

# Regional profile

## Colorado, USA



### Overview

	Colorado	USA
Size (km <sup>2</sup> )	269,837	9,15 million
Population	5.8 million	328 million
Population per km <sup>2</sup>	21	34
GDP per capita	€52,333	€52,303
Median household income	€60,134	€52,434
Per capita income	€49,677	€28,507
Unemployment rate	2.5%	3.6%

Data on population as of 2019 and population density as of 2010 from U.S. Census Bureau (2019), on Colorado GDP per capita as of 2018 from Open Data Network (2018), on U.S. GDP per capita as of 2018 from World Bank (2018), on median household income as of 2018 from U.S. Census Bureau (2018), on Colorado unemployment rate as of 2020 from U.S. Bureau of Labor Statistics (2020), and on U.S. unemployment rate as of 2020 from U.S. Bureau of Labor Statistics and U.S. Department of Labor (2020).



### Electricity generation mix

	Natural Gas	Coal	Renewables	Nuclear
Colorado	30.9%	45.5%	23.7%	-
USA	38.4%	23.5%	17.5%	19.7%

Data on electricity generation by source in U.S. and Colorado as of 2019 from U.S. Energy Information Administration (2020).



### Regional coal industry

6 active mines

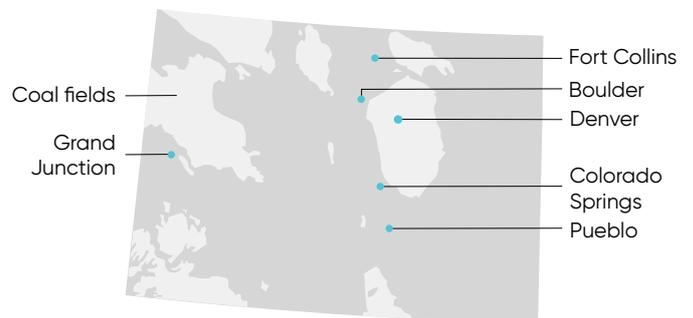


producing 14 million short tonnes of coal

providing 1,258 jobs in Colorado

7 coal power plants

Data on active coal mines, coal production, and coal-mining jobs in Colorado as of 2018 from National Mining Association (2019), and on coal power plants in Colorado as of 2020 from U.S. Energy Information Administration (2020).



### Region highlights

Colorado has established itself as a **national leader** in renewable energy production and climate change mitigation.

In Colorado, plans for a just transition to a **low-carbon economy** have won the support of a broad coalition of stakeholders.

Colorado Governor Jared Polis has developed one of the country's most ambitious plans to combat **climate change** at the state level.



