

1. Tell me the process for developing the 80X 50 Climate Action Plan? Who was involved; how many meetings over what period of time?

The 80x50 Goal was announced in December of 2015 along with the 2015 Climate Action Plan, which identified strategies to achieve the 2020 climate goal to reduce emissions below 1990 levels. That goal will very likely be achieved this year. DDPHE moved to hire a consultant to support the technical and stakeholder process for the 80x50 plan in 2016. Stakeholders were convened in the second half of 2016 and early 2017. These stakeholders committed to developing an attainable 80x50 plan for Denver by creating a comprehensive list of strategies and targets to meet goal by 2050. They completed their work and the [80x50 Stakeholder report](#) was released for public comment along with a [community survey](#) in September 2017.

Denver's 80x50 stakeholder process consisted of two key stakeholder groups: the Technical Advisory Committee and the Task Force. Prior to the first stakeholder meeting, Lotus Sustainability and Engineering, LLC prepared a Gap Analysis and survey for the stakeholders to help identify potential areas for discussion.

The role of the Technical Advisory Committee was to create a broad list of transformative system-based approaches to GHG reductions within the mobile and stationary energy sectors. The group largely drew from academic/non-profit expertise and research institutes related to both sectors. Their outcome was a summary matrix of potential strategies that would achieve the 80x50 GHG reduction goal but not be limited by advanced analysis of economics, feasibility, or other constraints.

The role of the Task Force was to integrate the summary matrix into a larger transformative framework. The Task Force was tasked with furthering the discussion of the technical, financial, market, regulatory and social factors that impact energy systems into a plan that will meet Denver's target of 80 percent emissions reductions by 2050. Task force members provided insight into opportunities, barriers and "ground truthing" of the Technical Advisory Committee's initial list of strategies. The Task Force also identified preliminary barriers and opportunities of the Technical Advisory Committee's recommendations and categorized strategies into short-, mid- and long-term. Finally, members ensured that the final list of strategies and targets were equal to or greater than the projected necessary GHG reductions.

Consultants estimated each strategy's emission reduction potential based on stakeholder input and assumptions. The selected strategies were collectively analyzed for impact and progress towards the 80x50 goal. It is important to remember that many of the strategies in the 80x50 would have to be formalized and implemented in the following few years, and which would not start to accrue benefits until after implementation.

2. When was it adopted?

July 2018

3. The City released a 2015 Climate Action plan based on the “recommendations of the scientific community. What were the baseline emission in 2005? What are the emissions in 2015 when the goal was set and what is the current level of greenhouse gas emissions?”

2005 Emissions w/ Consumption metrics = 13,250,000 metric tons of CO₂e

2017 Actual 11,505,692 metric tons of CO₂e

2018 Projected 11,266,778 metric tons of CO₂e (2% reduction based on known 2018 Emissions Factor for Electricity)

2019 Projected 10,928,775 metric tons of CO₂e (3% reduction from Rush Creek and Renewable Connect reductions)

2020 Goal as stated in the 80x50 is 15% reduction from 2005 baseline = 11,262,500 metric tons of CO₂e

If I had to make an estimate for 2020, I think another 1% reduction from 2019 is safe based on some unknowns of additional renewable (largely when/if another utility scale development and timing of an influx of CSGs)

New 2020 projection: 10,819,487 metric tons of CO₂e

The story here is that Denver will likely hit our 2020 goal, despite adding over 100,000 people since 2010. However, we now need to focus our efforts on the trajectory to meet our next nearest term goal in 2025 and beyond. Emissions are going down primarily as a result of the state Renewable Portfolio Standard and DSM/efficiency. We have to do much more in buildings and transportation, as was laid out in the 80x50 plan. Emissions from transportation and natural gas are essentially flat or increasing slightly while emissions from electricity are going down.

