



Comments on the Draft SA Climate Ready Plan

March 11, 2019

Adopting the SA Climate Ready Plan is a Critical First Step

Public Citizen strongly supports the adoption of the SA Climate Ready plan to guide the city of San Antonio in the important work of reducing greenhouse gas emissions and adapting to the effects of climate change. Our comments here are intended to strengthen the plan and should not be interpreted as reasons to oppose the plan.

Climate change is currently causing real harm and financial loss to the San Antonio community, and these harms will only be exacerbated if greenhouse gas emissions, the primary driver of climate change, go unchecked. Cities, states and countries around the world are acting to reduce greenhouse gas emissions. Adopting a strong climate action plan will place San Antonio in good company with those taking action to preserve a livable climate. Furthermore, implementing the measures described in the plan will improve affordability and equity in the San Antonio community, create economic opportunity, save the city and its residents money, reduce health effects from air pollution and improve quality of life.

SECTION 1: Align Language and Greenhouse Gas Reduction Goals with Climate Science and C40 Cities Guidance

SECTION 1.1: Clearly State 1.5°C Goal

Mayor Nirenberg has stated that SA Climate Ready is a “1.5 degree plan,” meaning that it should be aligned with the goal of keeping the average global temperature increase to no more than 1.5°C. We fully support that goal, but notice that it isn’t actually stated in the draft plan. Aiming for 1.5°C vs 2°C should result in significantly different policy actions, so listing both numbers is not the same as clearly stating that the goal for this plan is 1.5°C.

SECTION 1.2: Larger Near Term Greenhouse Gas Reduction Goals Needed

The emissions reductions goals in the SA Climate Ready plan are not sufficient to make this a truly 1.5°C compliant plan. They do not align with the latest science included in the Intergovernmental Panel on Climate Change (IPCC) 2018 “Special Report on Global Warming of 1.5°C” or the C40 Cities “Deadline 2020” report. The overall goals for greenhouse gas reductions should be more ambitious to reflect the magnitude of emissions reductions, as determined by the IPCC, that are necessary to keep warming within 1.5°C. As described in the “Deadline 2020” report, goals should also reflect the fact that San Antonio, as a U.S. city, has high emissions and is relatively wealthy, in the global context.



Local greenhouse gas reduction goals should prioritize near term reductions (over the next 5-10 years) and achieve carbon neutrality as quickly as possible. The purpose of frontloading emissions reductions is to increase the probability of limiting average global temperature rise to 1.5°C. Staying under this threshold can help prevent the most catastrophic impacts of climate change and will also limit the need for carbon dioxide removal (CDR). We recommend that the IPCC “Special Report on Global Warming of 1.5°C” and C40 Cities “Deadline 2020” be used as the primary guidance for setting local greenhouse gas emissions reductions goals.

The IPCC “Special Report on Global Warming of 1.5°C” describes the global emissions trajectories that can likely achieve this target. In particular, the IPCC’s “P1 pathway” is a good guide for how global emissions should be reduced to increase the probability of achieving the 1.5°C target with limited reliance on carbon dioxide removal (see P1 line in Figure 2). It is notable that the P1, P2 or P3 pathways do not show straight line reductions, but rather start with steep reductions in the near term and then follow a somewhat more gradual downward path into negative emissions. This is in contrast to the emissions pathway shown and described on pages 36 and 37 of the SA Climate Ready plan which is linear in nature.

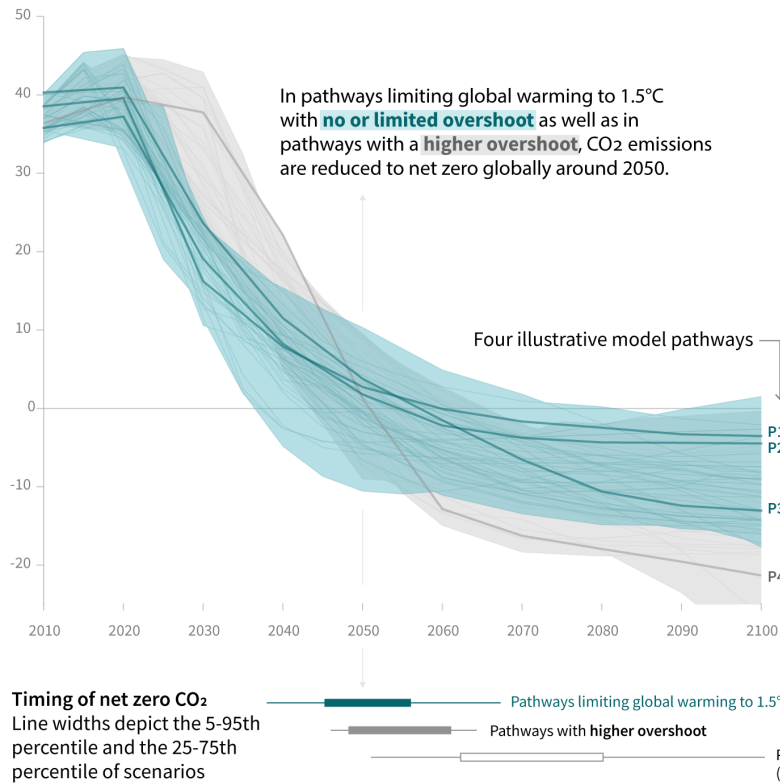
The IPCC Special Report on Global Warming of 1.5°C describes how reducing emissions more quickly increases the probability of keeping average rise in global temperature within 1.5°C. Reaching net zero greenhouse gas emissions globally by 2040 results in a high likelihood of average global temperature increase being within 1.5°C by 2100, but a substantial risk of temporary overshoot of that threshold remains (see blue band in Figure 3). Pushing the date to achieve net zero greenhouse gas emissions out further than that increases the risk of temporarily or permanently overshooting the 1.5°C threshold.

