CITY COUNCIL STAFF REPORT

DATE: October 28, 2021 NEW BUSINESS

SUBJECT: DISCUSSION OF CURRENT, PLANNED, AND POTENTIAL ADDITIONAL ACTIONS TO ADDRESS CLIMATE CHANGE

FROM: Justin Clifton, City Manager

BY: Department of Development Services, Office of Sustainability

SUMMARY

City Council requested a discussion of the City's efforts to address climate change. In response, Sustainability staff worked with the Commission to develop the attached Climate Action Roadmap that summarizes current City goals related to greenhouse gas emissions reduction and current and planned activities to reduce these emissions, in an effort to address the key contributors to climate change.

RECOMMENDATION

Direct staff as appropriate.

BACKGROUND

The City of Palm Springs recognizes that climate change is real and is having a dramatic impact on our environment, our economy, and our way of life. Globally, we know that sea levels are rising, polar ice is retreating, permafrost is melting, and fires are increasing. Here in the Coachella Valley, climate change is and will continue to manifest itself in the form of longer periods of drought; more frequent, above-average storm events; changes in populations of local flora and fauna; longer summers; and higher temperatures. Palm Springs has just experienced its hottest summer on record, according to data from the National Weather Service.

The City has undertaken a variety of initiatives to reduce greenhouse gas (GHG) emissions – the primary contributors to climate change – since 2008. In 2010 the City conducted an emissions inventory to assess these emissions and identify priority areas to address.

In 2020, the City contracted with a consulting firm, PlaceWorks, to update the 2010 inventory based on current greenhouse gas emissions inventory methodologies. This update would help determine if the City was still meeting its 1990 target as originally calculated. Updating the 2010 inventory would also help ensure a more consistent comparison point for any future inventories.

The 2010 update revealed a 35% increase in 2010 emissions levels over what was initially reported. Specifically, the City calculated 2010 emissions to be 431,594 Metric Tons of CO2 Equivalent ($MTCO_2e$) in the 2013 emissions inventory. The updated equivalent is 538,200 $MTCO_2e$. This increase was largely due to more current methodologies used to assess transportation impacts and increases in the global warming potential for some greenhouse gases such as methane that are released from water and wastewater operations and from waste sent to landfill.

Given the changes that resulted from the 2010 update, it was clear that the 1990 emissions baseline would need to be adjusted. Rather than attempting to redo those calculations, the State recommends using a simple calculation of 15% lower than 2010 recalculated emissions levels to arrive at a 1990 equivalent baseline. This means the City's 1990 new equivalent baseline is 495,720 $MTCO_2e$ (compared to the original 432,136 $MTCO_2e$).

In recent months, there has been growing demand for increased global action to address what is often described as a climate crisis or climate emergency. Some cities in the United States and abroad have also declared climate emergencies or adopted climate emergency resolutions to further mobilize action.

Sustainability staff, with input from the Sustainability Commission, developed the attached Climate Action Roadmap (**Attachment A**). The Roadmap acknowledges the seriousness of our current climate crisis, describes what the City has already done and plans to do to address climate change, and identifies potential additional actions.

STAFF ANALYSIS

The City's efforts to address climate change are guided by several goals in its current Sustainability Plan related to GHG reduction (**see Attachment B**). These include the following:

- Reduce GHG emissions to 1990 levels by 2020.
- Reduce to 80% below 1990 levels by 2050.
- Achieve carbon neutrality for municipal emissions by 2030.
- Encourage the building or retrofitting of one million square feet of green buildings.
- Reduce the total energy use by all buildings built before 2012 by 10%.
- Reduce energy use and carbon use from new homes and buildings.
- Supply 50% of all energy from renewable sources by 2030.

In addition to the above Sustainability Plan goals, SB 32 signed by Governor Brown in 2016 requires the California Air Resources Board (CARB) to ensure that statewide GHG emissions are reduced at least 40 percent below 1990 levels by December 31, 2030. Governor Newsom announced in July 2021 that he is directing California state agencies to accelerate California's progress toward its nation-leading climate goals. At the Governor's request, CARB will evaluate pathways for the state to achieve carbon neutrality by 2035 – in advance of the current 2045 target – including strategies to reduce fossil fuel demand and supply.

As further described in the Climate Action Roadmap, Palm Springs has achieved its 2020 GHG emissions reduction target by reducing emissions 15 percent below 2010 levels primarily as a result of the launch of Desert Community Energy (DCE) in April 2020 and the commitment by most customers to stay with the Carbon Free program. Without the reductions achieved by DCE, Palm Springs' projected 2020 GHG emissions would have been approximately 4.4% above 2010 levels.

However, much works needs to be done to keep Palm Springs on track to achieve the 2030 and 2050 GHG reduction targets set out in the Climate Action Roadmap. The City continues to take significant action and plan additional actions to continue positive progress. Below are some of the City's current and planned activities, which are further described in the Climate Action Roadmap.

