

Summary of Inventory Method and Data Source Differences

Emissions Category	Category Detail	Year 2012 Inventory Method and Data Sources	Year 2016 and 2018 Inventory Methods and Data Sources
General	Population	SANDAG estimates	no change
	Jobs	Series 13	no change
On-road Transportation	Activity (VMT)	SANDAG Series 12 or Series 13 (version may vary, 13.3.0 or 13.2.5) O-D VMT	SANDAG Series 14 Forecast, ABM2 transportation model, O-D VMT
	Emission Factor (g CO2e/mile)	Derived from EMFAC2011 or EMFAC2014	Derived from EMFAC2017
Electricity	Activity (MWh)	SDG&E	no change
	Emission Factor (lbs CO2e /MWh)	EPIC, calculated based on bundled and Direct Access emission factors. The bundled emission factor is in turn calculated from Power Source Disclosure Program data and eGrid databased on specific power plant emissions. The Direct Access emission factor is a default value from the CPUC.	no change
Natural Gas	Activity (therms)	SDG&E	no change
	Emission factor (MMT CO2e/MMtherms)	constant, 0.0545	no change
Solid Waste	Activity (tons disposed into landfills)	CalRecycle Disposal Reporting System	no change
	Closed landfills	EPA MMR if greater than 25,000 MT per year CO2e; city data on closed landfills	no change
	Emission factor (methane emissions/ton)	1) ICLEI, average mixed solid waste emission factor (0.06 MT CH4/short ton), OR 2) Based on jurisdiction's or nearby jurisdiction's waste characterization study and landfill waste emission factor from EPA WARM Model Version 14	Based on jurisdiction's or nearby jurisdiction's waste characterization study and landfill waste emission factor from EPA WARM Model Version 14
	Capture rate of emissions from the landfills	default 75% unless otherwise provided by the city	no change
Off-road Transportation	Emissions	Sub-categories under off-road transportations included in the inventory are jurisdiction-specific. Sub-category emissions are allocated to each jurisdiction from the San Diego region-wide emissions based on specific scaling factors such as shown below: Recreation vehicle (population) Law and garden equipment (population) Light commercial equipment (commercial jobs) Construction and mining (construction jobs) Industrial (Industrial jobs) Diesel-fueled portable equipment (jobs)	no change
Water	Consumption (gallons or Acre-feet)	1) Waster suppliers district-wide per capita water use and jurisdiction's population, OR 2) Water suppliers and/or jurisdiction; by water type (raw imported, treated imported, local surface, local groundwater, recycled)	Water suppliers and/or jurisdiction; by type (raw imported, treated imported, local surface, local groundwater, recycled)
	water upstream and supply energy use	1) default California Energy Commission's 2006 statewide water-related energy use study, OR 2) default energy intensity (energy use per unit of water) - from SDCWA + MWD Urban Water Management Plans	default energy intensity (energy use per unit of water) - from SDCWA + MWD Urban Water Management Plans
	Water treatment energy use	1) default California Energy Commission's 2006 statewide water-related energy use study, OR 2) weighted by supplier amounts and types and based on energy use information provided by water treatment facility for that city	weighted by supplier amounts and types and based on energy use information provided by water treatment facility for that city
	Water distribution energy use	1) default California Energy Commission's 2006 statewide water-related energy use study, OR 2) weighted by supplier amount and distribution energy provided by each water supplier.	weighted by supplier amount and distribution energy provided by each water supplier.
Wastewater	Production (gallons)	1) water use in jurisdiction and ratio of water use and wastewater production, OR 2) Provided by city and/or wastewater treatment agency for the city	Provided by city and/or wastewater treatment agency for the city
	Emission factors (only from combustion of methane produced, process emissions and fugitive methane emissions)	Provided by wastewater treatment agency (Encina WPCF and Point Loma WWTP)	no change

Note

These methods and data sources are relevant to the 15 Roadmap cities under SANDAG's ReCAP program.

The methods and data sources used for the 2012 and 2016/2018 inventories may have changed and are indicated above. The methodologies used are described in detail in ReCAP 2018.

Non-Roadmap jurisdiction (County, San Diego, Chula Vista) may be have different baseline years, methods or other sources of data