Global emissions pathway characteristics

General characteristics of the evolution of anthropogenic net emissions of CO₂, and total emissions of methane, black carbon, and nitrous oxide in model pathways that limit global warming to 1.5°C with no or limited overshoot. Net emissions are defined as anthropogenic emissions reduced by anthropogenic removals. Reductions in net emissions can be achieved through different portfolios of mitigation measures illustrated in Figure SPM.3b.

Global total net CO₂ emissions

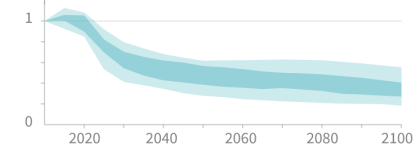
Billion tonnes of CO₂/yr



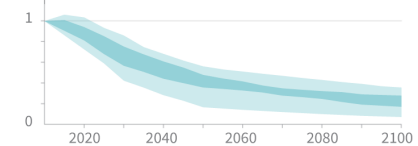
Non-CO₂ emissions relative to 2010

Emissions of non-CO₂ forcers are also reduced or limited in pathways limiting global warming to 1.5°C with **no or limited overshoot**, but they do not reach zero globally.

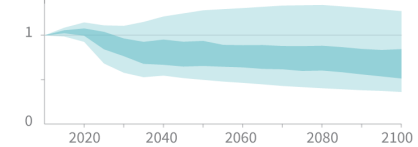
Methane emissions



Black carbon emissions



Nitrous oxide emissions

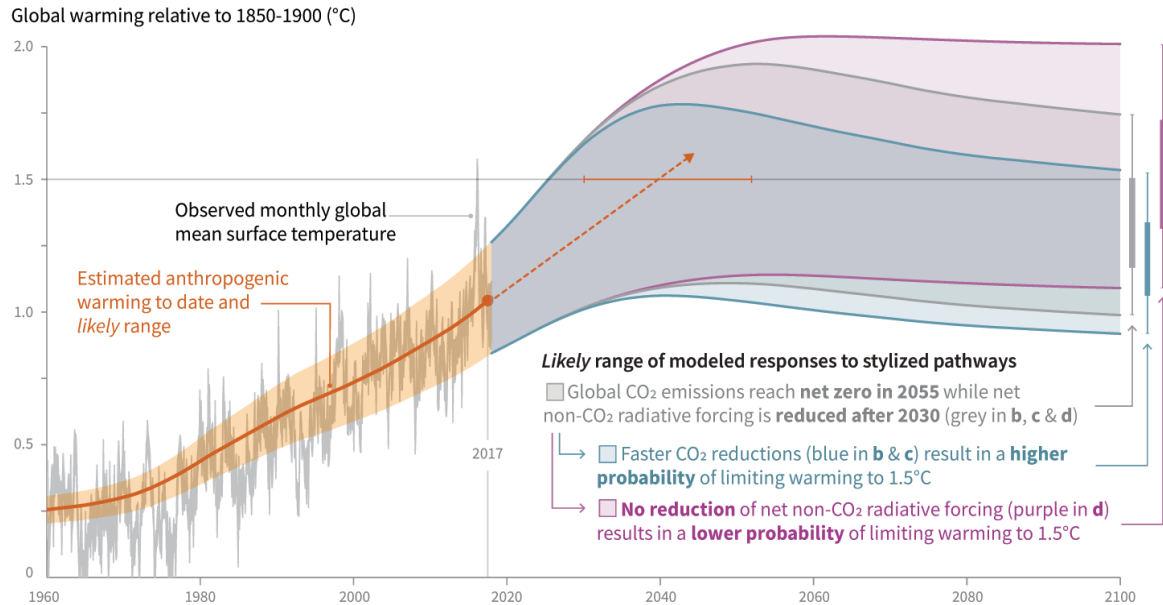


Source: IPCC Special Report on Global Warming of 1.5°C

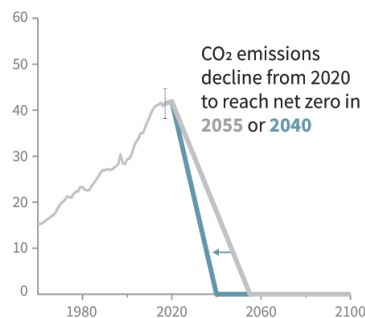
FIGURE 2: from the IPCC Special Report on Global Warming of 1.5°C

Cumulative emissions of CO₂ and future non-CO₂ radiative forcing determine the probability of limiting warming to 1.5°C

a) Observed global temperature change and modeled responses to stylized anthropogenic emission and forcing pathways

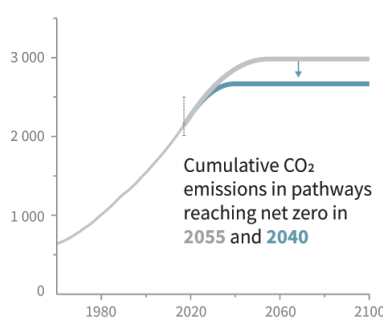


b) Stylized net global CO₂ emission pathways Billion tonnes CO₂ per year (GtCO₂/yr)