- Current Actions

    - Launched the Co-generation Facility in 2015 to help offset energy use at City facilities.
    - Installed solar arrays at its Wastewater Treatment Plant and at the Convention Center.
    - Administered commuter incentive programs for rideshare and electric vehicles (EV) to reduce GHG emissions from employee commuting.
    - Implemented LED and energy efficient lighting retrofit projects at City facilities and at street lights.
    - Implemented ban on gas-powered leaf blowers and replaced over 400 gas-powered units with electric.
    - Implemented a mobile home energy retrofit program that resulted in a reduction of nearly 92,000 pounds of CO2e.
    - Developed a solar policy and solar zoning ordinance to facilitate the installation of solar on residential and commercial properties.
    - Installed a network of 36 EV charging stations and updated parking standards to reflect new state requirements and best practices on EV charging stations on private property to help support EV adoption.
    - Implemented changes in the California Energy Code and Green Building Standards Code (CalGreen) effective in January 2020.
    - Required installation of EV charging stations for certain commercial developments.

  - Implemented new Home Energy Assessment Rebate program.
  - Amended the Zoning Code to increase the maximum turbine height of wind turbines from 300 to 500 feet.
  - Moved to DCE in April 2020, with the City taking the bold step to default all customers to the 100% carbon-free option to maximize the potential for GHG reductions.

- Planned Actions
  - Implement the Food Ware Ordinance approved by City Council on July 8, 2021. A "Foodware Forward for a Waste Wise Future" logo, fact sheet and exemption form have been developed as part of the outreach and education efforts for the Food Ware ordinance. An RFP for businesses to bid on the technical support for the Food Ware Ordinance was released and six vendors responded. City staff reviewed and scored the proposals and made an award at the end of last month.
  - Implement new organics waste management requirements. These requirements go into effect on January 1, 2022, and are designed to reduce GHG emissions by reducing the amount of organic waste sent to landfills. The City is currently working with Palm Springs Disposal to anticipate and respond to this new law.
  - Update the General Plan to reflect climate adaptation strategies and other environmental goals. This process is underway at the Planning Commission and General Plan Steering Committee.
  - Develop options to address local transportation-related emissions, as further described in the Climate Action Roadmap.
  - Continue to support the move to the 100% carbon free option for Palm Springs residents under DCE.

The Sustainability Commission continues to work with City staff to research other activities that could result in further emission reductions. For example, the City is having ongoing discussions with SoCalGas and technical consultants to investigate capture technologies for GHG emissions from the wastewater treatment plant, which would result in a variety of important benefits for the City.

If Council is interested in pursuing additional GHG reductions, one area that provides a variety of opportunities is building electrification and energy efficiency. According to our 2020 GHG inventory, emissions from commercial and residential buildings makes up 37% of our overall emissions, even after the launch of DCE.

AB 3232 enacted in 2018 requires the California Energy Commission (CEC) to assess the potential for the state to reduce GHG emissions from the state's residential and commercial building stock by at least 40 percent below 1990 levels by January 1, 2030. The bill states that decarbonizing California's buildings is essential to achieve the state's GHG reduction goals at the lowest possible cost. The bill establishes that it is the intent of the Legislature to achieve significant reductions in GHG emissions by the state's residential and commercial building stock by January 1, 2030.

The CEC's initial AB 3232 report released in August 2021 identifies building electrification and energy efficiency as among the strategies that will lead to significant emission reductions. A 2019 study on impacts of residential building electrification prepared by Energy and Environmental Economics and referred to in the CEC's AB 3232 report estimates for a Sacramento-area home that replacing major natural gas appliances with electric space and water heating, cooking, and laundry appliances can reduce a single-family home's total GHG emissions by 52-72% in 2030, and 76-88% by 2050.

The 2022 California Energy Code, which the CEC approved in August 2021 to be effective January 1, 2023, will require new single-family homes in Palm Springs to have electric hot water heat pumps and be prewired to use cleaner electric space heating, cooking and electric vehicle (EV) charging options whenever they choose to adopt those technologies. New nonresidential buildings must add solar PV and battery storage capacity.

The CEC encourages local governments to adopt energy efficiency standards exceeding the Energy Code, known as reach codes. The CEC considers that these jurisdictions are living laboratories for a clean energy future, reduce state GHG emissions and lead from the grassroots. Through August 2021, 42 jurisdictions have adopted 50 local reach codes exceeding the 2019 Energy Code, summarized in the table included in **Attachment C**. The Sustainability Commission's Solar and Green Building Committee has investigated a range of potential actions from among the reach codes that have recently been adopted by these jurisdictions.