### Interesting fact

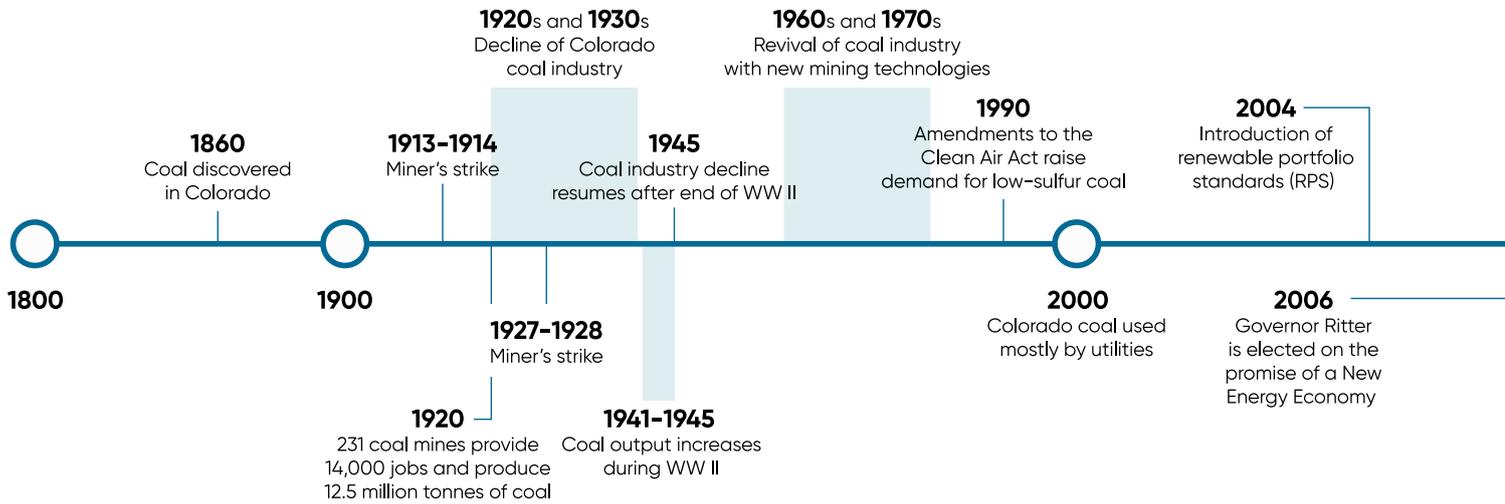


Colorado's Renewable and Clean Energy Challenge provides \$12 million (€11 million) in grants for projects that can help the state achieve its target of 100% renewable energy by 2040.

*Keywords:*

*Colorado Energy Impact Assistance Act, voluntary securitisation, Just Transition Office, renewable portfolio standard, New Energy Economy, Renewable Energy Challenge, community energy*

## Colorado in transition: key events in the coal phase-out



Colorado is one of eight ‘Mountain States’ in the western region of the United States.<sup>1</sup> Its varied natural landscape encompasses arid deserts, sun-baked canyons, shortgrass prairies, and jagged mountain peaks. The towering, snow-capped Rocky Mountains cover half of its land area. Much of the state is sparsely populated, with a density of 21 people per square kilometre – considerably below the national average.<sup>2</sup> The population is growing quickly, however, and could reach 8.5 million by 2050, an increase of more than 50% above 2015 levels.<sup>3</sup>

Over the past several decades, the state’s rural population has gradually decreased while urban areas have thrived: rural areas were home to nearly 50% of Colorado’s population in the 1940s, but only 14% in 2010.<sup>4</sup> Economic, political, and cultural differences between the state’s rural and urban areas prompted 11 counties on the Eastern Plains to initiate a ‘secession movement’ in 2012.<sup>5</sup> Although the campaign failed at the ballot box, the initiative demonstrated the need

to address widening disparities between the regions.<sup>6</sup>

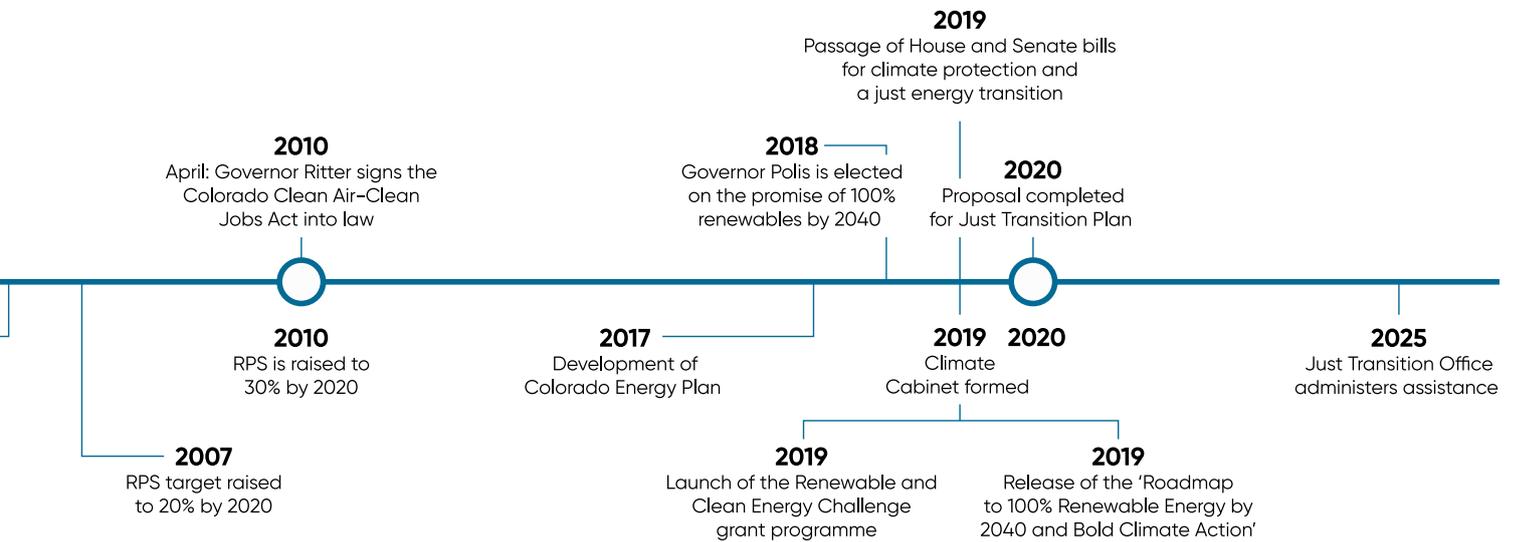
Colorado has a diverse economy, with major industries including finance and real estate, professional and business services, agriculture, and tourism.<sup>7</sup> Average per-capita income in Colorado is slightly above the national average. Colorado’s economy is among the nation’s strongest; for the past several years, the annual increase in the state’s real GDP has exceeded the national average.<sup>8</sup> Although the unemployment rate of 2.5% is relatively low, roughly 10% of the population lives below the poverty line.<sup>9</sup>