Faster immediate CO₂ emission reductions limit cumulative CO₂ emissions shown in panel (c).

c) Cumulative net CO₂ emissions Billion tonnes CO₂ (GtCO₂)



Maximum temperature rise is determined by cumulative net CO₂ emissions and net non-CO₂ radiative forcing due to methane, nitrous oxide, aerosols and other anthropogenic forcing agents.

d) Non-CO₂ radiative forcing pathways Watts per square metre (W/m²)

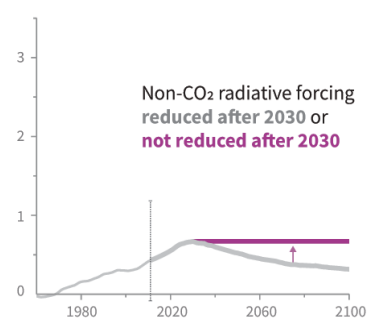


FIGURE 3: from the IPCC Special Report on Global Warming of 1.5°C

The C40 Cities “Deadline 2020” report that describes how this science should be applied to city climate planning. C40 Cities is the preeminent organization on city climate planning. The “Deadline 2020” methodology should be used as a gold standard by which to set emissions reductions goals. “Deadline 2020” provides a framework for how cities can set the pace, scale and prioritization of climate action.

In its “Deadline 2020” report, C40 Cities applied global emissions reductions to categories of cities. Cities with higher emissions (greater than 5.1 tons of carbon dioxide equivalent per capita) and greater wealth (per capita gross regional product greater than \$15,000) are expected to follow the “steep decline” emissions trajectory (see Figure 4).¹ As the Deadline 2020 Method Report states, “It is unrealistic to assign all cities the same trajectory, there must be some variation based on capacity.” The report also states that, “[d]eveloping cities should be allowed to continue to emit emissions for longer than developed cities where living standards are generally higher.” Given San Antonio’s position as a developed city in an affluent nation, the city ought to embrace goals that set forth steep emissions reductions. Furthermore, the “Deadline 2020” report was issued prior to the IPCC “Special Report on Global Warming of 1.5°C,” which is widely understood to show that the climate crisis is even more urgent than previously believed.

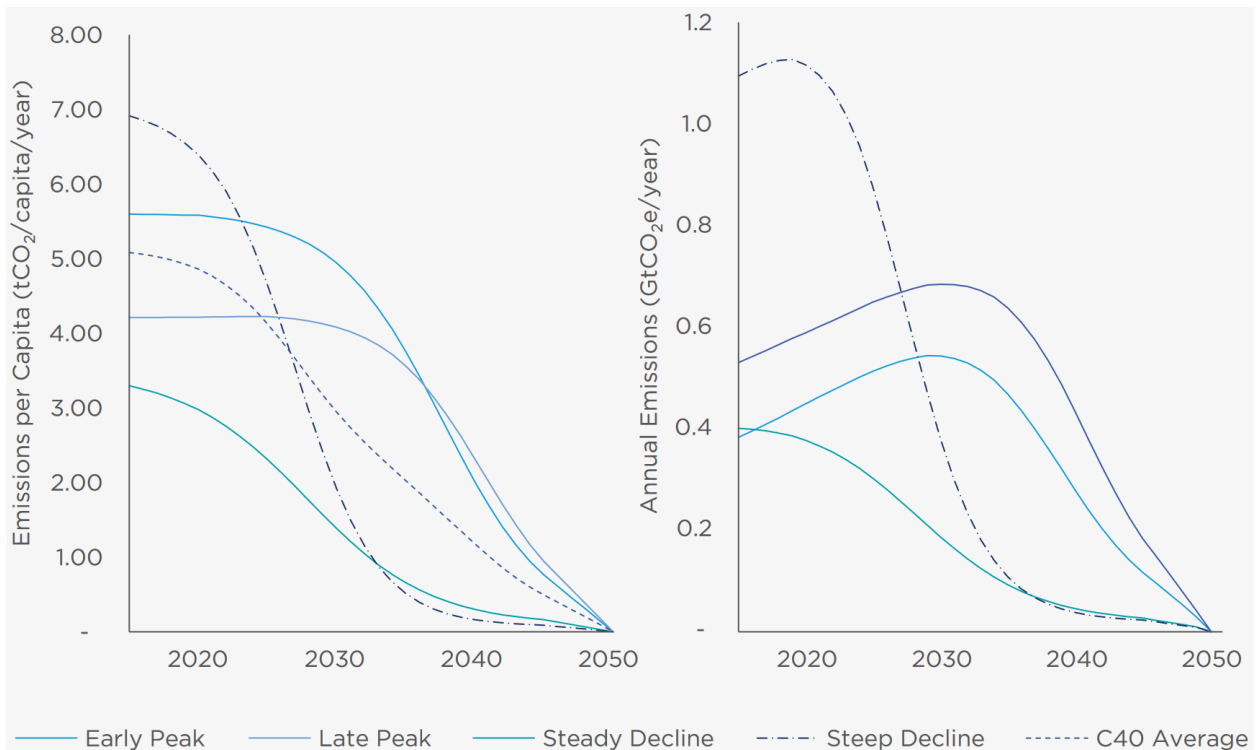


FIGURE 4: from the C40 Cities “Deadline 2020 Method Report”