Because existing homes, particularly those built before 2011 that represent most of the Palm Springs housing stock, are not as energy efficient as new homes governed by the Energy Code, the Solar and Green Building Committee has prepared a proposal included in **Attachment D** for an existing home energy sustainability ordinance based on ones recently adopted by other California cities to require homes built before 2011 undergoing renovations to make certain targeted energy efficiency upgrades to bring them closer to Energy Code provisions. As a result of the upgrades, these homes can expect lower energy bills, a more comfortable house that is better adapted to higher temperatures, and a lower carbon footprint. Community-wide GHG emissions and energy consumption would also be reduced.

The proposal was prepared with assistance from the statewide Codes and Standards Program under the auspices of the California Public Utilities Commission and in support of the CEC and uses data from a cost-effectiveness study prepared for the Codes and Standards Program. The data, also in **Attachment D**, show that these measures have upfront costs but are all cost-effective over their life cycle. Pending direction from Council, the measures can be further researched, and a draft ordinance presented to the Sustainability Commission and Council following stakeholder outreach. The ordinance if adopted would require CEC approval, which is the case for energy efficiency measures exceeding state requirements.

At the request of the Planning Commission, the Solar and Green Building Committee has also prepared a new ordinance that would require cannabis grow facilities and certain nonresidential buildings to use 100% carbon free energy. By promoting more sustainable practices, including energy efficient systems and use of renewable energy, the City can avert the potential significant additional GHG emissions that may result from the growth in the cannabis industry. The Sustainability Commission plans to conduct outreach on the potential ordinance in late 2021 and propose something to Council in early 2022. This ordinance would not require CEC approval as it does not regulate energy efficiency.

The following items also seem relevant for our climate zone. The first two measures would require significant additional research and may also necessitate retaining an energy efficiency consultant at an estimated cost of $10,000 to $20,000 to understand costs and benefits. The first two measures would also require CEC approval.

- Require energy efficiency upgrades for major renovations of non-residential buildings. The Codes and Standards Program is preparing a cost-effectiveness study to support this measure.
- Require new buildings to be all-electric or more energy efficient than a mixed-fuel Code-compliant building. This measure would be cost effective over its life cycle and has already been adopted by many Bay Area cities, as noted in the table included in **Attachment C.** Encinitas in San Diego County has just adopted an all-electric requirement for new buildings, subject to limited exceptions. There could be opposition from SoCalGas and the local building industry.
- Require new multifamily residential developments and new and renovated or expanded nonresidential projects to include EV charging spaces exceeding the minimum standards set out in CalGreen. Council took a first step in this direction last year via an amendment to the Zoning Code.
- Implement SolarAPP+, an online automated solar permitting platform developed by the US Department of Energy (DOE) that verifies code compliance and issues permits in real time to licensed solar contractors. On May 6, 2021, Council approved a letter of support in favor of SB 617, which if it had passed would have required the City to adopt a platform such as SolarApp+ by September 30, 2023. DOE formally launched SolarAPP+ in July 2021, and it has already been adopted by other California cities, including Menifee in southern Riverside County.

It is important to note that, although the City has been moving forward with efforts to reduce GHG emissions, it could enhance its efforts by developing a broader climate adaptation strategy, if directed by Council. Under SB 379, climate change adaptation and resilience must be addressed in the safety element of all general plans in California, so the strategy can be integrated with the limited update General Plan now in progress. The adaptation strategy identifies specific climate impacts and corresponding mitigation actions, such as identifying community energy resiliency projects. Our two biggest potential impacts are, of course, drought and increasing temperatures, which also create the conditions for wildfires. We continue to work with DWA on water use reduction strategies such as turf buy backs and replacing grass with desert landscaping at the airport and have expanded cooling center hours to address climate impacts on vulnerable

populations. However, the City has not assessed or taken action to address other potential impacts such as diminishing habitats and animal populations.

Given current and planned activities, City staff is seeking Council input on the following:

- Whether to continue to pursue the existing home energy sustainability ordinance proposal described on Page 5 and in **Attachment D**.
- Whether any of the research topics on Page 6 are of interest given the investment they would require.
- Whether there are any other areas the City should be exploring to further reduce GHG emissions at this time.
- What other actions the City should consider related to research, education, outreach, or community engagement on this topic.
- Whether a formal climate emergency resolution or declaration is warranted if it would add value to the City's current and planned efforts. Examples from a few cities are included as **Attachment E.**

FISCAL ANALYSIS:

The table below includes a brief overview of cost impacts from only current or planned activities listed on Pages 3-4. It does not include any items that are still being researched.