Due to its diverse geography and geology, Colorado is rich in both fossil fuel and renewable energy resources. Sources of renewable energy in the state include strong winds on the Eastern Plains and mountain crests; solar resources, especially along the southern border; headwaters of major rivers, including the Rio Grande; and substantial deposits of oil, natural gas, bituminous coal, sub-bituminous coal, and lignite.<sup>10</sup>

Currently, Colorado’s state government has a Democratic ‘trifecta’, with a Democratic governor and Democrat-controlled Senate and House of Representatives.

### Coal production in Colorado

Colorado was an important centre for coal mining from the 1860s until the early 20th century. Many of its small towns were built around coal mines, especially in mountainous parts of the state. Coal production was a key driver of economic development in the region.<sup>11</sup> In 1920, Colorado’s 231 coal mines provided roughly 14,000 jobs and produced 12.5 million tonnes of coal. However, beginning in the early 20th century, the nation’s increased exploitation of other fuels – particularly petroleum and natural gas – and the decline of Colorado’s metal mining industry led to a significant decrease in coal consumption. These developments severely reduced the state’s coal output.<sup>12</sup> Since then, coal production



has fallen steadily, despite an increase in demand for Colorado’s low-sulphur coal following passage of the Clean Air Act in 1990.<sup>13</sup> Between 2017 and 2018, the state’s coal production plummeted by almost seven percent.<sup>14</sup>

In Colorado, as in other US states, the decline of the coal industry is especially problematic because the property tax on mining sites constitutes a large share of tax revenue for coal communities. Funds for local schools and medical centres have cratered due to the reduction in mining activities. In addition, many coal towns struggle with the emigration of young people and families in search of employment opportunities.<sup>15</sup>

Today, Colorado is the 11th-largest coal producer in the US, with 1,258 coal workers directly employed in four underground and two surface mines producing bituminous and sub-bituminous coal.<sup>16</sup> The state’s coal production, which exceeds 14 million short tonnes, accounts for 2% of US coal production and is mainly used

for power generation in Colorado and other US states; one fifth is exported to other countries.<sup>17</sup>

The share of renewable energy sources in the Colorado’s energy mix has grown significantly over the past two decades. Renewable sources accounted for only 2% of the state’s net elec-

tricity generation in the early 2000s; this proportion grew to 25% in 2017, largely due to the increased integration of wind power.<sup>18</sup> However, coal and natural gas remain the primary fuels for electricity generation, with half of the state’s net electricity generation derived from coal-fired power plants and nearly 25% from natural gas.<sup>19</sup>



*In 2019, solar jobs in Colorado increased by nearly 5% to a total of more than 7,000 employees. Source: Kohler (2020).*

## Energy-transition opportunities and challenges

In recent years, various measures introduced at national and state levels have attempted to address the economic, political, and cultural challenges resulting from the coal industry's downturn.<sup>20</sup> In many areas, renewable energy has become a crucial element in promoting (rural) economic development and climate protection. Colorado has established itself as a pioneer in renewable energy production and climate change mitigation in the US.