Taken together, the IPCC “Special Report on Global Warming of 1.5°C” and the C40 Cities “Deadline 2020” reports make a strong case for San Antonio adopting a goal of achieving net zero greenhouse gas emissions by 2040 and an 83% reduction in greenhouse gas emissions

¹ pg. 23 http://c40-production-images.s3.amazonaws.com/other_uploads/images/954_Deadline_2020_Methodology_%281%29_original.pdf?1480603800

from 2016 levels by 2030². While the mechanisms for fully achieving these goals may currently seem out of reach, this is what scientific research shows is necessary to avoid irreversible climate change at a level that may be impossible for societal adaptation. Technology that allows for the phasing out of fossil fuels is available now and already cost effective in many cases. The public is growing to realize that healthy societies depend upon healthy, functioning ecosystems. The first step to making the massive emissions reductions that are needed is to accurately quantify the reductions that are needed.

SECTION 1.3: Highlight Greater Irreversible Changes Beyond 1.5°C

Keeping average global temperature increase to no more than 1.5°C, with no or limited overshoot of that threshold, is critical in order to minimize irreversible effects of climate change (see Figure 1).

“Future climate-related risks depend on the rate, peak and duration of warming. In the aggregate they are larger if global warming exceeds 1.5°C before returning to that level by 2100 than if global warming gradually stabilizes at 1.5°C, especially if the peak temperature is high (e.g., about 2°C) (high confidence). Some impacts may be long-lasting or irreversible, such as the loss of some ecosystems (high confidence).” (IPCC; Special Report: Global Warming of 1.5°C, Summary for Policymakers; section A.3.2)

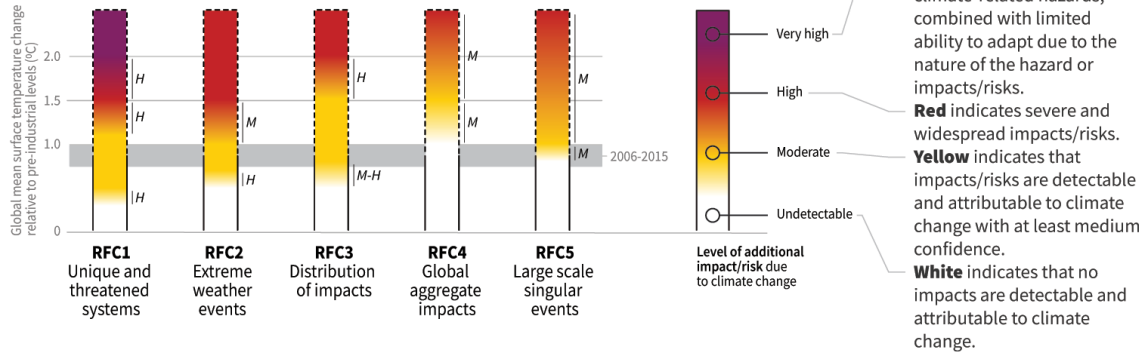
The relationship between increasing temperatures, especially where the increase in global temperature exceeds the 1.5°C threshold, and irreversible threats of extreme weather, ecosystem destruction, and other hazards is absent from the plan and should be added on page 34. Inclusion of these facts will help to make clear to readers of the plan why near term action is necessary.

² Net zero by 2040 comes from the IPCC “Special Report on Global Warming of 1.5°C.” 83% reduction by 2030 comes from dividing 2 tons/capita/year on the C40 “steep decline” trajectory by San Antonio’s 11.6 tons/capita/year in 2016 (pg. 23 of SA Climate Ready).

How the level of global warming affects impacts and/or risks associated with the Reasons for Concern (RFCs) and selected natural, managed and human systems

Five Reasons For Concern (RFCs) illustrate the impacts and risks of different levels of global warming for people, economies and ecosystems across sectors and regions.

Impacts and risks associated with the Reasons for Concern (RFCs)



Impacts and risks for selected natural, managed and human systems

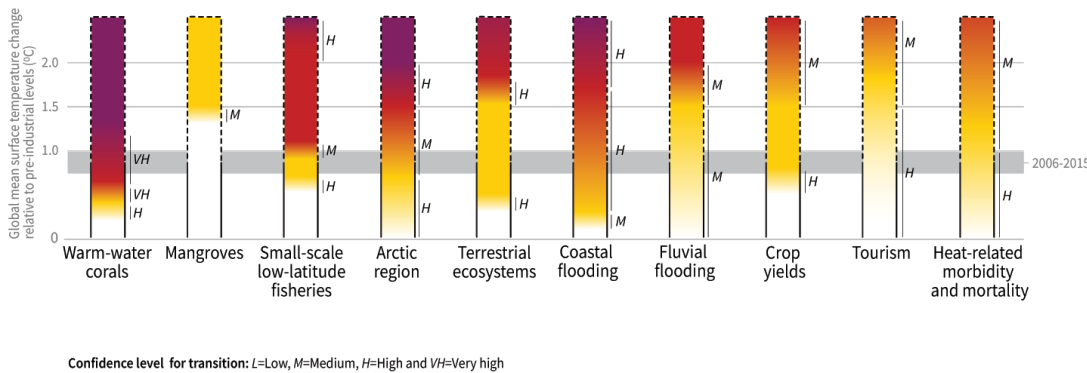


FIGURE 1: from the IPCC Special Report on Global Warming of 1.5°C

SECTION 2: Clarify Emissions Sources

A clear accounting of where emissions are coming from within the San Antonio community is important for gaining support for needed solutions to reduce those emissions. If people cannot easily identify the problem, solutions will appear out of reach.

