

## MEMORANDUM

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TO Patrick M. Tallarico, Manager, City of Palm Springs Office of Sustainability

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SUBJECT City of Palm Springs 2020 Greenhouse Gas Projections

### Introduction

This memo presents the estimate of community-wide greenhouse gas (GHG) emissions in Palm Springs for the calendar year 2020. PlaceWorks previously updated the City’s 2010 community-wide and City operations GHG emissions inventories and prepared a 2018 community-wide GHG emissions inventory. The update of the 2010 community-wide GHG emissions inventory and preparation of the 2018 inventory, which was the year with most available data when the inventory work started in early 2020, allowed the City to see changes in emissions since the 2010 baseline. PlaceWorks has also used these results to prepare projections of the community-wide GHG emissions in 2020 and to identify the reductions achieved by existing State of California efforts, increased electric vehicle (EV) adoption, and the launch of Desert Community Energy. These 2020 projections will serve as a foundation for identifying future GHG emissions and projecting a path for reducing these emissions.

### 2020 Community-wide GHG Emissions Projections

#### EMISSION PROJECTIONS

The draft 2020 projection of community-wide GHG emissions is based on the results of the 2018 community-wide GHG emissions inventory, combined with Palm Springs’ 2018 and 2020 demographic estimates (population, households, and jobs). **Table 1** shows the demographic projections used to prepare the 2020 GHG emissions projection. Demographic data for 2018 is from the Southern California Association of Governments (SCAG) and the U.S. Census Bureau, while estimates of demographic data for 2020 are from SCAG.

**Table 1: Palm Springs Community-wide Demographic Projections, 2018 – 2020**

	2018	2020	PERCENTAGE CHANGE 2018 TO 2020	SOURCE
Population	47,710	49,000	3%	SCAG
Households	23,390	25,300	8%	SCAG
Jobs	33,370	35,400	6%	SCAG/U.S. Census Bureau
Service population *	81,080	84,400	4%	SCAG

\* Service population is the sum of population and jobs.

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The draft 2020 GHG forecast projections assume that each person in Palm Springs will continue to contribute the same amount of GHG emissions to the community total, so that the amount of GHG emissions increases proportional to the projected increase in community demographics. There are two exceptions to this assumption. Emissions associated with fertilizer and land use/biomass sequestration assume that the City does not develop open space land and that the number of street trees in the community remains constant. Emissions from the closed landfill will continue to decline as the material stored in that landfill continues to break down.

Without the impact of state policies, increased EV adoption, Desert Community Energy, or any other action at any level (local, regional, state, or federal), Palm Springs’ 2020 GHG emissions are projected to be 6 percent higher than 2018 levels. **Table 2** shows Palm Springs’ forecasted community-wide GHG emissions.

**Table 2: Palm Springs Draft Community-wide GHG Emissions Projections, 2018 – 2020**

SECTOR	2018 MTCO <sub>2</sub> E	2020 MTCO <sub>2</sub> E	PERCENTAGE CHANGE 2018 TO 2020
Residential energy	148,930	161,100	8%
Commercial and industrial energy	119,370	126,630	6%
Transportation	265,160	276,020	4%
Off-road equipment	490	570	16%
Solid waste	23,090	24,030	4%
Landfill	1,150	1,110	-3%
Water and wastewater	34,500	35,920	4%
Fertilizer	20	20	0%
Land use	-1,340	-1,340	0%
<b>Total</b>	<b>591,370</b>	<b>624,060</b>	<b>6%</b>

MTCO<sub>2</sub>e = Metric tons of carbon dioxide equivalent

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

Most of the GHG emission sectors experienced a modest increase in emissions as the number of residents, households, and jobs in Palm Springs increased. However, the off-road sector experienced a larger increase in emissions, driven primarily by increases in construction emissions due to projections of more houses being constructed from 2019-2020 than from 2017-2018.

The 2020 GHG emission projections are estimates based on demographic changes and are not based on directly measured activity data. These estimates do not reflect the effects of stay-at-home orders or changes in behaviors or other activities as a result of the COVID-19 pandemic.