In 2004, Colorado became the first state to pass a voter-led amendment instituting a renewable portfolio standard (RPS).<sup>21</sup> The RPS requires electricity utilities to obtain a minimum percentage of power from renewable energy sources in general and from solar energy specifically.<sup>22</sup> Despite opposition from the state's electricity providers, the ballot initiative ultimately succeeded by linking clean energy with rural development and job creation. By connecting these priority areas, the initiative won the support of Democrats, Republicans, renewable energy businesses, and voters from communities that stood to gain from the new programme.<sup>23</sup>

In 2006, gubernatorial candidate Bill Ritter, Jr., built on this momentum, winning the governorship with his pledge to build a New Energy Economy.<sup>24</sup> Between 2007 and 2011, Governor Ritter promoted various legislative measures and organisational and administrative changes to establish Colorado as a national clean energy leader and promote (rural) economic development.<sup>25</sup> In 2010, the Ritter ad-



**Colorado House Bill 1261**, passed in 2019, establishes new targets for statewide greenhouse gas emissions, including a **50% reduction by 2030** and a **90% reduction by 2050** relative to 2005 levels.

*Source: Colorado General Assembly (2019).*

ministration increased the renewable energy standard to 30% and passed the Colorado Clean Air-Clean Jobs Act (CACJ), requiring large utilities to 'replace, retrofit, or retire' 900 MW of coal-fired power generation by 2018, with natural gas or lower-emission fuels as substitutes.<sup>26</sup>

In 2017, Xcel Energy, the state's largest utility, collaborated with various stakeholder groups and Colorado's Public Utilities Commission to prepare a comprehensive energy plan that would retire two coal-fired plants and replace them with wind and solar power.<sup>27</sup> The resulting Colorado Energy Plan gained the support of environmental and ratepayer advocacy groups, construction and labour associations, and renewable energy developers.<sup>28</sup>

The People's Climate Movement (PCM) was formed in February 2018 to mobilise popular support for policies mitigating climate change and stimu-

lating job creation. The movement now operates state-wide to achieve a 'Just and Equitable Transition into a renewable energy economy'.<sup>29</sup> PCM coalition partners include community, youth, environmental, and faith-based organisations, as well as Colorado AFL-CIO, a trade union that represents 180 affiliate unions and more than 130,000 workers in Colorado.<sup>30</sup>

In January 2019, Jared Polis became governor of Colorado after campaigning on a promise to transition to 100% renewable energy by 2040.<sup>31</sup> In May 2019, the Polis administration released a Roadmap to 100% Renewable Energy by 2040 and Bold Climate Action, which established targets, policies, and initiatives to increase renewable energy production. The administration also worked with the state legislature to enact a package of 14 bills supporting climate change mitigation and the energy transition.<sup>32</sup> The bills garnered support from a diverse coalition, including trade unions, environmentalists, and politicians at various levels of government.<sup>33</sup> Governor Polis created a Climate Cabinet to assess the effects of the new measures and ensure that state agencies cooperate to meet emissions-reduction targets and renewable energy goals.<sup>34</sup>

The new bills contain multiple measures to assist communities affected by the transition. Notably, the Just Transition from Coal-based Electrical Energy Economy Act created a Just Transition Office, which will begin to administer transition assistance in 2025 as part of the Department of Labor and Employment. Transition assistance will include financial benefits and retraining programmes for coal workers, as well as grants to jump-start new economic activities in coal communities.<sup>35</sup>



World's largest wind tower factory, Pueblo, Colorado. [Source: Jeffrey Beall, CC BY 4.0.](#)