Action	**Fiscal Impact**
Expand the network of City-installed EV charging stations.	The City has received over $[TBA] in grant funding and will continue to seek grant funding.
Implement new incentive program for home energy assessments.	$5,000 has been set aside in the Sustainability budget to provide these incentives.
Promote reusable food ware to reduce waste from disposables.	Cost impacts will vary by business. However, studies have shown that the switch to reusable food ware saves businesses money after initial costs are covered. [Add cost of consultant]
Implement new organics waste management requirements.	The costs associated with this will be significant but will be refined when the regulations are finalized. City staff are currently working with Palm Springs Disposal to develop cost estimates and assess impacts on rate increases.
Investigate capture technologies for GHG emissions from wastewater treatment plant.	To be determined based on additional research.
Development of a Walkability and Safe Routes to School Master Plan to reduce traffic emissions.	Contractor services are being paid for by SCAG ($200,000). Estimates for projects

Action	Fiscal Impact
	will be developed and presented to Council on a project-specific basis.
Develop options for reducing local transportation-related emissions.	To be determined based on opportunities identified. Some costs could be significant (e.g., widening roads to create alternative vehicle-only pathways).
Update the General Plan to reflect climate adaptation strategies.	Costs for the contractor support for the General Plan update and GHG inventory have already been approved by Council.

ENVIRONMENTAL ASSESSMENT:

All of the actions proposed are designed to reduce the City's GHG emissions. These emissions reductions would contribute to various sustainability goals and result in positive environmental impacts such as improving air quality in our City and helping address the world's climate crisis.

There is no City Council action being considered at this time. Depending on how Council decides to move forward, actions may result in a "Project" as defined by the California Environmental Quality Act (CEQA). Pursuant to Section 15378(a), a "Project" means the whole of an action, which has a potential for resulting in either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment.

REVIEWED BY:

Department Director:	Patrick Tallarico
City Manager:	Justin Clifton

ATTACHMENTS:

A. Climate Action Roadmap – October 28, 2021

B. Excerpts from Palm Springs Sustainability Plan

C. 2019 Code Cycle - Locally Adopted Energy Ordinances

D. Existing Home Energy Sustainability Ordinance Proposal

E. Examples of Climate Emergency Resolutions or Declarations

ATTACHMENT A:
CLIMATE ACTION ROADMAP – OCTOBER 28, 2021

October 28, 2021

City of Palm Springs, California

OFFICE OF SUSTAINABILITY

Climate Action Roadmap

Introduction

On October 15, 2019, the Palm Springs Sustainability Commission met to discuss how to move forward with discussions and potential further actions to address the climate change. At that meeting, the group agreed that the City should develop a roadmap to acknowledge the seriousness of our current climate crisis, describe what the City has already done and plans to do to address climate change, and identify potential additional actions.

This document responds to that request and is intended to serve as a focus for further discussions among the Commission and the City Council. It may also serve as an initial step in developing a climate goals and strategies to include in a future iteration of the City's Sustainability Plan.

1. Acknowledgement of the Current Climate Crisis

The City of Palm Springs recognizes that climate change is real and is having a dramatic impact on our environment, our economy, and our way of life. Globally, we know that sea levels are rising, polar ice is retreating, permafrost is melting, and fires are increasing. Here in the Coachella Valley, the summer of 2021 saw new heat records and a wildfire at Snow Creek in 2020 came close to the City limits.

Climate change is and will continue to manifest in Palm Springs in obvious ways: longer periods of drought; more frequent, above-average storm events; longer summers; more frequent and intense wildfires; and higher temperatures. It is also affecting life in the Valley in less visible ways. For example, changes in climate are having a significant impact on our local habitat. Staff at the Coachella Valley Association of Governments has indicated that populations of mammals and arthropods nearly crashed during recent droughts and dry spells. Although we experience some rebounds during wetter weather, we know that further change is inevitable and could be irreversible.[1] National scientists have also noted that the nearby iconic Joshua trees are threatened and may not last through this century.[2] In 2020, the California Fish and Game Commission unanimously voted to grant western Joshua trees candidate status under the California Endangered Species Act making it the first plant species to be protected in the state due to the threats posed by climate change.[3]

Our weather and environment are a key factor in why people come to Palm Springs and other Desert Cities to live, work, and play. Changes in our environment will have a significant impact on our economy and quality of life. Based on a study by University of California Riverside, claims that "climate change will decimate Palm

[1] Email from Kathleen Brundige at Coachella Valley Association of Governments. September 25, 2019.

[2] Iconic Joshua trees may disappear—but scientists are fighting back. National Geographic. October 15, 2018. https://www.nationalgeographic.com/environment/2018/10/joshua-trees-moths-threatened-climate-change-scientists-seek-solutions/

[3] https://www.desertsun.com/story/news/environment/2020/09/22/california-joshua-trees-advance-endangered-species-listing/5854896002/

Springs, Coachella Valley Tourism."[4] The City recognizes that we need to redouble our efforts to strategically address our contribution to climate change and mitigate the impacts we are already seeing and expect to see in the future.

2. Existing Goals and Plans

The City's current Climate Change & Resilience goal as stated in the **2016 Sustainability Plan** is to **reduce greenhouse gas emissions to 1990 levels by 2020, 80% below 1990 by 2050, and achieve carbon neutrality for municipal emissions by 2030**. This is consistent with the target identified by the state in AB 32 – California Global Warming Solutions Act.