## Reductions from Existing Programs

### STATE POLICY GHG EMISSION REDUCTIONS

California has adopted and committed to implementing policies to decrease statewide GHG emission levels. Many of these policies are identified in the *Climate Change Scoping Plan* (Scoping Plan), which was first adopted in 2008 in response to the California Global Warming Solutions Act, also known as Assembly Bill 32. The Scoping Plan outlines several market-based and regulatory solutions to achieving California's GHG emission-reduction goals. Successive updates to the Scoping Plan in 2014 and 2017 revised these state-level actions and identified additional opportunities for GHG emission reductions.

While the Scoping Plan and related documents lay out several policies to reduce GHG emissions, not all are directly applicable to Palm Springs. Four of these policies are directly relevant, allowing Palm Springs to receive "credit" for the State's efforts. These efforts are:

1. The Renewables Portfolio Standard (RPS) that requires increases in renewable electricity supplies.
2. The Clean Car Standards that require increased fuel efficiency of on-road vehicles and decreased carbon intensity of vehicle fuels.
3. The updated Title 24 building energy efficiency standards that require new buildings to achieve increased energy-efficiency targets.
4. The Low Carbon Fuel Standard (LCFS) that mandates reduced carbon intensity of fuels used in off-road equipment.

### ELECTRIC VEHICLE ADOPTION

The State of California provides projections of the regional vehicle mix and fuel types when assessing GHG reductions from the Clean Car Standards discussed in the previous section. In these projections, the State assumed that approximately 0.85 percent of light-duty (i.e. passenger cars, trucks, and SUVs) vehicles in the Coachella Valley region were EVs. However, vehicle registration data for Palm Springs, which is based on actual records rather than projections, identified that approximately 2.77 percent of vehicles in the community were EVs, either full battery-electric vehicles or plug-in hybrid vehicles. This net increase in EVs as a proportion of vehicles in Palm Springs allows the community to identify additional GHG emission reductions to the transportation sector beyond those already projected by the State as part of the Clean Car Standards data (see **Table 3**), although it also assumes an increase in electricity use due to increased EV charging (see **Table 4**).

### DESERT COMMUNITY ENERGY

In addition to the State's efforts and increased EV adoption by community members, Palm Springs has taken actions at the local level to reduce its GHG emissions with the launch of Desert Community Energy. Desert Community Energy is a community-choice aggregator program (also called community clean energy or community choice energy), which allows local governments to purchase electricity for members of their communities. These programs offer community members greater choice on their electricity service, including price, energy sources, and funding decisions.

Desert Community Energy launched in Palm Springs in April 2020. Community members were enrolled by default in Desert Community Energy's Carbon Free program, which provides all of its electricity from renewable or another carbon-free program. Community members may choose to opt down to the Desert

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Saver program or return to receiving electricity from Southern California Edison. It is assumed that all City facilities and electrical accounts, including water and wastewater-related electrical use, are enrolled in the Carbon Free tier.

According to Desert Community Energy’s April 2021 program activity update, 11.98 percent of Palm Springs customers opted down to Desert Saver and 7.39 percent opted out to Southern California Edison, leaving 80.63 percent of Palm Springs’ electrical customers continuing to receive electricity from the Carbon Free program. Since Desert Saver provides renewable and carbon-free electricity at roughly similar proportions as Southern California Energy, only Carbon Free customers create GHG savings relative to conditions without Desert Community Energy.

An additional consideration for the 2020 projections is that Southern California Edison provided all electricity use citywide in the first three months of 2020 until Desert Community Energy began operating in April 2020. According to data from Southern California Edison, electricity use in these first three months accounted for 19.86 percent of the total 2020 electricity use in Palm Springs’ zip codes. For the purposes of these calculations, it is assumed that the participation rates mentioned herein are only applicable for the nine months of 2020 when Desert Community Energy was operating.

**EXISTING PROGRAM GHG EMISSION REDUCTIONS**

**Table 3** shows the total GHG emission reductions from existing State policies, increased EV adoption, and Desert Community Energy.

