

REDUCING GREENHOUSE GAS EMISSIONS IN COLORADO: WHAT WILL IT TAKE TO COMPLY WITH NEW STATE LAWS?

The mission of the Common Sense Policy Roundtable (CSPR) is to research issues that impact the future of the Colorado economy and individual economic opportunity.

During the 2019 session of the Colorado General Assembly, the legislature passed numerous bills designed to aggressively reduce the production of greenhouse gas emissions in Colorado. Perhaps most notably, **HB19-1261** sets greenhouse gas pollution reduction targets for 2025, 2030, and 2050, using the year 2005 as a baseline.

HB19-1261 was introduced by Speaker KC Becker and Representative Dominique Jackson in the House of Representatives, and co-sponsored in the Senate by Faith Winter and Angela Williams. The bill states that Colorado ***“shall strive to increase renewable energy generation and eliminate statewide greenhouse gas pollution by the middle of the twenty-first century.”***¹

The bill passed on May 1, 2019. Though Governor Polis had previously indicated disagreements with Speaker Becker over whether government mandates were the most appropriate way to achieve greenhouse gas reduction targets, the two broadly agree on the need to do so.² On May 30, Governor Polis signed HB-1261 and several other climate and energy bills. He separately released his administration’s plan to achieve 100% renewable energy by 2040.

The primary objective of HB19-1261 is to set new statewide greenhouse gas emission targets, set as a percentage to be reduced from 2005 levels.³

- 26% reduction by 2025
- 50% reduction by 2030
- 90% reduction by 2050

The bill grants new authority to the Governor-appointed commission that oversees Colorado’s air quality regulatory agency to design a regulatory framework to achieve these goals and reach compliance.

- The Air Quality Control Commission (AQCC) in the Colorado Department of Public Health & Environment (CDPHE) must adopt rules and regulations for statewide greenhouse gas pollution reduction. These rules must track emission sources and strategies on an ongoing basis, with a report due to the General Assembly every odd-numbered year. The report must provide updates on progress made toward goals as well as additional steps that can or should be taken.
- The AQCC is required to “consult with the Public Utilities Commission (PUC) in the Department of Regulatory Agencies in designing, implementing, and enforcing programs and requirements.”

1 https://leg.colorado.gov/sites/default/files/documents/2019A/bills/2019a_1261_enr.pdf

2 <https://www.coloradoindependent.com/2019/03/20/colorado-paris-climate-greenhouse-gas-mandates/>

3 https://leg.colorado.gov/sites/default/files/documents/2019A/bills/2019a_1261_enr.pdf

In the creation and adoption of new rules, AQCC is required to consider the following factors:

- 1) Benefits of compliance, including health, environmental, and air quality
- 2) Costs of compliance
- 3) Economic and job impacts and opportunities
- 4) Time necessary for compliance
- 5) The relative contribution of each source or source category to statewide greenhouse gas pollution based on current data updated at reasonable intervals as determined by the commission

Other Climate Change Related Bills Passed during 2019 Legislative Session

Along with HB19-1261, several other significant bills were passed relating to efforts to reduce greenhouse gas emissions.

Other climate change-related bills passed	
Bill #	Purpose
SB19-096	Requires and makes an appropriation for the Air Quality Control Commission (AQCC) to create rules by June 1, 2020, "requiring greenhouse gas-emitting entities to monitor and publicly report their emissions." Also requires the AQCC to "update the statewide inventory of greenhouse gas emissions by sector, no less than every two years," up from the current five years, and include a forecast for every five-year period through 2045. The inventory must be available on the AQCC website, with data maintained at least through 2030.
SB19-077	"Authorizes public utilities to apply to the Public Utilities Commission to provide electric vehicle charging systems and allows for cost recovery" ⁴ to incentivize electric vehicle infrastructure.
SB19-236	Addresses the reauthorization and scope of the Public Utilities Commission (PUC) as well as its functions. Also creates greenhouse gas emissions reduction targets and implementation mechanisms for Xcel Energy.
HB19-1003	Expands the size and availability of community solar gardens.
HB19-1159	Modifies and extends the income tax credit for electric and plug-in hybrid electric passenger vehicles and trucks.
HB19-1188	Requires Legislative Council staff to provide information regarding any potential greenhouse gas emissions impact in every bill's fiscal note.
HB19-1198	Expands the use of the Electric Vehicle Grant Fund.
HB19-1231	Phases in updated water and energy efficiency standards for "a list of consumer and commercial appliances and other products." ⁵
HB19-1260	Requires counties and municipalities to "adopt and enforce one of the three most recent versions of the international energy conservation code" ⁶ in building code updates or additions.
HB19-1272	Permits government housing authorities to voluntarily participate in the Colorado New Energy Improvement District (NEID) program.
HB19-1314	Creates the Just Transition Office to provide relief for unemployed coal plant workers in anticipation of a major downsizing of the coal industry.