In addition to the above Sustainability Plan goals, SB 32 signed by Governor Brown in 2016 requires the California Air Resources Board to ensure that statewide greenhouse gas emissions are reduced at least **40 percent below 1990 levels by December 31, 2030**.

The Plan also references a commitment made by the City as part of its participation in the U.S. Conference of Mayor's Climate Protection Agreement to go achieve a 7% reduction below 1990 levels by 2012. This goal aligns with the Kyoto Protocol.

In addition to establishing high-level goals, the 2016 Sustainability Plan also outlined some high-level actions such as monitoring and reporting greenhouse gas emissions; developing strategies based on the Climate Action Plan to reach the 1990 levels by 2020; and improving community resiliency to the potential impacts of climate change, including determining what these impacts will be.

The **Climate Action Plan** (issued in 2013) does not include any additional goals, but rather outlines specific actions that the City could take to reduce its emissions. These actions are organized into broad sectors (e.g., residential, business, municipal, etc.) and served as a menu for potential actions the City could take to reduce emissions. Many of the actions are now out of date, although some of the concepts are still applicable and will be reflected in future actions.

City Staff and Sustainability Commission members are currently reviewing goals and actions in the Sustainability Plan to determine the most appropriate opportunities for greenhouse gas reduction and will update the Sustainability Plan to reflect these new actions.

3. Activities and Progress to Date

The City of Palm Springs has always taken climate change seriously. As early as 2008, the City endorsed the U.S. Conference of Mayors Climate Protection Agreement and issued its own Path to Sustainability. Some of the efforts that have already helped the City achieve reductions in greenhouse gas emissions – the primary contributor to climate change – are listed below.

- Launched the Co-generation Facility in 2015 to help offset energy use at City facilities.
- Installed solar arrays at its Wastewater Treatment Plant and at the Convention Center. The Convention Center is able to offset over 60% of its energy use from its solar output.

[4] https://news.ucr.edu/articles/2020/09/07/climate-change-will-decimate-palm-springs-coachella-valley-tourism

- Administered commuter incentive programs for rideshare and electric vehicles (EV) to reduce greenhouse gas emissions from employee commuting.
- Implemented LED and energy efficient lighting retrofit projects at City facilities and at street lights.
- Implemented ban on gas-powered leaf blowers and replaced over 400 gas-powered units with electric.
- Implemented a mobile home energy retrofit program that resulted in a reduction of nearly 92,000 pounds of CO2e.
- Developed a solar policy and solar zoning ordinance to facilitate the installation of solar on residential and commercial properties.
- Installed a network of 36 EV charging stations and updated parking standards to reflect new state requirements and best practices on EV charging stations on private property to help support EV adoption.
- Implemented changes in the California Energy Code and Green Building Standards Code effective in January 2020.
- Require installation of EV charging stations for certain commercial developments.
- Implemented new Home Energy Assessment Rebate program.

Most recently and most significantly, the City moved to Desert Community Energy in March 2020. The City took the bold step to default all customers to the 100% carbon-free option to maximize the potential for greenhouse gas reductions.

As noted in the goals, 1990 is the official baseline from which to measure progress. When the City conducted a baseline greenhouse gas inventory for 2010 (published in 2013), the results indicated that the City had already achieved its initial goal – to reach 1990 levels by 2020. However, a variety of changes have occurred in emissions calculations methodologies since 1990 and 2010.

In 2020, the City contracted with a consulting firm, PlaceWorks, to update the 2010 inventory based on current greenhouse gas emissions inventory methodologies. This update would help determine if the City was still meeting its 1990 target as originally calculated. Updating the 2010 inventory would also help ensure a more consistent comparison point for any future inventories.