These numbers may look different from numbers that have been reported previously. Our website has a good explanation of the change in methodology. It says:

Beginning in 2015, and to meet national and global GHG reporting standards Denver started reporting in what is referred to as the “[GPC format](#).” This new required reporting format allows for community emissions to be collected with other community emissions in a way that does not double-count emissions. The most important element of this process is that Denver is maintaining the collection of the same data it has since 2005. Denver must now simply apply a new “filter” of the data to report up to the global reporting agencies.

I am attaching the 2017 inventory, which is the last one we have that is “final”. 2018 is still being verified. There is also a visual representation of the inventory using stacked bar charts.

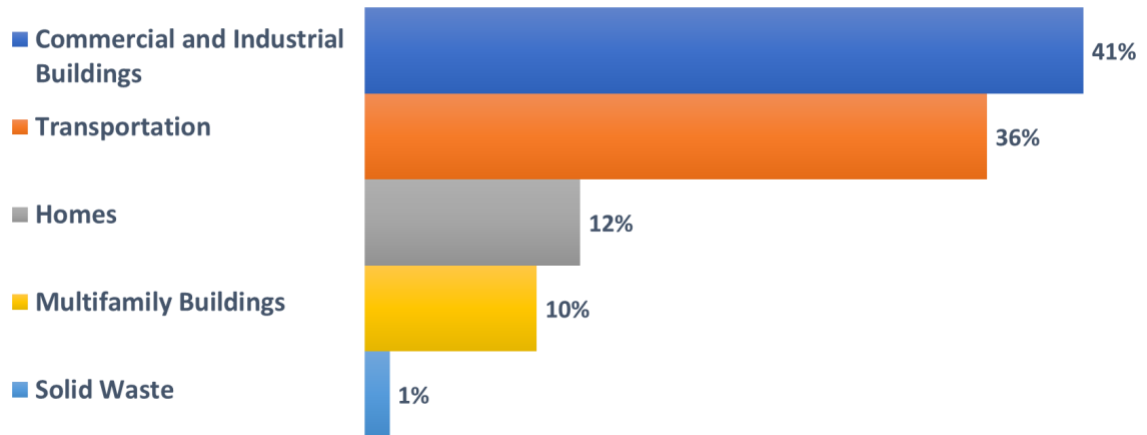
4. Just looking at the City and County of Denver what are the primary sources of greenhouse gas emissions?

Denver captures a large amount of data on sources of GHG emissions. Some emissions are more directly induced by Denver and more directly controlled. They are known as Scope 1 and 2, or core emissions. Scope 1 GHG emissions are direct emissions from sources that are within our boundary. Scope 1 includes on-site fossil fuel combustion (think natural gas burned in your home) and transportation fuel consumption. Scope 2 GHG emissions are indirect emissions from

sources that are outside our boundary but induced by Denver. Think the generation of electricity, heat or steam purchased from a utility provider.

The primary sources of emissions are as follows:

Denver's Greenhouse Gas Emissions



5. How was the goal of reducing greenhouse gas emissions by 80% by the year 2050 set?

It was a common goal at the time and was also the goal for the state of Colorado.

6. Would you recommend the goal be changed to have 70% of the energy provided by Xcel to Denver be from renewable resources?

No. We would fall short by almost 500,000 metric tons of CO₂e in 2030 alone. This is a key strategy in the 80x50 plan. We are also in the process of realigning the GHG reduction goals with the latest IPCC report, which will require more ambitious sector specific goals and/or more advanced implementation timelines.

7. Would this have the equivalent impact of reducing greenhouse gas emissions by 80%?

No. Other strategies would have to be made much more aggressive. We also need to move to a carbon neutral goal rather than an 80% reduction.

8. Denver also has a Climate Adaptation Plan. How was this plan developed?

The plan was developed throughout 2014 with Meister Consultants Group and a team of city agency representatives. It looked at the key vulnerabilities for Denver due to climate change and then identified how city agencies and infrastructure would be impacted. It did not explore community-wide implications. The plan is now 5 years old and needs to be updated to follow best practice.

9. Can you provide a progress report on the goals in the Climate Adaption Plan update? What additional resources would be needed to implement?

