

SRP GREENHOUSE GAS EMISSIONS

What are greenhouse gases and where do they come from?

Greenhouse gases (GHGs) are gases in Earth's atmosphere that trap heat. There are many types of GHGs, and although most of these gases occur naturally, human activity has increased their concentration in the atmosphere, mostly from the extraction, combustion and delivery of fossil fuels like coal, gasoline and natural gas for electricity production and transportation. Other sources include chemical consumption, livestock cultivation and cement production. In 2020, 37% of Arizona's carbon emissions came from the electric power sector, 36% from transportation, and 27% from other agricultural, commercial and residential sources, according to the U.S. Environmental Protection Agency (EPA).¹

According to research conducted by the United Nations Intergovernmental Panel on Climate Change (IPCC), science validates that higher levels of GHG concentrations in the atmosphere trap more heat, causing global and local changes in weather patterns.² Different regions will experience different challenges, but the general trend across the globe is that habitats and the climate are changing faster than ecosystems can adapt, with a range of potential implications.³

What is SRP doing to reduce our GHG footprint?

SRP believes we have a responsibility to be part of the global solution, which is why we voluntarily track and report our companywide emissions each year. Understanding our footprint helps us make important choices to drive emission reductions for the benefit of our customers and the environment while continuing to provide the affordable and reliable water and power that our communities have counted on for over 120 years.

Today, about 25% of SRP's retail energy mix is carbon-free. By 2025 that will grow to nearly 50%, and by 2035 we are planning for approximately 75% of SRP's retail energy mix to be carbon-free. Additionally, we are exploring innovative technologies like long-duration battery storage and hydrogen infrastructure to help unlock affordable and reliable pathways to even greater reductions.

How does SRP measure our greenhouse gas emissions?

SRP conducts an annual Greenhouse Gas Inventory that quantifies emissions from all operations we have full or partial ownership of, and it includes all GHGs relevant to our operations: CO₂, CH₄, N₂O, HFCs, PFCs and SF₆. Best practice accounting protocols are the foundation of our reporting^{1,2}, and they help group our emission sources into three groups called scopes. Scope 1 and 2 emissions are required reporting in a GHG Inventory, while reporting of scope 3 emissions is optional.

- **Scope 1:** Emissions directly caused by SRP operations, which include power generation, operating auxiliary boilers (stationary combustion), heating and cooling corporate buildings, driving fleet vehicles (mobile combustion), and leak-based (fugitive) emissions from landfills, coal piles, refrigerants, reservoirs and transmission equipment.
- **Scope 2:** Indirect emissions produced in support of SRP operations, which include purchased electricity for SRP operations, transmission and distribution (T&D) losses from delivering purchased power to SRP customers across SRP lines, and T&D losses from wheeling and interchange across SRP lines.
- **Scope 3:** Upstream and downstream value chain emissions associated with SRP operations, which include procuring goods and services (Categories 1 and 2), extracting and transporting purchased fuels (Category 3), generation of purchased power sold to retail and wholesale customers (Category 3), T&D losses from purchased electricity for SRP operations (Category 3), producing waste (Category 5), traveling for business (Category 6), employee commuting (Category 7), and leasing certain buildings (Category 8).

How many greenhouse gas emissions did SRP produce this year (May 2021–April 2022)?

15,319,194

Metric tons of CO₂ equivalent (**scope 1**)

96,368

Metric tons of CO₂ equivalent (**scope 2**)

5,273,000

Metric tons of CO₂ equivalent (**scope 3**)

30%

reduction in scope 1 and 2 emissions since 2016, which is equivalent to not burning **761 million gallons** of gasoline or growing **111 million trees** for 10 years.

Scope 3 emissions have almost doubled since 2018 due to increased power purchases resold to customers.



SRP has an ambitious set of **2035 Sustainability Goals** that includes a commitment to reduce carbon dioxide (CO₂) emissions from generation sold to retail customers (per MWh) by 65% in 2035 and 90% in 2050 from 2005 levels. Visit srp.net/2035 to learn more.