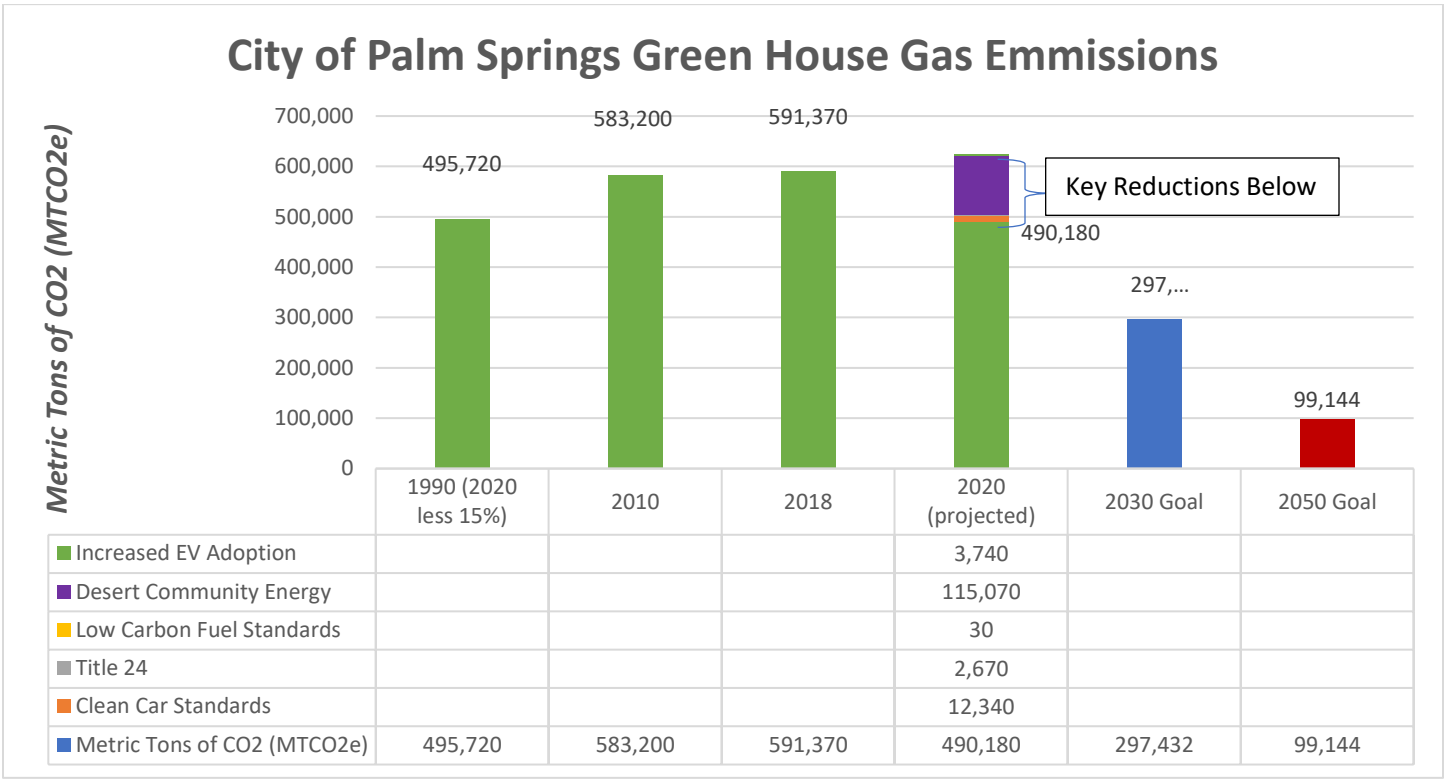
The 2010 update revealed a 35% increase in 2010 emissions levels over what was initially reported. Specifically, the City calculated 2010 emissions to be 431,594 Metric Tons of CO_2 Equivalent ($MTCO_2e$) in the 2013 emissions inventory. The updated equivalent is 538,200 $MTCO_2e$. This increase was largely due to more current methodologies used to assess transportation impacts and increases in the global warming potential for some greenhouse gases such as methane that are released from water and wastewater operations and from waste sent to landfill.

Given the changes that resulted from the 2010 update, it was clear that the 1990 emissions baseline would need to be adjusted. Rather than attempting to redo those calculations, the State recommends using a simple calculation of 15% lower than 2010 recalculated emissions levels to arrive at a 1990 equivalent baseline. This means the City's 1990 new equivalent baseline is 495,720 ($MTCO_2e$) (compared to the original 432,136 $MTCO_2e$). Below is a summary of goals based on this new 1990 baseline number.

Reporting Year	Target	Palm Springs Emissions Levels ($MTCO_2e$)
2020	1990 Levels (15% below 2010)	495,720
2030	40% Below 1990 Levels	297,430
2050	80% Below 1990 Levels	99,140

The City also asked PlaceWorks to conduct an updated community emissions inventory for 2018 and an estimate of 2020. These assessments helped determine the City's progress towards the goals above and provide a snapshot of key emissions to identify opportunities for additional reductions.

The results of the inventories are included in the table below.



	1990 (2020 less 15%)	2010	2018	2020 (projected)	2030 Goal	2050 Goal
Increased EV Adoption				3,740		
Desert Community Energy				115,070		
Low Carbon Fuel Standards				30		
Title 24				2,670		
Clean Car Standards				12,340		
Metric Tons of CO2 (MTCO2e)	495,720	583,200	591,370	490,180	297,432	99,144

NOTES:

- Due to differences in calculation methods in 1990, the State has indicated that a reduction of 15% of 2010 levels is the equivalent of the 1990 baseline.
- 2030 Goal is based on a 40% reduction of the revised 1990 data.
- 2050 Goal is based on an 80% reduction of the revised 1990 data.
- In 2018, this number rose to 591,370 $MTCO_2e$. However, with the reductions achieved as a result of the City's participation in Desert Community Energy and reductions from other statewide initiatives, Palm Springs' projected 2020 GHG emissions are estimated to be 493,920 $MTCO_2e$ – below the adjusted goal. Without Desert Community Energy, the City would be about 609,000 $MTCO_2e$, or approximately 4.4% above 2010 levels. The Community's commitment DCE's Carbon Free program reduced its emissions by over 115,000 $MTCO_2e$.