4 https://leg.colorado.gov/sites/default/files/documents/2019A/bills/fn/2019a_sb077_r1.pdf

5 <https://leg.colorado.gov/bills/hb19-1231>

6 https://leg.colorado.gov/sites/default/files/documents/2019A/bills/fn/2019a_hb1260_00.pdf

Previous Actions Taken to Reduce Greenhouse Gas Emissions

Prior to the passage of **HB19-1261**, various executive orders and reports issued by the state of Colorado under previous administrations and legislative sessions had established greenhouse gas reduction targets. These actions include:

- **Executive Order D 004-08**, issued by Governor Bill Ritter in 2008, which originally established a goal to reduce greenhouse gas emissions by 20% from 2005 levels by 2020 and mandated the publication of a Colorado Greenhouse Gas Inventory every five years.⁷ The 2014 Greenhouse Gas Emissions Inventory estimated that emissions would be at approximately 109% of 2005 levels by 2020.
- Colorado **Executive Order D 2017-015**, issued by Governor John Hickenlooper in 2017, which called for collaboration between state agencies and municipalities in order to reduce greenhouse gas emissions and boost energy efficiency.⁸ It also established the following emission reduction goals:
 - 26% reduction in greenhouse gas emissions from 2005 levels by 2025
 - 25% reduction in carbon dioxide emissions from the electricity sector by 2025, as compared to 2005 levels
 - 35% reduction in carbon dioxide emissions from the electricity sector by 2030, as compared to 2012 levels
 - Achieve electricity savings of 2% of total electricity sales per year by 2020 through cost-effective energy efficiency
- The **Colorado Climate Plan**, first developed in 2007 and most recently updated in 2018, which “was developed collaboratively by ... state agencies and [other] stakeholders ... [and] includes strategies and recommendations for reducing greenhouse gas emissions in all sectors of the economy.”⁹

HB19-1261 differs from previous climate change-related actions in that it gives greater legal authority to the AQCC that is not established by executive orders. The commission now has authority from the legislature to promulgate rules that fall within its authority under CRS Title 25 Article 7 to help achieve compliance with new reduction targets.

7 <http://rockymountainclimate.org/images/2008ColoradoExecOrderGHGs.pdf>

8 https://web.archive.org/web/20180927154044/https://www.colorado.gov/governor/sites/default/files/executiveorders/climate_eo.pdf

9 http://leg.colorado.gov/sites/default/files/documents/2018A/bills/fn/2018a_hb1274_00.pdf

Gauging the Impact of Greenhouse Gas Emission Targets in HB19-1261

While the 2019 edition of the Colorado Department of Public Health & Environment’s Greenhouse Gas Inventory Report is not yet available, we can see from the 2014 update that achieving the goals of HB19-1261 would present a substantial reduction from latest emissions projections.

Greenhouse gas emissions, measured by million metric tons of carbon dioxide equivalent (MMT_{CO₂e}), were estimated to have **increased by approximately 7% from 2005 to 2010**. Million metric tons of carbon dioxide equivalent or MMT_{CO₂e} is a measurement unit used by the Environmental Protection Agency (EPA) to “represent an amount of a [greenhouse gas] whose atmospheric impact has been standardized to that of one unit mass of carbon dioxide (CO₂), based on the global warming potential (GWP) of the gas.”¹⁰

In the 2030 projection, greenhouse gas emissions were estimated to **increase approximately another 8%, for a total of 15% higher than 2005 levels. This means that to meet the 2030 target under HB19-1261, total emissions would need to fall 65% from the last projection, as seen in the table below.**

CDPHE Greenhouse Gas Emissions Inventory Levels Measured by Million Metric Tons of Carbon Dioxide Equivalent (MMT _{CO₂e})			
Emission Sectors	2005	2010	2030 Projection
Electric Power	40	40	37
Transportation	31	30	33
Residential, Commercial & Industrial Fuel Use	25	27	29
Natural Gas and Oil Systems	7	10	17
Agriculture	9	9	8
Coal Mining & Abandoned Mines	7	8	7
Industrial Processes	3	4	6
Waste Management	2	3	4
Total MMTCO₂e Output	123	131	142
% of emissions generated relative to 2005	100%	107%	115%

*Values may not sum due to rounding

10 <https://www.epa.gov/sites/production/files/2014-12/documents/ghgcalculatorhelp.pdf>

Calculating the Percentage of Emissions Reductions in Future Years

The authority of AQCC is primarily in regulating stationary sources of emissions, which excludes transportation. Various other legislative and executive actions intended to reduce emissions from transportation have been taken. The exact scope of the changes that could be implemented is beyond the content of this brief, though still important to consider when discussing the potential impacts.

The Common Sense Policy Roundtable website (www.commonsempolicyroundtable.org) features a calculator in which the user inputs assumptions for the percentage of emission reductions for each emission sector to see what it would take to hit the new 2030 goal. The 2030 projection is expected to be updated by the state with the next release of the emissions inventory before the end of the year. When that occurs, the calculator will be adjusted accordingly.

To give some perspective on how significant the reductions must be, HB19-1261 also states a goal to reduce emissions from production of Electric power by 80%. With all other emission sectors outputs held constant, this would only reduce emissions to approximately 90% of 2005 levels, falling well short of the 50% reduction target.

In fact, **if emissions from electric power and transportation, the two largest sources of emissions, were to be reduced to zero by 2030, the state of Colorado would still only be at approximately 58% of emissions relative to 2005 levels.**

Reducing emissions in all sectors by 50% would have an identical 42% reduction, still falling short of the 2030 target outlined in HB19-1261.

While reducing emissions from natural gas and oil systems as well as coal mining are frequently mentioned in the context of political implications and solutions to reduce emissions, CSPR finds that completely eliminating emissions from both of these sectors, in addition to reducing Electric Power emissions by 80%, would only reduce emissions levels by 2030 to 71% of 2005 levels.

CSPR believes in the importance of well-informed policy development and an educated electorate. The purpose of this brief is to encourage discussion and create awareness of potential future policies that could impact the economic opportunities and prosperity for all Coloradans.