The Act also formed a Just Transition Advisory Committee to guide the administration through the implementation process. Reflecting the diversity of energy-transition stakeholders, the Committee includes members of the state government (e.g. from the governor's office, the Department of Labor, and the Senate) and local representatives (e.g. coal workers, members of disproportionately affected communities, and experts on retraining). The Act allocated approximately \$165,000 (€149,800) of additional funds to the Committee to complete a Just Transition Plan by 7 July 2020.<sup>36</sup>

The Colorado Energy Impact Assistance Act (HB19-1037), introduced in 2019, proposes a financing mechanism to accelerate a just energy transition. This mechanism, known as 'voluntary securitisation', would provide coal communities with additional financial assistance, while incentivising utilities to close coal mines and lowering costs as much as possible for ratepayers.<sup>37</sup>

In 2019, Colorado's Department of Local Affairs launched a Renewable and Clean Energy Challenge grant programme to encourage innovative approaches to a just transition.<sup>38</sup> The grant finances the planning and implementation of projects that address the needs and challenges of local governments in order to promote renewable energy, energy efficiency, and energy conservation.<sup>39</sup>

Pueblo, a city in southwestern Colorado, provides a model for successful renewable energy development that fosters economic growth, business development, and job creation. For much of the city's history, the local economy depended on coal and steel production. However, as the coal industry's success began to fade, Pueblo charted a new path forward, aiming to become a low-carbon city and regional hub for renewable energy production. Support for the transition grew as a result of grassroots campaigns, local government initiatives, Xcel's Color-

ado Energy Plan, and the development of the world's largest wind tower factory in Pueblo.<sup>40</sup> The city, which has already introduced initiatives like community solar gardens, plans to use its abundant solar resources to replace an area coal mine slated to shut down a decade earlier than planned.<sup>41</sup> In 2017, Pueblo pledged to cover 100% of its energy needs with renewables by 2035, becoming the third Colorado city to make such a commitment.<sup>42</sup> The transition is expected to create new local jobs, boost personal income, and increase regional GDP.<sup>43</sup>

# Best practices for a just transition

The Institute for Climate Protection, Energy and Mobility (IKEM) is currently researching transition processes in coal-intensive regions around the world to develop a roadmap for the energy transition in eastern Germany and a toolbox with best practices to promote a just transition in coal-intensive regions. Insights from a broad range of stakeholders are crucial to our research in case study regions, which include Nord-Pas de-Calais, France; Western Macedonia, Greece; Southwestern Pennsylvania and Colorado, USA; and Lusatia, Germany. This ‘Just Transition Study’ is part of the broader WindNODE project and is sponsored by the German Ministry for Economic Affairs and Energy (BMWi) through the programme ‘SINTEG – Smart Energy Showcases’.

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## Sources:

### Infographics

- Bureau of Labor Statistics, U.S. Department of Labor. “The Employment Situation: February 2020,” 2020. [https://www.bls.gov/news.release/archives/empisit\\_03062020.htm](https://www.bls.gov/news.release/archives/empisit_03062020.htm).
- Colorado Department of Local Affairs. “Renewable and Clean Energy Challenge.” Accessed March 10, 2020. <https://cdola.colorado.gov/renewable-and-clean-energy-challenge>.
- Colorado General Assembly. Climate Action Plan to Reduce Pollution. HB19-1261. 2019 regular session. Introduced in General Assembly March 21, 2019. <https://leg.colorado.gov/bills/hb19-1261>.
- Kohler, Judith. “Colorado Sees Solar Jobs Rise 5% as the Industry’s Workforce Grew Nationwide in 2019.” The Denver Post, February 19, 2020. <https://www.denverpost.com/2020/02/19/colorado-solar-jobs-rise-national-workforce/>.
- National Mining Association. “EIA Coal Mine Operator Employment by State, Region and Method of Mining, 2018,” October 2019. [https://nma.org/wp-content/uploads/2018/11/coal\\_employment\\_ug\\_s\\_2018.pdf](https://nma.org/wp-content/uploads/2018/11/coal_employment_ug_s_2018.pdf).
- ———. “U.S. Coal Production and Number of Mines by State and Coal Type, 2018,” 2019. [https://nma.org/wp-content/uploads/2019/10/coal\\_production\\_mines\\_by\\_coaltype\\_2018-1.pdf](https://nma.org/wp-content/uploads/2019/10/coal_production_mines_by_coaltype_2018-1.pdf).
- Open Data Network. “GDP per Capita Data for Colorado.” Accessed March 12, 2020. [https://www.opendatane트워크.com/entity/0400000US08/Colorado/economy.gdp.per\\_capita\\_gdp?year=2014&ref=related-peer](https://www.opendatane트워크.com/entity/0400000US08/Colorado/economy.gdp.per_capita_gdp?year=2014&ref=related-peer).
- U.S. Bureau of Labor Statistics. “Colorado Economy at a Glance,” 2020. <https://www.bls.gov/eag/eag.co.htm>.
- U.S. Census Bureau. “QuickFacts: Colorado,” 2019. <https://www.census.gov/quickfacts/fact/table/US,CO/PST045219>.
- U.S. Energy Information Administration. “Colorado: State Profile and Energy Estimates: Overview.” Accessed March 2, 2020. <https://www.eia.gov/state/?sid=CO>.
- ———. “Colorado Profile State Profile and Energy Estimates: Profile Data,” 2020. <https://www.eia.gov/state/data.php?sid=CO>.
- ———. “What Is U.S. Electricity Generation by Energy Source? - FAQ,” 2020. <https://www.eia.gov/tools/faqs/faq.php?id=427&t=3>.
- World Bank. “GDP per Capita (Current US\$): United States.” Accessed March 3, 2020. <https://data.worldbank.org/indicator/NY.GDP.PCAP.CD?locations=US>.