Emissions that result from electricity production are not clearly and consistently identified as such in the SA Climate Ready plan. Instead, they are referred to as coming from commercial, residential and industrial buildings. Most of the electricity used in the city is currently used in buildings and while improving the energy efficiency of buildings and equipment in buildings is important, this framing ignores the fact that the actual greenhouse gas emissions used to cool,

heat, and otherwise power these buildings are coming from coal and natural gas-burning electricity generators operated by CPS Energy. Energy use in buildings can be reduced, but cannot be eliminated and electricity use for transportation, and possibly industrial processes as well, will increase significantly in the coming years due to the electrification of transportation and other functions that currently utilize fossil fuels.

Thus, decarbonizing electricity generation is of critical importance. It is listed as the first mitigation measure in the SA Climate Ready plan, but many readers may well wonder why when they see “energy industries within the city” listed as a mere 1% of the community greenhouse emissions, listed on page 23. In fact, a CPS Energy board member - someone who is in a much better position than the average resident to understand this topic - was confused by this very language at the January board of trustees meeting. He asked how CPS Energy could “move the needle” on emissions if they were just a small portion of the problem.

Emissions from electricity use should be separated from emissions from the direct use of natural gas in buildings and each should be clearly identified on page 23. Instead of three categories, there should be six: residential electricity, residential natural gas, commercial electricity, commercial natural gas, industrial electricity and industrial natural gas. These six categories should also be shown on the graph. The emissions from electricity used at power plants should be rolled into the overall emissions factor and applied proportionally to each of the three electricity categories. On the graph on page 24, emissions from “building energy usage” should be divided into “building electricity usage” and “building natural gas usage.”

The term “stationary” is used in several places in the report, including on pages 22, 23 and 26. Given that industrial sources are also stationary, this terminology only adds to confusion. In all of these cases “energy use in buildings” would be a much clearer heading.

On page 22, it should be noted that CPS energy provides electricity to the community, just as this is noted in the description of energy use in municipal buildings on page 26. The community owns CPS Energy, making transparency of its emissions particularly important.

We appreciate that electricity and natural gas emissions are shown separately in the municipal inventory on page 26, but it is unclear what the energy source is for the category listed as “chilled water/steam.” These emissions should be identified as coming from electricity or natural gas, as appropriate.

SECTION 3: Prioritize Carbon-Free Electricity by 2030

The first goal listed on page 38 is to increase carbon free energy, and the first strategy is to decarbonize the grid: “Work with CPS Energy to continue to reduce the emissions factor of supplied electricity to reach an emissions factor of 0.0 kg CO₂ e / kWh by 2050.” This goal, as stated, represents an unnecessary and unreasonable delay. CPS Energy should work toward

achieving this goal by 2030. With proper planning now, this could be achieved. The technology exists today to make this possible and other utilities are making this transition now while reducing costs for ratepayers. We are providing a list of examples as an addendum to our comments.

This item is of special importance for two reasons. First, transitioning from coal and natural gas to a combination of solar, wind, energy efficiency, energy storage and demand response is the most feasible and affordable way to achieve the needed rapid reductions in greenhouse gas emissions. Second, electrification of the transportation sector will be most effective in reducing emissions if the electricity supplied is from zero emissions sources.

SECTION 4: Build on Framing that Continues to Center Equity, Climate Justice, and Workers Rights

The SA Climate Ready plan is taking an important and necessary step in working towards climate justice by centering equity. We want to see that framing continued and expanded.

SECTION 4.1: Make it Clear that System Change is Needed, Not Only Individual Action

Climate change is a collective problem and requires collective solutions. While individuals can make lifestyle changes that benefit the environment - such as having fewer children, taking public transit, and eating a plant-based diet - it is ultimately systemic changes that will be the true markers of climate justice. It is not enough to turn off the lights when they are not in use - energy utilities must transition away from fossil fuels and to renewable energy. It is not enough to recycle plastic - plastic must ceased to be produced. It is not enough to cut down on driving - transportation systems must be reoriented towards public transit. This point should be made much more clearly in the SA Climate Ready plan.

SECTION 4.2: Include Discussion of What Climate Change Means for Workers

On pages 30 and 31, the SA Climate Ready plan asks, "What does [climate change] mean for business?", but only two sentences are dedicated to what climate change will mean for working conditions. This is a topic that deserves a section of its own. Many workers will face increasingly dangerous conditions as climate change continues. More extreme storms, heatwaves, and floods will create extremely precarious working conditions for people who work outside, like roofers, landscapers, utility line workers, postal workers, and construction workers; for people who work in service and hospitality, like servers, and hotel housekeepers, and bartenders; people who do social and care work, like teachers, nurses, social workers, and daycare operators; and people who work in the gig economy, like freelancers, rideshare drivers, and delivery people. Most of these jobs almost never come with inclement weather policies and people are often expected to show up to work regardless of weather conditions or risk losing their jobs. Time-off policies like paid sick time are not a guarantee, thus forcing people to choose between their wellbeing or their paycheck. This climate plan should center the wellbeing and rights of workers in the context of climate change.

