Lighting Controls	2017 COBECC	C405.2.4
Interior Lighting - Power	2017 COBECC	C405.5
Exterior Lighting - Power	2012 IECC	C405.6

[Click here to link to 2017 City of Boulder Energy Conservation Code](#)

[Click here to link to 2012 International Energy Conservation Code](#)

# One-time Lighting Upgrade – Documentation Overview

	Fully Upgraded and Permitted Lighting Already in Place (with a permit issued after March 1, 2014)	No Upgrade Required	Partially Upgraded or Unsure	Permit Unavailable
<b>Outdoor Lighting</b>				
<b>Power</b>	COMCheck Certification*	COMCheck Certification*	COMCheck Certification*	COMCheck Certification*
<b>Controls</b>	Certification of controls scheme using Lighting Submission Form	Certification of controls scheme using Lighting Submission Form	Certification of controls scheme using Lighting Submission Form	Certification of controls scheme using Lighting Submission Form
<b>Interior Lighting</b>				
<b>Power</b>	Submit COBECC permit number or copy of Certificate of Occupancy	Complete “Interior Lighting Compliance Form”	Complete “Interior Lighting Compliance Form”	Complete “Interior Lighting Compliance Form”
<b>Controls</b>	N/A	Declare controls scheme per room on “Interior Lighting Compliance Form”	Declare controls scheme per room on “Interior Lighting Compliance Form”	Declare controls scheme per room on “Interior Lighting Compliance Form”
<b>Occupancy Sensors</b>	N/A	Certification on -“Interior Lighting Compliance Form”	Certification on “Interior Lighting Compliance Form”	Certification on “Interior Lighting Compliance Form”

# One-time Lighting Upgrade – Compliance Pathway

1. Determine whether or not your building is on the [Affected Buildings List](#) for One-time Lighting Upgrades.
2. Find a qualified lighting professional to work with, if needed. Refer to the [Lighting Service Providers page](#) for more information and to find a [Pre-screened Lighting Vendor](#) on our list.
3. Conduct an initial lighting evaluation/audit. Use the [Interior Lighting Compliance Form](#) and/or [ComCheck Certification](#) for reference.
4. Upgrade necessary interior and exterior lighting. Obtain a [BPO Electrical Permit](#) if necessary.
5. Work with your contractor to completely fill out the required [Interior Lighting Compliance Form](#) and [2012 IECC ComCheck](#) for submittal.
6. Submit your [Interior Lighting Compliance Form](#) and [ComCheck certification](#) to the City of Boulder via our [online Submission Form](#)!

# One-time Lighting Upgrade – NEW Interior Lighting Compliance Form

**Building Performance Ordinance  
Interior Lighting Compliance Checklist**

Project Address:



2017  
City of Boulder  
Energy Conservation Code

Date:

	<p><b>Directions:</b></p> <ol style="list-style-type: none"> <li>1. List all unique space types per Table C805.5.2[1] in the 2017 City of Boulder Energy Conservation Code. Select space type from the drop down menu.</li> <li>2. Choose Lighting Controls from drop down menu.</li> <li>3. Choose Light Reduction Controls from drop down menu.</li> <li>4. Choose Automatic Time Switch from drop down menu.</li> <li>5. Choose Occupancy Sensor from drop down menu.</li> <li>6. Choose Daylight Controls from drop down menu.</li> <li>7. Indicate ceiling height for atriums only.</li> <li>8. Indicate space square footage.</li> <li>9. List all proposed lighting fixtures including existing-to-remain fixtures.</li> <li>10. Identify number of fixtures per space.</li> <li>11. For watts per fixture enter the luminaire wattage for installed lamp and ballast using manufacturer's data.</li> </ol>
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INTERIOR LIGHTING

		ROOM Number	CORCC Space Type	Interior Lighting Controls	Light Reduction Controls	Automatic Time Switch	Occupancy Sensor	Daylight Controls	Height ATRIA ONLY (feet)	Space SQ FT	CORCC LPD (w/FP)	Allowable Watts	Fixture Type	Number of Fixtures	Watts per Fixture	Designed Watts	Designed LPD (w/FP)		
												0							0

(a) If rows as needed  
Total Designed Watts must be less than Total Allowable Watts

# One-time Lighting Upgrade – Resources

1. [Efficiency Requirements How-to Guide](#)
2. [Overall Lighting Compliance Checklist](#)
3. [Interior Lighting Compliance Form](#) and [ComCheck 2012 IECC Certification](#)
4. City of Boulder's [Pre-screened Lighting Vendor List](#)
5. Exceptions to Requirements: [IECC Exceptions](#) and [COBECC Exceptions](#)
6. BPO Help Desk – [BPOHelpDesk@bouldercolorado.gov](mailto:BPOHelpDesk@bouldercolorado.gov) or 844-811-8785
7. [Exemption Request](#) and [Exemption Guide](#)
8. [Deadline Extension Request](#)
9. [Rebates and Incentives/Trainings](#)

# One-time Lighting Upgrade – Frequently Asked Questions

1. How do I know if my building is currently in compliance or not?
2. Does this mean I have to change out all my building's CFLs to LEDs?
3. How much will this cost? Isn't this going to be expensive?
4. How do I know which lighting contractor to work with?
5. I've already done some lighting upgrades in my building. How do I know if I'm compliant or not?
6. Will I trigger the entire City of Boulder Energy Conservation Code if I try to permit my lighting upgrades?
7. Do I have to use a lighting contractor from the city's Pre-screened Lighting Vendor List?
8. Do I have to go through EVERY space in my building to complete the Interior Lighting Compliance Form?
9. What is Dark Skies and do I have to comply with that as well?



# Questions?

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