FUTURE FUELS OF THE CARBON NEUTRAL ENERGY SYSTEM – POLICY MECHANISMS

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U.S. NET GENERATION BY MARKET SHARE (1950-2018)

Source: U.S. Department of Energy, Energy Information Administration
Colorado Net Electricity Generation by Source (Feb 2020)

- Natural Gas: 35.5%
- Coal: 37.7%
- Non-hydro Renewables: 23.5%
- Hydroelectric: 3.2%

Source: U.S. Department of Energy, Energy Information Administration
Sources of Colorado’s Greenhouse Gas Emissions, 2015

- Electricity generation: 29%
- Transportation: 22%
- Building fuel use (heating, cooking, etc.): 20%
- Oil & gas production: 12%
- Agriculture: 8%
- Industrial processes: 3%
- Waste management: 3%
- Coal mining: 1%

Total: 127 million tons of CO2e
Set goals

- HB 1261: Climate Action Plan To Reduce Pollution
  - Reduce 2025 GHG emissions by 26%
  - Reduce 2030 GHG emissions by 50%
  - Reduce 2050 GHG emissions by 90%

Integrate goals into ERP Process

- SB 236: Sunset Public Utilities Commission

Provide tools to transition away from fossil fuels

- SB 181: Protect Public Welfare Oil And Gas Operations
- HB 1314: Just Transition From Coal-based Electrical Energy Economy
- SB 236: Sunset Public Utilities Commission

Incentivize widespread adoption of renewables

- HB 1003: Community Solar Gardens Modernization Act
- SB 077: Electric Motor Vehicles Public Utility Services
SUSTAINABLE ENERGY FUTURE – 2019 ROADMAP

**Tools for consumers to reduce emissions**
- SB20-167: Electric Motor Vehicle Manufacturer And Dealer
- HB20-1155: Higher Efficiency New Construction Residence
- (Not introduced) Energy Assistance Opt-out Round-up Program

**Fiscal policies to reduce emissions**
- SB20-168 Sustainable Severance & Property Tax Policies

**Oil & gas sector decarbonization**
- SB20-038: Statewide Biodiesel Blend Requirement Diesel Fuel Sales
- SB20-150: Adopt Renewable Natural Gas Standard

**Electric grid modernization**
- SB20-190: Boost Renewable Energy Transmission Investment
- (Not introduced) Gas Utilities Update Demand-side Mgmt Metrics
This bill establishes a phased in RNG standard of:
- at least 5% RNG by January 1, 2025;
- at least 10% RNG by January 1, 2030;
- at least 15% RNG by January 1, 2035 and every year thereafter

RNG is defined as biogas, methane gas, and hydrogen gas—
- Derived from renewable energy sources
- Derived from transportation fuel-grade requirements, or
- Delivered by alternative energy carriers

The bill also establishes different criteria for large and small investor owned natural gas utilities & provides guidance for municipally owned natural gas utilities.
<table>
<thead>
<tr>
<th>Natural Gas Utility</th>
<th>Number of Meters</th>
<th>2018 Natural Gas Sales Million cubic feet</th>
<th>Quantity of Natural Gas Displaced by RNG under Large Utility Targets Million cubic feet</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSCo (Xcel Energy)</td>
<td>1,329,848</td>
<td>134,534</td>
<td>6,727 13,453 20,180</td>
</tr>
<tr>
<td>Black Hills Colorado Gas</td>
<td>84,586</td>
<td>9,180</td>
<td>459 918 1,377</td>
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<tr>
<td>Black Hills Gas Distribution</td>
<td>99,764</td>
<td>1,732</td>
<td>87 173 260</td>
</tr>
<tr>
<td>Colorado Natural Gas</td>
<td>21,831</td>
<td>1,790</td>
<td>90 179 269</td>
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<tr>
<td>Atmos Energy</td>
<td>114,866</td>
<td>4,086</td>
<td>204 409 613</td>
</tr>
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</table>

Source: Public Utilities Commission.
Note: Atmos Energy retail sales based on 2020 gas cost recovery filings.
Requires that all diesel fuel sold or offered for sale in \textit{nonattainment} areas be blended with and contain biodiesel

- Only applies during the summer months (June 1 – September 15)
- 2021 - 2022 – 5%
- 2023 - Future – 10%
- Does not apply to diesel fuel used in locomotives or off-road mining equipment
- Requires the Division of Oil & Public Safety to promulgate rules regarding a waiver process
## SB20-038: STATEWIDE BIODIESEL BLEND REQUIREMENT

### Diesel Fuel Sales

<table>
<thead>
<tr>
<th>Year</th>
<th>Baseline Emissions RFS(^1)</th>
<th>Emissions Under SB 20-038(^2)</th>
<th>Emissions Savings Under SB20-038</th>
<th>Percent Emissions Savings Under SB20-038</th>
</tr>
</thead>
<tbody>
<tr>
<td>2021</td>
<td>2.47</td>
<td>2.42</td>
<td>0.05</td>
<td>2.0%</td>
</tr>
<tr>
<td>2022</td>
<td>2.45</td>
<td>2.40</td>
<td>0.05</td>
<td>2.0%</td>
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<tr>
<td>2023</td>
<td>2.43</td>
<td>2.30</td>
<td>0.13</td>
<td>5.4%</td>
</tr>
<tr>
<td>2024</td>
<td>2.42</td>
<td>2.29</td>
<td>0.13</td>
<td>5.4%</td>
</tr>
<tr>
<td>2025</td>
<td>2.40</td>
<td>2.27</td>
<td>0.13</td>
<td>5.4%</td>
</tr>
<tr>
<td>2026</td>
<td>2.38</td>
<td>2.25</td>
<td>0.13</td>
<td>5.4%</td>
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<tr>
<td>2027</td>
<td>2.37</td>
<td>2.24</td>
<td>0.13</td>
<td>5.4%</td>
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<tr>
<td>2028</td>
<td>2.35</td>
<td>2.22</td>
<td>0.13</td>
<td>5.4%</td>
</tr>
<tr>
<td>2029</td>
<td>2.34</td>
<td>2.21</td>
<td>0.13</td>
<td>5.4%</td>
</tr>
<tr>
<td>2030</td>
<td>2.32</td>
<td>2.19</td>
<td>0.13</td>
<td>5.4%</td>
</tr>
<tr>
<td>TOTAL</td>
<td><strong>23.94</strong></td>
<td><strong>22.79</strong></td>
<td><strong>1.13</strong></td>
<td><strong>5.0%</strong></td>
</tr>
</tbody>
</table>

\(^1\) LCS calculations using data from the U.S. Energy Information Administration

### Baseline Emissions and Emissions Savings under SB 20-038

*Million Metric Tons of Carbon Dioxide Equivalent*
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