SECTION 4.3: Include Discussion of Global Equity Concerns with Climate Change

While equity in the local context is positioned as a significant consideration in the plan, discussion of climate change and global equity is entirely missing from the plan. While addressing the global inequities worsened by climate change is a daunting task, they cannot be ignored. Climate change is affecting many of the world's poorest countries and most destitute individuals first and worst. The contrast between the haves and the have nots is even more stark in the global context than it is locally. This is not to say that local equity concerns should be downplayed, but highlighting the fact that societies that emit high levels of greenhouse gas emissions, like the United States, are placing a real - sometimes deadly - burden on people who don't have access to any of the resources that most Americans do. A section of the plan should be dedicated to this topic and should include discussion of rising sea levels inundating low-lying island nations and other coastal regions, flooding in places where the poorest of the poor are forced to live, famines caused by droughts, and violence triggered by these events and an increase in global migration of people due to climate change. For at least some people, a more clear understanding of how the collective actions of San Antonians can contribute to less suffering for other people globally will be a motivating factor for taking action to reduce greenhouse gas emissions.

SECTION 5: Add Specific Targets to Mitigation Measures Wherever Possible

There are a number of mitigation measures that we support, but they would be much more meaningful and likely to garner attention for implementation if the plan included specific targets with specific dates for these mitigation strategies, including strategies 8, 10, 11, 12, M4, M7, M9, M10, and M11.

SECTION 6: Show Net Costs and Benefits for Mitigation Strategies

The draft plan includes a list of community and municipal mitigation strategies. The list indicates the necessary investment by the City, Residents, and Businesses using a dollar sign notation as follows:

- \$\$\$ - Greater than \$1 billion investment through 2030.
- \$\$ - \$100 million to \$1 billion investment through 2030.
- \$ - Less than \$100 million investment through 2030.

Each mitigation strategy also includes a list of co-benefits in the following areas: air quality, natural capital/ecosystem services, quality jobs, health outcomes, and affordability, with check marks indicating whether one or more of these co-benefits applies.

This cost/benefit methodology needs improving. The use of dollar signs for up-front costs and check marks for benefits naturally directs a reader (especially a financially motivated reader) to focus on the anticipated up-front costs without a clear understanding of the financial benefits. This gives the inaccurate impression that climate action will increase costs. In reality, climate action plans are an opportunity for investment in areas such as clean energy and public transportation that pay real dividends over time in the form of reduced costs, job creation, and improved public health. The present framing of GHG reductions, cost, and co-benefits obscures this opportunity.

Instead of listing only estimates of needed investment, the plan should provide estimated net savings and costs for the action items as appropriate.

SECTION 7: Improve Readability

Most people won't read the report cover to cover and even those who do may not remember all of the acronyms, especially if these are new topics for them. Make each section stand on its own as much as possible and use as few acronyms as possible.

SECTION 8: Integrate SA Climate Ready with Other City Plans

San Antonio has a number of existing plans that overlap with SA Climate Ready. These plans include:

- SA2020³
- Connect SA
- SA Tomorrow,⁴ including Comprehensive, Regional, and Community plans
- AACOG Regional Transportation Coordination⁵
- CPS Energy Flexible Path⁶

The SA Climate Ready plan should integrate and revise where appropriate the goals in these other plans. To take one important example, the CPS Energy Flexible Path plan does not include a retirement date for the J.K Spruce Power Plant that we believe is consistent with a “1.5 degree plan” as SA Climate Ready has been described.

We recommend that the draft plan explicitly identify each instance where a mitigation measure bears on data, a target, or a goal from a separate San Antonio-approved plan. If SA Climate

³ <https://report.sa2020.org/>

⁴ <https://satomorrow.com/>

⁵ <https://www.aacog.com/69/Regional-Transportation-Coordination>

⁶ <https://cpsenergy.com/flexiblepath>

Ready is incompatible with an existing plan (as we believe it is with the Flexible Path plan) then we recommend that incompatibility be explicitly identified.

SECTION 9: PAGE BY PAGE EDITS

Page 6: Add “safe, affordable, and prosperous” after “equitable.”

Page 8: Add “reducing greenhouse gas emissions on a path that aligns with keeping average global temperature increase to 1.5°C and achieving” after “With a goal of” at the bottom of the first column.

In the second bullet at the bottom of the first column, add “locally” after “for” and before “installed solar.” That report used a methodology that only accounted for local solar, not all solar owned or contracted by a city.

Page 10: In the second paragraph in the first column, make the third sentence read, “The same challenges we already struggle with are being magnified by the human caused warming of our planet.” This adjustment better reflects that climate change effects are already being felt locally and that climate change is caused by greenhouse gas emissions from human activities. This language should be applied wherever appropriate throughout the plan.

Page 10: In the third paragraph, clarify “19 additional deaths”. Does this mean 19 additional deaths per year?

Page 11: In the second paragraph, change “Climate change isn’t just about nature, but presents an enormous challenges to preserving San Antonio’s tangible and intangible heritage” to “Climate change affects all areas of human life and thus, presents an enormous challenge to preserving San Antonio’s tangible and intangible heritage.” The first sentence creates a false dichotomy between nature and humans.