¹U.S. Environmental Protection Agency. *Greenhouse Gas Inventory Data Explorer*. <https://cfpub.epa.gov/ghgdata/inventoryexplorer/>

²UN Intergovernmental Panel on Climate Change. *Climate Change 2021: The Physical Science Basis*. <https://www.ipcc.ch/report/sixth-assessment-report-working-group-i/>

³UN Intergovernmental Panel on Climate Change. *Climate Change 2022: Impacts, Adaptation, and Vulnerability*. <https://www.ipcc.ch/report/sixth-assessment-report-working-group-ii/>

⁴World Resources Institute. *Greenhouse Gas Protocol Corporate Accounting and Reporting Standard*. <https://ghgprotocol.org/corporate-standard>

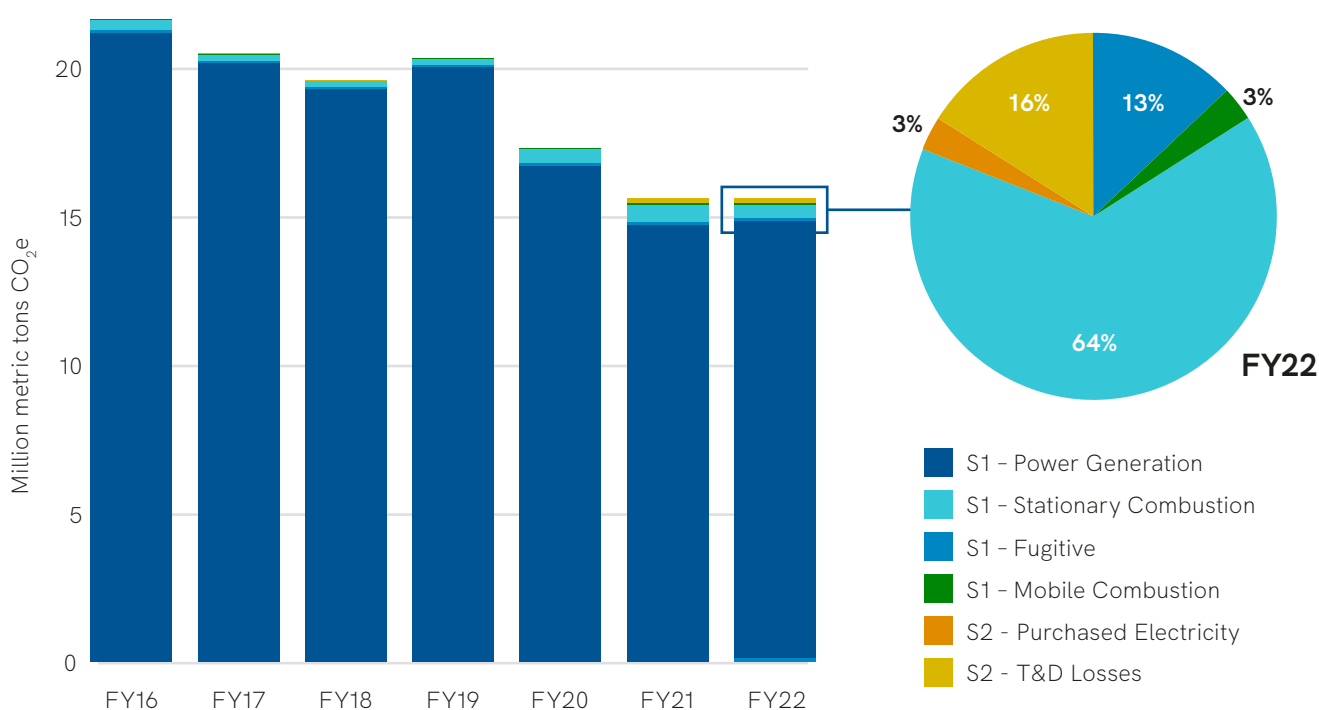
⁵The Climate Registry. *General Reporting Protocol v. 3.0 and Electric Power Sector Protocol v. 1.3*. <https://www.theclimateregistry.org/>

SCOPE 1 AND 2 GHG EMISSIONS FY16-FY22

The information contained in this fact sheet is a summary of the scope 1 and 2 greenhouse gas emissions associated with SRP's owned assets. Fluctuations from year to year are due to changes in generation and generation resources.