A majority of the short term actions have been completed or are in progress. See the update here:

<https://www.denvergov.org/content/dam/denvergov/Portals/771/documents/EQ/Climate1/Adaption%20Update%20%20-%20final.pdf>

The plan is 5 years old and needs to be updated for that reason and to include a broader community-wide climate adaptation and resilience focus.

10. What additional resources would be needed to implement the 80 x 50 plan to achieve the goal more quickly?

The goals are in the process of being updated to align with climate science. We are not on a glide path to achieve a 50% reduction by 2030. Additional staff and funding are required to design and implement systems changes in energy, buildings and transportation.

11. Many of the activities in the plan include advocating at other levels of government or with the PUC. Are there more aggressive actions the City can take independently?

The Urban Sustainability Directors Network (USDN)- the leading North American org for climate and sustainability work says these are the top high impact city practices on climate change:

Transportation

- **Major Public Transit Investments** - Make public transit investments that significantly enhance coverage, service quality, frequency, and/or speed (e.g., bond for major transit infrastructure).
- **Major Bike and Ped Investments** - Expand and improve bicycle and pedestrian facilities, connectivity, convenience, and/or safety in a manner that significantly increases the % of trips taken by walking or biking.
- **Community Electric Vehicles Adoption** - Require and encourage EV adoption through local codes, infrastructure planning, and promotion.
- **Autonomous Vehicles Planning** - Establish strategy and/or policy to avoid negative GHG impacts and achieve positive GHG impacts of autonomous vehicles.

Energy Supply

- **Renewable Energy Procurement for Government Operations** - Power government operations from renewable energy via on-site installation or off-site procurement.
- **Utility-Scale Renewable Energy** - Engage local utility or community choice program (as applicable) to increase renewable energy offerings to all community members.
- **Community Installation of Renewable Electricity** - Establish local incentives (e.g., solar rebates) and/or a bulk purchasing program (e.g., Solarize, community solar program) for on-site renewable energy at a scale catalyzing major new local investment.
- **State/Federal Advocacy on Energy Supply and Efficiency** - Engage in state public utility commission (or equivalent agency) proceedings to advocate for significant renewable energy (e.g., via state RPS, net metering tariffs) and building energy efficiency standards and funding.

Building Energy Use

- **Electrification of Building Energy Systems** - Develop a local strategy and enact programs to drive replacement of fossil fuel-fired space and water heating systems with high efficiency electric heat pump and similar technologies in new and existing buildings.
- **Energy Benchmarking for Large Buildings** - Require large commercial and multi-family buildings to benchmark and report their energy performance.
- **Energy Upgrades at Trigger Events for Large Buildings** - Require large commercial and/or multifamily buildings to perform energy upgrades achieving an average of ~15%+ energy savings by a certain date or at certain trigger events (e.g., time of sale, change of occupancy).
- **Zero Net Energy in Private New Buildings** - Adopt policies or programs to cause new buildings in the community to achieve near-zero net energy/fossil fuel-free performance.

As you can see, these strategies require multiple city agencies to participate. While work is underway for many of these strategies across Denver agencies, the timelines will need to be advanced to get closer to the glidepath in the 2025 and 2030 timeframes. There is a lot that Denver can do as a city and city agencies are moving forward.

However, as noted earlier, federal, state and regional policies also have large scale impacts. When Xcel Energy decarbonizes their grid, all of the customers benefit (with or without their own local policies). When federal and state incentives are complementary, in the case of electric vehicles, then that gives implementation at the scale we need a better chance for success.

Unfortunately, we are not getting support from the federal government, putting a spotlight on state and local agencies to pick up the slack. Fortunately, the State of Colorado is enacting policies that will complement Denver's actions and help us to advance our goals. Denver is also setting the stage for local actions that produce a more significant impact. The release of the 80x50 plan in 2018 set the table for an aggressive slate of strategies that would be implemented in the coming years. City agencies are putting forward plans to advance the most impactful strategies.

Thank you for the thought you put into these questions. We hope this answers your questions.