Page 11: In the last paragraph of page, the sentence that begins with “Consider some of the key impacts of these climate changes...,” seems to create a highly banal view of climate change, one that inconveniences people rather than injuries or kills them. What we see happening now is not that people have a “reduced opportunity to work”, but rather are forced to work in increasingly dangerous conditions and face ever greater risk to their safety and wellbeing.

Page 13: In the first paragraph, “communities of color and low-income communities, in particular” rhetorically makes it seem like those are two different communities when in fact low-income communities tend to be communities of color. See next edit for an example of how that phrasing should be changed.

Page 13: In the first paragraph, “less able to adapt to climate impacts and to prioritize climate action” rhetorically places the fault of problems that arise from climate change on individuals or communities, when it is the conditions set forth from a history of exploitation that fundamentally disallows poor, often communities of color to escape or leave the various issues of climate change they face. It should be changed to “Across the world and right here in San Antonio, people who are socially vulnerable - meaning poor communities, which are often communities of color - are unable to recover from climate crisis because of economic inequality that parallels along the lines of race.”

Page 14: In the second sentence of the last paragraph of the second column, add “local” after “mitigate potential” and before “equity impacts.” We support the screening mechanism, but it only addresses local equity impacts, not broader global equity impacts of climate change or climate action.

Page 18: The title for the first chart is misleading. Change “Car Access” to “Lack of Car Access”.

Page 18: In the second paragraph, change “In 2015, San Antonio’s White population has the lowest concentration of people living in high poverty neighborhoods...” to “In 2015, San Antonio’s Black and Latino populations had the highest concentration of people living in poverty, while White populations had the lowest”.

Page 19: After page 19, include at least a couple pages about the global equity impacts of climate change. Poorer developing countries, low lying island nations, countries without stable governments and the millions of individuals currently without access to clean water, adequate food, health care, and other necessities are especially vulnerable to the effects of climate change, including rising sea levels, drought and flooding. There are numerous sources from which to pull this information, including some of Dr Katharine Hayhoe’s presentations.

Page 22: Change “Stationary, i.e. Energy use in Buildings” to “Energy Use in Buildings” to improve clarity. The “Industrial” sector is also stationary, so this description isn’t meaningful in this context. In this section, include a note that CPS energy provides electricity to the community, just as this is noted in the description of energy use in municipal buildings on page 26.

Page 23: Replace “Stationary” with “Energy Use in Buildings” to improve clarity. Show emissions from electricity use in buildings separate from emissions from natural gas use in buildings. List these six categories and show them on the graph: residential electricity, residential natural gas, commercial electricity, commercial natural gas, industrial electricity and industrial natural gas. 2016 per capita emissions for all of the other cities should also be listed.

Per capita emissions for Austin/Travis County were 10.93 tons CO₂e in 2016.⁷ Emissions from other cities can be found on the CDP website.⁸

Give some examples of “Off-road transportation,” such as bulldozers and construction cranes. Also, “off-road vehicles” might be a better term for this category, since the primary purpose of these vehicles is generally not actually transportation.

Page 24: On the graph, emissions from “building energy usage” should be divided into “building electricity usage” and “building natural gas usage.”

Include the 20-year and 100-year global warming potential values for methane in the text, as well as keep them in the table.

Page 25: Change “Stationary, i.e. Energy Use in Buildings” to “Energy Use in Buildings” to improve clarity. Identify whether electricity or natural gas is the energy source for the “chilled water/steam” category. If both energy sources are included in that category, separate them.

Page 26: After “methane, which has a GWP 28 times greater than CO₂” add “over a 100 year period.” Also, spell out global warming potential.

Pages 27-31: These pages describe the problem to be solved and would fit better right after the introduction and just before the equity section. This information about the physical effects of climate change would make the equity section more powerful. At the very least, these pages should come before page 20.

Page 32: Change to read: “The goal of SA Climate Ready is to align San Antonio with keeping average global temperature increase to 1.5°C and to achieve carbon neutrality by 2040.”

Page 33: If the goal is for this to be a 1.5°C compliant plan, change the last line to read “SA Climate Ready is San Antonio’s commitment to carbon mitigation in line with limiting average global temperature increase to 1.5°C and achieving carbon neutrality by 2040.” Even if 2040 isn’t substituted for 2050 here, this sentence needs changing because 3% annual reductions isn’t in line with what high emitting and relatively wealthy cities like San Antonio must achieve if the global goal of not exceeding 1.5°C of warming is to be achieved.

Page 34: In the green box, add, “Long-lasting or irreversible effects, such as the loss of some ecosystems.” In the last line in the right column, make it read, “Limited GHG reductions in the next 3-5 years will result in the need for more substantial economic investment in an even shorter time and may make it impossible to avoid overshooting 1.5°C of warming.”

⁷ <https://public.tableau.com/profile/cavan.merski#!/vizhome/EmissionsPerCapita/EmissionsPerCapita>

⁸ <https://data.cdp.net/Emissions/2016-Citywide-GHG-Emissions/dfed-thx7>

Page 35: In the “Increase Carbon-Free Energy” section, replace “energy” with “electricity” before “generation.”

Page 36: This page is one that is of greatest concern to us. There are several problems that need to be addressed with this graph.