PROGRAM	2020 EMISSIONS REDUCTION (MTCO <sub>2</sub> E)	AFFECTED SECTORS
Renewables Portfolio Standard	0 *	Residential energy, commercial and industrial energy, water and wastewater
Clean Car Standards	12,340	Transportation
Title 24	2,670	Residential energy, commercial and industrial energy
Low Carbon Fuel Standards	30	Off-road equipment
Increased EV Adoption	3,740	Residential energy †, transportation
Desert Community Energy	115,070	Residential energy, commercial and industrial energy, water and wastewater
<b>Total</b>	<b>133,850</b>	-

\* The Renewables Portfolio Standard requires electrical utilities to supply at least 33 percent of their power from renewable sources by 2020. Since Southern California Edison supplied 39 percent of its power from renewable sources in 2018, it is already meeting this requirement, so no additional reductions are assumed.

† It is assumed that all EV charging is conducted at home and that the increased residential electrical demand is met by grid-supplied power, so there is an increase in residential electricity use and associated GHG emissions.

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With these programs, Palm Springs’ 2020 GHG emissions are projected to be 490,180 metric tons of carbon dioxide equivalent (MTCO<sub>2</sub>e), which is 21 percent below the projections without existing programs and 17 percent below the total of the 2018 community-wide inventory. The commercial and industrial energy, water and wastewater, and residential energy sectors show significant declines in GHG emissions, owing mostly to reductions achieved by Desert Community Energy but also as a result of the Title 24 standards. Transportation emissions decline slightly due to the Clean Car Standards. While off-road equipment emissions are still projected to be higher in 2020 than they were in 2018, the increase is smaller as a result of the Low Carbon Fuel Standards. **Table 4** shows the projected 2020 GHG emissions with existing programs, compared to 2018 GHG emissions.

**Table 4: Palm Springs Draft Community-wide GHG Emissions Projections with Existing Programs, 2018 – 2020**

SECTOR	2018 MTCO <sub>2</sub> E	2020 MTCO <sub>2</sub> E	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%
<b>Total</b>	<b>591,370</b>	<b>490,180</b>	<b>-17%</b>

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

## Conclusion

With the reductions achieved as a result of the City’s participation in Desert Community Energy and through existing State programs , Palm Springs’ projected 2020 GHG emissions are estimated to be 490,180 MTCO<sub>2</sub>e. In 2010, the community-wide GHG emissions were 583,200 MTCO<sub>2</sub>e. Given this, Palm Springs’ 2020 GHG emissions are projected to be approximately 16 percent below 2010 levels. Without the reductions achieved by Desert Community Energy and increased local EV adoption (i.e., only considering reductions from State policies), Palm Springs’ projected 2020 GHG emissions would have been about 609,000 MTCO<sub>2</sub>e, or approximately 4.4% above 2010 levels.

California has adopted a target of reducing state-wide GHG emissions to 1990 levels by 2020. This target is also included in Palm Springs’ 2016 Sustainability Plan. According to the State’s Scoping Plan, which identifies local governments as strategic partners in meeting the State’s GHG emission-reduction targets, reducing GHG emissions 15 percent below 2005-2010 levels by 2020 would be equivalent to reducing GHG emissions to 1990 levels for local governments. Based on this interpretation in the Scoping Plan and the results presented in this memorandum, Palm Springs has achieved its 2020 GHG emissions reduction target

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by reducing emissions 16 percent below 2010 levels primarily as a result of the launch of Desert Community Energy and the commitment by most customers to stay with the Carbon Free program.

As previously noted, these projections of 2020 GHG emissions do not take into account the impacts of the COVID-19 pandemic. Due to significant changes in behavior as a result of the pandemic, it is likely that GHG emission inventories for 2020 and 2021 will not accurately reflect long-term trends. Assuming that the pandemic has a much smaller impact on behavior in 2022, PlaceWorks recommends that Palm Springs prepare a 2022 GHG inventory when data is available, likely in the middle of 2023. This will allow the community to more accurately assess its GHG emissions trend and identify progress on longer-term GHG emission reductions.