## Text

- 1 Oishimaya Sen Nag, “The Eight Mountain States of the United States,” WorldAtlas, January 12, 2018, <https://www.worldatlas.com/articles/the-eight-mountain-states-of-the-united-states.html>.
- 2 U.S. Census Bureau, “QuickFacts: Colorado,” 2019, <https://www.census.gov/quickfacts/fact/table/US,CO/PST045219>.
- 3 Colorado State Demography Office, “Population Totals for Colorado and Sub-state Regions,” Colorado Department of Local Affairs, accessed March 2, 2020, <https://demography.dola.colorado.gov/population/population-totals-colorado-substate/>; Kevin Hamm, “Colorado’s Population Could Increase by Nearly 3 Million People by 2050, According to Forecast Numbers,” The Denver Post, July 28, 2017, <https://www.denverpost.com/2017/07/28/colorado-population-forecast/>.
- 4 Kevin Simpson and Jennifer Brown, “Colorado Divide: Seismic Shifts Create Rural-urban Chasm in the Culture, Economy and Politics of the State,” The Denver Post, 2018, <https://www.denverpost.com/2017/07/21/colorado-divide-rural-urban-chasm/>; Colorado State Demography Office, “Population Totals for Colorado and Sub-state Regions.”
- 5 Monte Whaley, “51st State Question Answered ‘No’ in 6 of 11 Counties Contemplating Secession,” The Denver Post, November 5, 2013, <https://www.denverpost.com/2013/11/05/51st-state-question-answered-no-in-6-of-11-counties-contemplating-secession/>; Simpson and Brown, “Colorado Divide.”
- 6 Simpson and Brown, “Colorado Divide.”
- 7 U.S. Energy Information Administration, “Colorado State Profile and Energy Estimates: Analysis,” 2019, <https://www.eia.gov/state/?sid=CO>.
- 8 Kate Watkins, “Economic & Revenue Forecast. Presentation to the Joint Budget Committee September 20, 2018,” [https://leg.colorado.gov/sites/default/files/lcs\\_september\\_2018\\_forecast\\_presentation.pdf](https://leg.colorado.gov/sites/default/files/lcs_september_2018_forecast_presentation.pdf).
- 9 U.S. Census Bureau, “U.S. Census Bureau QuickFacts.”
- 10 U.S. Energy Information Administration, “Colorado State Profile and Energy Estimates: Analysis.”
- 11 James E. Fell and Eric Twitty, “The Mining Industry in Colorado: National Register of Historic Places Multiple Property Documentation Form,” July 27, 2008, 1, <https://www.historycolorado.org/sites/default/files/media/document/2017/651.pdf>.
- 12 *Ibid.*, 55.
- 13 *Ibid.*, 59.
- 14 U.S. Energy Information Administration, Annual Coal Report 2018, 2019, 2, <https://www.eia.gov/coal/annual/pdf/acr.pdf>.
- 15 Dan Greeson, “Up in Smoke: The Future of Coal in Northwest Colorado,” Steamboat Magazine, March 21, 2017, <http://www.steamboatmagazine.com/2017/03/21/137785/up-in-smoke-the-future-of-coal-in-northwest-colorado>.
- 16 Judith Kohler, “‘We Don’t Have a Choice’: Colorado Coal Counties Try to Plan for Unsure Economic Future,” The Denver Post, May 6, 2019, <https://www.denverpost.com/2019/05/06/colorado-coal-counties-economic-future/>; U.S. Energy Information Administration, Annual Coal Report 2018, 30.
- 17 U.S. Energy Information Administration, “Colorado State Profile and Energy Estimates: Analysis.”
- 18 *Ibid.*, U.S. Energy Information Administration, “Colorado State Energy Profile: Colorado Quick Facts,” accessed March 2, 2020, <https://www.eia.gov/state/print.php?sid=CO>.
- 19 U.S. Energy Information Administration, “Colorado State Profile and Energy Estimates: Analysis.”
- 20 James E. Fell and Eric Twitty, “The Mining Industry in Colorado,” 44.
- 21 Dimitris Stevis and Michele Betsill, “Colorado’s New Energy Economy,” Colorado Encyclopedia, February 6, 2017, <https://coloradoencyclopedia.org/article/colorado%E2%80%99s-new-energy-economy>.
- 22 Annie Benn et al., Managing the Coal Capital Transition: Collaborative Opportunities for Asset Owners, Policymakers, and Environmental Advocates (Rocky Mountain Institute, 2018), 64, <https://rmi.org/insight/managing-coal-capital-transition/>; Colorado Energy Office, “Renewable Energy,” accessed March 2, 2020, <https://energyoffice.colorado.gov/renewable-energy>.
- 23 Stevis and Betsill, “Colorado’s New Energy”; Colorado Energy Office, “Renewable Energy Standard,” 2020, <https://energyoffice.colorado.gov/renewable-energy-standard>.
- 24 Stevis and Betsill, “Colorado’s New Energy Economy”; Ritter for Governor, Bill Ritter for Governor 2006: The Colorado Promise, 3, 2006, [https://coyotegulch.files.wordpress.com/2009/03/ritter\\_policy\\_book.pdf](https://coyotegulch.files.wordpress.com/2009/03/ritter_policy_book.pdf).
- 25 Michele Betsill and Dimitris Stevis, “The Politics and Dynamics of Energy Transitions: Lessons from Colorado’s (USA) ‘New Energy Economy,’” Environment and Planning C: Government and Policy 34, no. 2 (March 1, 2016): 381–96, <https://doi.org/10.1177/0263774X15614668>; Stevis and Betsill, “Colorado’s New Energy Economy.”
- 26 Stevis and Betsill, “Colorado’s New Energy Economy.”
- 27 Benn et al., Managing the Coal Capital Transition, 64; U.S. Energy Information Administration, “Colorado State Profile and Energy Estimates: Analysis.”
- 28 Benn et al., Managing the Coal Capital Transition, 65.
- 29 Peoples Climate Movement, “Colorado Climate Movement,” accessed March 11, 2020, <https://peoplesclimate.org/actions/colorado/>.
- 30 Colorado AFL-CIO, “About Us,” August 23, 2016, <https://www.coaflcio.org/about-us>.
- 31 Polis Administration, “Polis Administration’s: Roadmap to 100% Renewable Energy by 2040 and Bold Climate Action,” 2019, 1, <https://assets.documentcloud.org/documents/6111385/Governor-Polis-Roadmap-to-100-Renewable.pdf>.