Below is a breakdown of the 2018 and 2020 estimates that provides important information about major emissions categories. Among the observations that help shape future actions are the following:

- There was a significant reduction in emissions because of residential and commercial participation in Desert Community Energy's 100% carbon free plan.
- Transportation is the biggest contributor to overall emissions, accounting for over half of the total.
- Residential energy is still a significant contributor, despite participation in Desert community energy.
- Commercial sector emissions were reduced but could easily rise pending additional growth.
- Solid waste-related emissions speak to the need to continue efforts to divert materials from landfill.

Sector	2018 $MTCO_2E$	2020 $MTCO_2E$	Percentage Change 2018 to 2020
Residential energy	148,930	111,000	-25%
Commercial and industrial energy	119,370	72,200	-40%
Transportation	265,160	259,630	-2%
Off-road equipment	490	540	10%
Solid waste	23,090	24,030	4%
Landfill	1,150	1,110	-3%
Water and wastewater	34,500	22,990	-33%
Fertilizer	20	20	0%
Land use	-1,340	-1,340	0%
Total	**591,370**	**490,180**	**-17%**

Due to rounding, totals may not equal the sum of individual rows or compare exactly to values in other tables.

4. Roadmap of Future Actions to Reduce Greenhouse Gas Emissions

Transportation

Transportation-related emissions are the largest source of greenhouse gas emissions. Unless we reduce these emissions significantly, we will never reach our future reduction goals. City staff will be working with PlaceWorks to identify opportunities for reductions, especially in vehicle miles traveled and mix of vehicle types to understand where we can have the most significant impacts. Assuming sufficient granularity in the model, more detailed scenarios for meeting targets can be developed. Then policies, programs, and plans for infrastructure changes needed (requesting funding in city budget) can be proposed and started now. At a minimum, we know that improvements must be made to increase the number of alternative fueled vehicles, enhance non-motorized or electric transportation options, reducing idling, and enhancing public transit options. Some specific actions are listed below:

- **Expand the network of EV charging stations.** The market for electric vehicles increased significantly over the past several years since the Climate Action Plan was developed. The City has not needed to promote electric and hybrid alternatives as was described in the Plan. This may be changing as people seem to be reverting to sport utility vehicles, but car manufacturers are also responding with electric and hybrid options. New State and National focus on increasing EV use could mean that the tipping point for the move to electric vehicles is near. This is leading to an increased need for EV charging

stations – something the Sustainability and Engineering Divisions have been working on together for the past several months. The City will install the units starting in Fall 2021. (Fall 2021)

- **Development of a Walkability and Safe Routes to School Master Plan.** The Master Plan will help promote pedestrian safety and increase pedestrian traffic to reduce transportation-related emissions. (2020-2021)
- **Implement Airport Shuttle Program and Revisit Buzz Trolley Concept.** Many residents to Palm Springs fly into the airport and rent a car during their stay. The City should work to better understand the driving habits of visitors, the emissions reductions that could be achieved by reducing car rentals and car use within the city, and what options may be most viable for making these reductions.
- **Develop New Bike Master Plan to identify improvements to Bike Infrastructure.** A key to promoting more biking is to enhance the bike-related infrastructure to make biking safer. The City is working with the Sustainability Commission to assess feedback from the biking community to identify specific enhancements that are needed and develop a plan to capture these improvements for future implementation. This assessment should consider the emergence of electric bikes and how that may impact infrastructure needs. (Fall 2021/Winter 2022)
- **[Insert additional actions based on analysis of data.]**

Residential and Commercial Buildings

AB 3232 enacted in 2018 requires the California Energy Commission (CEC) to assess the potential for the state to reduce GHG emissions from the state's residential and commercial building stock by at least 40 percent below 1990 levels by January 1, 2030. The bill states that decarbonizing California's buildings is essential to achieve the state's GHG reduction goals at the lowest possible cost. The bill establishes that it is the intent of the Legislature to achieve significant reductions in GHG emissions by the state's residential and commercial building stock by January 1, 2030. The City will continue to focus efforts to reduce emissions from buildings, including the following:

- **Continue to support the move to the 100% carbon free option for Palm Springs residents under Desert Community Energy (DCE).** The launch of DCE occurred in April 2020 and continues to be a focus of DCE, City staff, and a dedicated Palm Springs Working Group of DCE's Community Advisory Committee. The City's decision to shift to carbon-free energy as the default for all residents and businesses has had a significant impact on the City's greenhouse gas emissions. However, rising energy prices and confusing energy bills could potentially reverse progress if more residents move away from the 100 carbon-free plan. The City will continue to work with DCE staff to educate community members and discuss the benefits of carbon-free energy. (Ongoing)
- **Implement Incentive Program for Home Energy Assessments.** The Sustainability Commission has approved a new program to provide rebates to residents that conduct a home energy assessment as part of an approved home energy labeling program. This program began in Spring 2021. It is hoped that providing homeowners with information about how they can reduce their home energy costs will help boost the energy efficiency of existing housing stock. City staff will continue to coordinate with DCE staff to explore opportunities to continue this as one of their energy efficiency programs for homeowners. (Ongoing)

- **NEW: Develop ordinance to require homes built before 2011 undergoing renovations to make certain targeted energy efficiency upgrades.** The Sustainability Commission is researching a variety of measures exceeding state building requirements that have been adopted by other California cities and counties. These measures have upfront costs but are all cost-effective over their life cycle. Pending direction from Council, the measures can be further researched, and a draft ordinance presented to the Commission and Council. (Winter 2022)
- **NEW: Promote more sustainable cannabis grow facilities.** Cannabis grow facilities have the potential to use a significant amount of energy and water resources. By promoting more sustainable practices, including energy efficient systems and use of renewable energy, the City can avert the potential significant additional greenhouse gas emissions that may result from the growth in this new industry. The City is planning to put forward a new ordinance that would require cannabis grow facilities to use 100% carbon free energy. This ordinance was requested by the Planning Commission. The Sustainability Commission plans to conduct outreach on the potential ordinance in late 2021 and propose something to Council in early 2022. (Fall 2021/Winter 2022)

Other Sectors

- **Investigate capture technologies for greenhouse gas emissions from wastewater treatment plant.** Wastewater treatment plant emissions were the single largest municipal emissions source in the 2010 greenhouse gas Inventory. The City may be able to further reduce its direct greenhouse gas emissions by incorporating emissions control technologies that capture emissions from the wastewater treatment process for use as fuel. The Sustainability Commission is working with the water treatment plant operators to investigate whether this idea is feasible. Although the City had pursued similar options in the past, there were legal, technological, and fiscal barriers that prevented implementation. (Winter 2021)
- **Implement new organics waste management requirements.** One of the challenges that the state continues to have in managing greenhouse gas emissions broadly is managing emissions from landfills – much of which is generated by organic waste. The State is working on a new law – SB 1383 – that is designed to reduce the amount of organics going to landfills. The City is currently working with PSDS to anticipate and respond to this new law. This will help the city reduce its greenhouse gas emissions by reducing the amount of methane emissions from landfills. (2021-2022)

4. Roadmap of Future Actions to Address Climate Impacts

One of the areas that the City has not focused attention on in the past is resiliency and climate adaptation. With the immediate nature of many climate impacts, this must be moved to the forefront of thinking along with continued efforts to reduce greenhouse gasses that are the source of these impacts. The City is currently working to update its General Plan to incorporate elements of climate adaptation. Particular attention will be paid to the impact of climate changes on vulnerable communities and the equity of impacts across various communities. Below are some examples of potential strategies:

- **Allow Outdoor Workers to Start Earlier in Summer Months.** When developing the gasoline leaf blower ordinance, one of the requests that gardeners put forward was to allow them to start earlier to reduce battery depletion. Given year-after-year of record temperatures, outdoor workers are increasingly

vulnerable to the effects of heat. Allowing work to start earlier will help reduce these impacts. City staff will work to develop the ordinance in the new year. (Spring 2022)

- **Develop Improved Response Plans for Climate Events.** Sustainability staff will work with Emergency Management staff to identify opportunities to improve response efforts related to climate-related events such as wind storms, power outages, severe heat events, and flooding. (Fall 2021/Winter 2022)
- **[Insert additional opportunities from PlaceWorks climate adaptation analysis.]**

5. Next Steps

The Sustainability Commission and City staff continue to identify opportunities to reduce greenhouse gas emissions and adapt to climate impacts and looks forward to additional discussions with Council, especially following the results of the greenhouse gas emissions inventory. Staff will continue to work with Planning Staff to integrate concepts, as appropriate, into the General Plan. Specific actions will be incorporated into the upcoming Sustainability Plan update.

ATTACHMENT B:
EXCERPTS FROM PALM SPRINGS SUSTAINABILITY PLAN

ATTACHMENT C:
2019 CODE CYCLE - LOCALLY ADOPTED ENERGY ORDINANCES

ATTACHMENT D:
EXISTING HOME ENERGY SUSTAINABILITY ORDINANCE PROPOSAL

ATTACHMENT E:
EXAMPLES OF CLIMATE EMERGENCY RESOLUTIONS OR DECLARATIONS