SRP'S SCOPE 1 AND 2 GHG EMISSIONS FY16-FY22¹

Total CO ₂ e Emissions (metric tons)	FY16	FY17	FY18	FY19	FY20	FY21	FY22
Scope 1	22,087,759	20,936,976	19,971,674	20,852,286	17,183,659	15,338,189	15,319,194
Fugitive	110,412	71,368	80,893	82,011	65,104	58,086	65,887
Mobile Combustion	16,930	17,498	17,506	17,811	15,947	15,814	16,848
Power Generation	21,631,579	20,644,605	19,657,112	20,542,830	16,596,308	14,633,435	14,919,796
Stationary Combustion	328,839	203,505	216,163	209,634	506,300	630,854	316,662
Scope 2 - Location-Based	111,129	107,560	88,931	61,743	75,588	145,686	107,767
Scope 2 - Market-Based²	97,325	92,321	74,997	46,208	53,419	120,307	96,368
Scope 1 & 2 Market-Based	22,185,084	21,029,297	20,046,672	20,898,494	17,237,078	15,458,496	15,415,562
Net Generation SRP Owned Asset³ (MWh millions)	32.7	32.9	31.4	34.6	31.7	31.3	29.1



Observations

Scope 1 power generation emissions slightly increased in FY22 due to an increase in the ratio of coal to natural gas. Natural gas prices increased significantly in FY22. To ensure the impact on customer costs was low, SRP generated more power from coal. Similar to FY21, SRP also decreased generation from owned assets and purchased more power to sell to retail customers in FY22. The emissions from the generation of these power purchases are included in scope 3⁴ (see page 3). This decrease in generation from owned assets reflects specific decisions made in FY22 and does not represent a trend. Overall, total scope 1 and scope 2 emissions remained fairly consistent between FY21 and FY22.

¹SRP's fiscal year runs from May 1 to April 30 and is named according to the ending month and year. FY22 time period is May 1, 2021, to April 30, 2022.

²SRP quantifies both location- and market-based emissions. Market-based emissions account for renewable and supplier-specific power purchases.

³Generation is net of station service and includes acquisitions for all years, matching the boundary of emissions (aligns with GHG Protocol).

⁴Year-over-year operational fluctuations between scope 1 and 3 emissions do not require a base year adjustment per Electric Power Sector protocol guidance section 7.2.