- 32 Colorado Energy Office, “2019 Legislative Session Snapshot,” May 2019, [https://drive.google.com/file/d/1CrPqenC929D\\_oEAXuzswAgzFFK25akRq/view](https://drive.google.com/file/d/1CrPqenC929D_oEAXuzswAgzFFK25akRq/view); Colorado General Assembly, Climate Action Plan to Reduce Pollution, HB19-1261, 2019 regular session, introduced in General Assembly March 21, 2019, <https://leg.colorado.gov/bills/hb19-1261>; Colorado Energy Office, “GHG Pollution Reduction Roadmap,” 2020, <https://energyoffice.colorado.gov/ghg-pollution-reduction-roadmap>.
- 33 Karl Cates and Seth Feaster, “IEEFA Update: Out-to-pasture Coal Plants Are Being Repurposed into New Economic Endeavors,” Institute for Energy Economics and Financial Analysis, June 7, 2019, <https://ieefa.org/ieefa-update-out-to-pasture-coal-plants-are-being-repurposed-into-new-economic-endeavors/>.
- 34 State of Colorado, “Energy & Renewables,” Governor’s Dashboard: Governor Jared Polis, accessed March 9, 2020, <https://dashboard.state.co.us/bold4-energy-renewables.htm>; Colorado Energy Office, “GHG Pollution Reduction Roadmap.”
- 35 Cates and Feaster, “IEEFA Update”; Colorado General Assembly, Just Transition from Coal-based Electrical Energy Economy, HB19-1314, 2019 regular session, introduced in General Assembly April 5, 2019, <https://leg.colorado.gov/bills/hb19-1314>.
- 36 Colorado General Assembly, Just Transition.
- 37 Colorado General Assembly, Colorado Energy Impact Assistance Act, HB19-1037, 2019 regular session, introduced in General Assembly January 4, 2019, <https://leg.colorado.gov/bills/hb19-1037>.
- 38 Colorado Department of Local Affairs, “Renewable and Clean Energy Challenge,” accessed March 10, 2020, <https://cdola.colorado.gov/renewable-and-clean-energy-challenge>.
- 39 Joining Vision and Action (JVA), “Energy and Mineral Impact Assistance Fund: Renewable and Clean Energy Challenge Planning, Infrastructure, and Implementation Projects,” 2019, <https://joiningvisionandaction.com/funding-opportunities/energy-mineral-impact-assistance-fund-renewable-clean-energy-challenge-planning-infrastructure-implementation-projects/>.
- 40 Lucas S. Furtado, Morgan Bazilian, and Christopher Markuson, “Case Study of the Energy Transition: Pueblo, Colorado,” *The Electricity Journal* 32, no. 8 (October 2019): <https://doi.org/10.1016/j.tej.2019.106631>.
- 41 Karlee Weinmann, “Pueblo Targets All-renewables Future to Bolster Local Economy,” Institute for Local Self-Reliance, March 13, 2017, <https://ilsr.org/pueblo-targets-all-renewables-future-to-bolster-local-economy/>.
- 42 John Farrell, “Voices Of 100%: Shifting The Paradigm Toward Renewable Power in Pueblo, Colo.,” *CleanTechnica*, October 2, 2018, <https://cleantechnica.com/2018/10/02/voices-of-100-shifting-the-paradigm-toward-renewable-power-in-pueblo-colo/>; Danika Worthington, “Pueblo Commits to 100 Percent Renewable Energy,” *The Denver Post*, February 17, 2017, <https://www.denverpost.com/2017/02/17/pueblo-100-percent-renewable-energy/>.
- 43 Grace Hood, “Coal-fired Past or Green-powered Future? Pueblo Looks for a New Economic Leg Up,” *Colorado Public Radio*, July 30, 2018, <https://www.cpr.org/2018/07/30/coal-fired-past-or-green-powered-future-pueblo-looks-for-a-new-economic-leg-up/>.