Summary of 2018 ReCAP Snapshot Activity Data Sources

Emissions Category	Snapshot Activity Data		Source	Notes on Data or Processing Data
	Population (as of January 2018)		Based on SANDAG Demographic and Socioeconomic Estimates for the jurisdiction (August 19, 2020 version).	Population and housing unit estimates are updated annually. SANDAG August 2020 version estimates may differ from previous or later versions' estimates.
	Occupied Housing Units (as of January 2018)			
Transportation	Community-wide	Number of public electric vehicle chargers through 2018	Alternative Fuels Data Center Alternative Fueling Station Locator https://afdc.energy.gov/stations/#/analyze	Data filtering criteria: Fuel Type: ELEC Status: Available Access: Public The number of chargers are the number of nozzles or plugs, one site may have more than one charger. The Alternative Fuels Data Center (AFDC), managed by National Renewable Energy Laboratory (NREL), is an open data source platform, which allow users to add, remove, and update charging station information and location, with NREL verification. The database is updated on an ongoing basis. As a result, the number of chargers may increase or decrease year over year. However, AFDC data are still the best available data at city level.
		Number of clean vehicles (alternative fuel vehicles) through October 2018	Department of Motor Vehicles Statistics Fuel Type by City as of 10/1/2018	Zero emission vehicles include battery electric, plug-in hybrid and fuel cell vehicles. Alternative fuel vehicles are referred to as clean vehicles in this document. All but gasoline and diesel vehicles are alternative fuel vehicles and include zero emission vehicles.
		Number of zero emission vehicles as percentage of total vehicles registered through October 2018	https://www.dmv.ca.gov/portal/uploads/2020/04/MotorVehicleFuelTypes_City_102018.pdf	DMV registered vehicle data, including total number of registered vehicle and number of registered vehicle by fuel type, have not been consistent year over year. However, DMV data are still the best available data at city level.
	Municipal Operations	Number of electric vehicle chargers stations at municipal sites (2018)	Data provided by City	N/A
		Number of clean vehicles in municipal fleet (2018)	Data provided by City	N/A
	Community-wide	Total Miles of Bicycle Lanes (miles in 2018)	Data provided by SANDAG to EPIC	Miles of bicycle facilities represent the data based on what were "on the ground". The mileages are based on the length of street centerline segment, which can include bicycle facilities on either side of the street, or both sides. The classification of bicycle facilities is based on the California Highway Design Manual and used by SANDAG. Miles of bicycle lanes as percentage of road miles are based on the miles of bicycle facilities and miles of roads, excluding freeways, freeway to freeway ramps, freeway on/off ramps, private streets, alleys, military streets within bases, paper streets, and unpaved roads.
		Passengers on and off transit per weekday (Fiscal Year 2018)	Data provided by SANDAG to EPIC (Data were provided by MTS and NCTD to SANDAG)	Transit include MTS bus, MTS trolley, Coaster and Sprinter. NCTD bus (Breeze) data are not available.
		Number of local businesses participating in SANDAG iCommute program events (2018)	Data provided by SANDAG to EPIC SANDAG Employer Program, Active Employers as of December 7, 2018	Passengers served by transit stops are represented by boardings and alightings in a jurisdiction, and are identified with transit stop IDs. The data are for weekday only, does not include weekend data.
				Include all types of iCommute program activities
Energy	Energy Consumption and Savings	Community-wide electricity consumed - grid-supply only (MWh in 2018)	Data provided by SDG&E to EPIC	Electricity use represents metered sales data only, does not include transmission and distribution losses or behind-the-meter supply (e.g., behind-the-meter PV).
		Community-wide natural gas consumed (million therms in 2018)		
		Community-wide electricity savings through SDG&E programs (MWh in 2018)	Data provided by TRC	Energy savings from SDG&E energy efficiency program participants only. This includes all customer sectors in the jurisdiction, e.g., residential, commercial, and industrial (if any). The savings are estimates comparing the energy use with and without the energy efficiency projects.
	Municipal Operations	Municipal facilities electricity consumed - grid-supply only (MWh in 2018)	Data provided by TRC to EPIC	Electricity use represents metered sales data only, does not include transmission and distribution losses or behind-the-meter supply (e.g., behind-the-meter PV or co-generation).
		Municipal facilities natural gas consumed (therms in 2018)		
		Municipal facilities energy saved through SDG&E programs (kWh in 2018)	Data provided by TRC to EPIC	Energy savings from SDG&E energy efficiency program participants only. No activity means no municipal energy efficiency project received SDG&E incentives from 2016 to 2018.
		Municipal facilities energy saved through SDG&E programs (therms in 2018)		
	Renewable Energy	Percent of renewables in SDG&E electricity supply (2018)	California Energy Commission Power Content Label https://www.energy.ca.gov/programs-and-topics/programs/power-source-disclosure/power-content-label	For SDG&E bundled customers only. Electricity providers for SDG&E's Direct Access customers have different renewable contents.
		Community-wide PV capacity - all systems (MWs through 2018)	California Distributed Generation Statistics Interconnection NEM data Current as of 2020-02-29 https://www.californiadgstats.ca.gov/downloads/	Systems that are interconnected as of December 31 of a given year (application approved date) are included for that year. MW is in direct current (dc).
		PV capacity at municipal facilities (kW as of 2018)	Data provided by City	Database is updated quarterly. Statistics in this version may be different from previous or later versions.
	Municipal Operations			N/A
Wastewater	Community-wide	Wastewater produced per capita (gallons per capita per day in 2018)	Data provided by City	N/A
Water	Community-wide	Potable water consumed per capita (gallons per capita per day in 2018)	Data provided by City or Water District	N/A
Solid Waste	Community-wide	Waste disposed in landfill per capita (pounds per person per day in 2018)	CalRecycle Jurisdiction Disposal and Alternative Daily Cover (ADC) Tons by Facility https://www2.calrecycle.ca.gov/LGCentral/DisposalReporting/Destination/DisposalByFacility	N/A
	Community-wide	Community-wide waste diversion rate (% in 2018)	CalRecycle Jurisdiction Diversion/Disposal Rate Summary https://www2.calrecycle.ca.gov/LGCentral/DiversionProgram/JurisdictionDiversionPost2006	Diversion rate is calculated based on City's per resident disposal rate target (pounds per capita per day - PPD), which is equivalent to a 50% diversion rate, and the PPD in a year. Each city has a different disposal rate target.
	Municipal Operations	Average annual number of new trees planted by City (In 2018, or annual average)	Data provided by City	N/A