First, the gray band labeled “IPCC-Referenced 1.5°C Global Pathway” doesn’t appear similar to the pathways in the IPCC “Special Report on Global Warming of 1.5°C” report (see Figure 2). When asked about this in an Energy and Buildings Working Group meeting, the Navigant representative stated that this was a manipulation of the IPCC data, but that it couldn’t be shared because it is proprietary. This is entirely unacceptable in a public report of this nature. We do support overlaying an appropriate emissions trajectory that makes meeting the 1.5°C goal likely. It seems that the most appropriate would be the “steep decline” emissions trajectory from the “Deadline 2020” report. The data points for that line could surely be acquired from C40 Cities without much trouble.

Second, labeling the green line “Minimum Path to Carbon Neutrality” is misleading. What makes it the minimum path? It doesn’t look like the IPCC “P1” emissions reduction path or the C40 Cities “Deadline 2020” “steep decline” path. If the purpose is simply to show what a straight line reduction looks like, then make that clear and also include the IPCC “P1” and/or the “Deadline 2020” “steep decline” graphs as a comparison. Either way, showing one or both of those graphs would be helpful.

Third, the blue shaded area labeled “Net Community Emissions” obscured by the gray band.

Fourth, emissions by sector should be shown on this graph. This is commonly referred to as a “wedge graph” in climate planning and shows approximately when reductions in the various sectors are expected.

Page 37: Again, calling the straight line reduction “minimum acceptable” does not make sense. If this is supposed to be a 1.5°C compliant plan, then only an emissions path that reflects what the experts at the IPCC and C40 Cities show is needed from high-emitting, relatively wealthy cities should be the “minimum acceptable.” Even those emissions trajectories don’t guarantee that the 1.5°C won’t be overshoot, but they give a reasonable chance of meeting the goal. We entirely understand that it likely isn’t possible to identify exactly how to align San Antonio emissions with the C40 “steep decline” trajectory, but it is important to accurately identify it as what is needed, so that it is clear what the community needs to work towards.

Page 38: Change “2050” to “2030.” Waiting until 2050 for CPS Energy to achieve a zero emissions factor for electricity production represents an unnecessary and unreasonable delay. This goal should be moved up to 2030. With proper planning now, this could be achieved. The technology exists today to make this possible and other utilities are making this transition now while reducing costs for ratepayers. We are providing a list of examples as an addendum to our

comments. This item is of special importance for two reasons. First, transitioning from coal and natural gas to a combination of solar, wind, energy efficiency, energy storage and demand response is the most feasible and affordable way to achieve the needed rapid reductions in greenhouse gas emissions. Second, electrification of the transportation sector will be most effective in reducing emissions if the electricity supplied is from zero emissions sources.

Page 39: Indicate affordability benefit for strategy 3. Heat pumps for water and space heating are now efficient and affordable enough that the total cost of ownership (up-front purchase, plus operating cost) is cheaper than for natural gas water and space heaters.

Indicate air quality benefit for strategy 7. Until all electricity production is from renewable energy, reducing energy use improves air quality. This should be especially true in San Antonio, where there are local coal and natural gas power plants that CPS Energy says it runs to serve local customers.

Indicate affordability benefit for strategy 9. Total cost of ownership for electric vehicles is currently at or below that of a new internal combustion engine passenger vehicle, depending on driving needs. Market projections indicate that EVs will very soon be the more affordable option in most cases. The plan should reflect that, so as to not be quickly out of date.

Page 41: Indicate affordability and air quality benefits for strategy 28. Until all electricity production is from renewable energy, reducing energy use improves air quality. This should be especially true in San Antonio, where there are local coal and natural gas power plants that CPS Energy says it runs to serve local customers. Reducing electricity use will also reduce electric bills.

Page 42: Strategy M4, “Install cool or green roofs on municipal government buildings, as appropriate” should be in the “Reduce Building Consumption” section.

In strategy M6, add “convert all fleet vehicles to carbon-free vehicles by 2030.” Electric trash trucks already exist, so there should be plenty of options in all categories by 2030. Replacing heavy diesel vehicles with EVs would provide especially large benefits to the community in the form of reduced air pollution.

Page 43: Indicate air quality and health benefits for strategy M5. Until all electricity production is from renewable energy, reducing energy use improves air quality. This should be especially true in San Antonio, where there are local coal and natural gas power plants that CPS Energy says it runs to serve local customers. Reducing air pollution results in health benefits.

Page 46: In the 2nd sentence of the first paragraph, “by natural and human systems”, is creating a false dichotomy between humans and the ‘natural’ world. Instead, consider simply deleting the phrase.

Page 47: This is a very important section and we worry that people might skip over the section of “The Cost of Doing Nothing” because it is very text heavy. We suggest rearranging the text to include more infographics and increase the retention of the important information present.

Page 48-53: Under the “Migration Benefit” of the Adaptation Strategies chart, we suggest removing the thumbs up/down icon and including what the actual mitigation benefit is. As is, the red thumbs-down icon has the unintended effect of seeming like a negative or lower priority action. Using a checkmark for those actions that have a mitigation benefit would be a better option.

Page 56: It would be extremely helpful to have a graphic of what the implementation structure of the CAAP will look like and how the different components of the structure will work in relation to one another. It’s a bit difficult to tell from the description on pages 56-57 how each of the various groups will be situated in relation to each other.

Page 58: Edit the Carbon Neutrality definition to say “...carbon dioxide or other greenhouse gases emitted...”

Page 65-66: The C40 Deadline 2020 methodology should be discussed here. See detailed comments in Section 1.3.