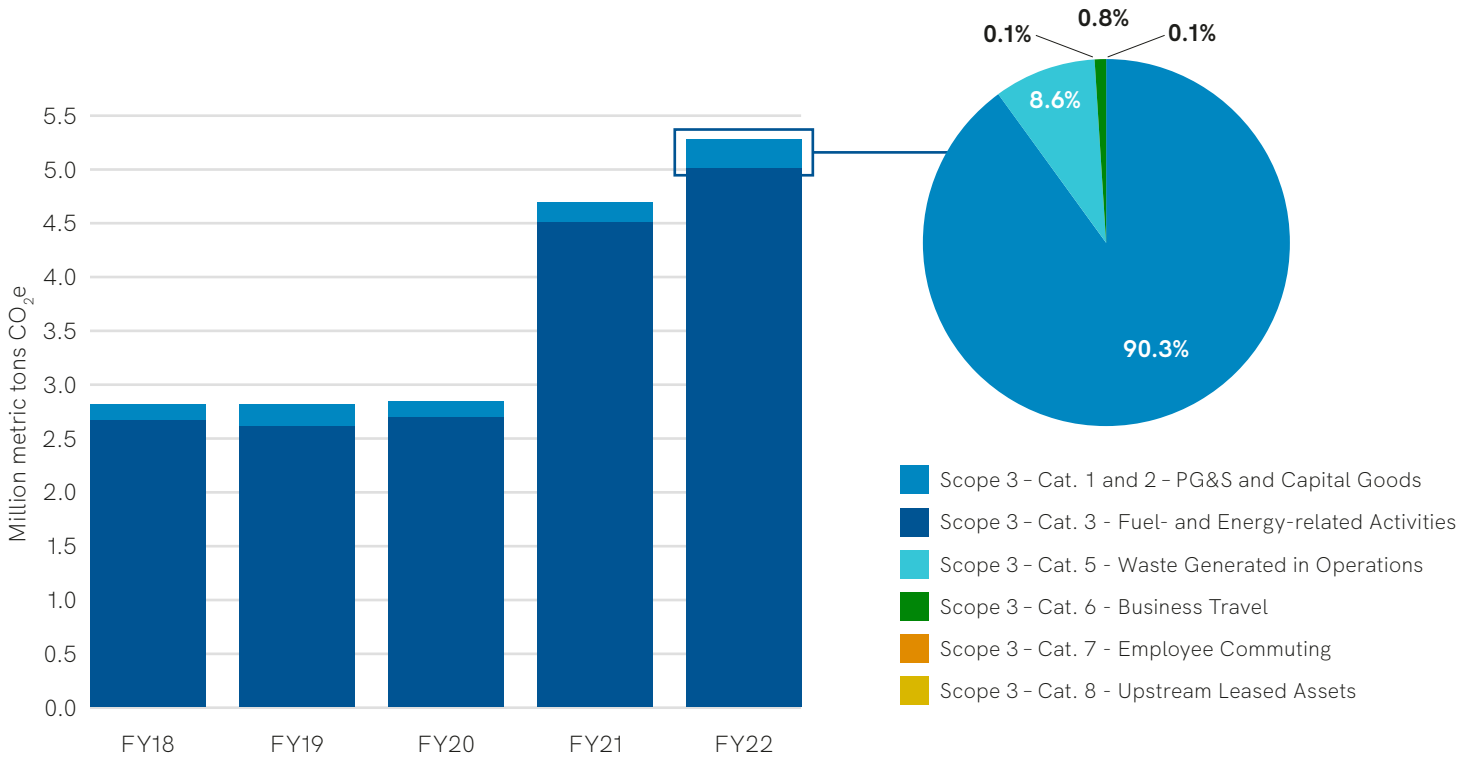


SCOPE 3 GHG EMISSIONS FY18-FY22

The information contained in this fact sheet is a summary of the scope 3 GHG emissions primarily associated with SRP’s direct purchases of fuels, generation and indirect purchases of other goods and services.

SRP’S SCOPE 3 GHG EMISSIONS FY18-FY22					
Total CO ₂ e Emissions (metric tons)	FY18	FY19	FY20	FY21	FY22
Scope 3	2,818,000	2,818,000	2,845,000	4,682,000	5,273,000
Categories 1 and 2 - Purchased Goods and Services (PG&S) and Capital Goods	148,000	182,000	174,000	168,000	225,000
Category 3 - Fuel- and Energy-related Activities	2,664,000	2,630,000	2,654,000	4,499,000	5,024,000
Category 5 - Waste Generated in Operations	NA	NA	12,000	12,000	22,000
Category 6 - Business Travel	1,800	1,600	1,100	100	400
Category 7 - Employee Commuting	4,100	4,100	4,500	3,000	2,100
Category 8 - Upstream Leased Assets	170	170	150	150	140

Note: Numbers rounded to reflect inherent uncertainty in scope 3 emissions. Category 5 emissions were not calculated in FY18 and FY19.



Observations

Fuel- and energy-related activities (Category 3) and purchased goods and services and capital goods (Categories 1 and 2) account for most of scope 3 emissions. Scope 3 emissions remained consistent from FY18-FY20, then increased substantially in FY21 and FY22. The increase in scope 3 emissions in FY21 and FY22 was caused by an increase in power purchases needed to meet SRP’s retail load as reflected in Category 3 emissions. SRP’s purchased power sold to retail more than doubled during FY20-FY21 and continued to increase from FY21-FY22. Also, upstream emissions of purchased coal increased from FY21-FY22, as reflected in Category 3 emissions, because SRP burned more coal in FY22 due to the increase in natural gas prices. These changes reflect specific decisions made in FY21 and FY22 and do not represent a trend.



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