

Exploring a Green Future





Making JPL more sustainable is an important priority. Our orbiting and airborne systems give us a unique view of our interconnected world, and we want to ensure that we are a benchmark for sustainable operations locally. We have already made great strides with our renewable energy generation, acquisition of improved energy management tools, improved energy-saving processes and recycling, LED lighting retrofit, and certifications for Leadership in Energy and Environmental Design (LEED) buildings. We recognize that more work lies ahead. We are committed to continually improving JPL's sustainability performance, innovating and setting new standards, because how we work is as important as the work we do.

We are also committed to a holistic approach that considers environmental, social, and governance factors in measuring the sustainability of an organization. That commitment has never been clearer than at the time of this report's publication, in the middle of the COVID-19 pandemic. We are combining approaches for environmental improvement and employee health and safety. This combination ensures JPL's resilience to tackle emerging global challenges, from the far reaches of the universe to our corner of the foothills.

Larry James
Deputy Director of JPL

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SUSTAINABILITY AT JPL

Sustainability efforts are conducted to support JPL's overall vision to explore space in pursuit of science that will benefit humanity. Using JPL's unique expertise in Earth Science, technology, and applications, we are using earth observations to solve our planet's most pressing issues. JPL is one of the world's leading climate and Earth science research institutions, and scientists have been using NASA and JPL satellite, airborne, and computer-model data to study our planet for more than 40 years. With its fleet of satellites and remote-sensing expertise, JPL has a unique set of eyes over our planet that can bring the power of perspective to solve issues affecting people's lives right here on Earth. These efforts are discussed in more detail in the 'JPL Science' section of this report.

As a division of Caltech, JPL also works to enhance Caltech's core values by reducing environmental impact and promoting environmental stewardship within the community. This report discusses the strides we are making to achieve a more sustainable world, both on and off the laboratory, chronicling our progress and impact in the 2019 fiscal year (FY19) period across a breadth of areas.

Operational Sustainability Key Performance Indicators

As a federally funded research and development center (FFRDC) under National Aeronautics and Space Administration (NASA), JPL's key performance indicators (KPIs) are primarily driven by Executive Order 13834, federal requirements, and NASA Procedural Requirements. NASA sustainability KPIs are summarized in the table to the right, with green indicating annual target achieved, yellow indicating one of the two targets met, and red indicating neither target met.

Criteria	Annual Goal	JPL FY19 Update	Status
Greenhouse Gas Emissions	Greenhouse gas emission reductions are tracked and compared to FY08 baseline year. There is not a stated annual goal, but emission reductions from FY08 baseline are tracked as an indicator metric		
Energy Efficiency	Meet or exceed 30% reduction in Btu/GSF from 2003 baseline Annually reduce energy intensity compared to year prior	Decreased energy intensity by 13% in FY19 compared to baseline FY03 Increased energy intensity by 2% in FY19 compared to FY18	●
Renewable Energy	Meet or exceed 7.5% of total electricity consumption from renewable sources	18% of electricity sourced from renewable sources in FY19	●
Water Efficiency	Achieve 20% reduction relative to FY07 Annually reduce water use intensity compared to year prior	Decreased water intensity by 36% in FY19 compared to baseline FY07 Decreased water intensity by 12% in FY19 compared to FY18	●
High Efficiency Sustainable Buildings	At least 15% of buildings or gross square footage (GSF) meet sustainable building criteria (e.g., Guiding Principles [GP]) Increase % of buildings or GSF that meet GP compared to prior year	In FY19, 15% of JPL square footage met sustainable building criteria In FY19, Building 301 was awarded LEED Operations and Maintenance Gold Certification	●
Fleet Management	At least 20% reduction in petroleum since 2005 Make progress in reducing petroleum use compared to prior year	Decreased petroleum consumption by 55% compared to baseline 2005 Reduced petroleum use by 6% in 2019 compared to 2018	●
Materials and Sustainable Acquisition	Increase percentage of sustainable acquisitions of total contract actions from year prior Increase percentage of sustainable acquisitions of dollar value from year prior	Standard Acquisition Instructions reference selection of sustainable materials in procurement as requirement Percentage of sustainable (e.g., contain recycled material) acquisition purchases by dollar value increased to 42% in FY19 compared to 14% in FY18	●
Waste Reduction and Diversion	Divert 50% of construction and demolition debris (C&D) waste from landfills Divert 50% of non C&D solid waste from landfills	63% overall waste diversion rate in FY19 87% diversion of C&D waste 61% diversion of non C&D solid waste	●



JPL SCIENCE

EARTH SCIENCE AND TECHNOLOGY DIRECTORATE (ESTD)

Of all the worlds studied by JPL, the quest to understand how Earth is changing touches us most directly. Although we have made major strides in understanding our home planet, there is much more to learn.

Using a range of instruments and platforms in collaboration with NASA and international partners, JPL scientists can track water movement around the world, measure global sea level, track atmospheric carbon dioxide and characterize its sources and sinks, measure the water content of soils, map surface changes after earthquakes, and much more.

How high and how quickly will the seas rise? How available will fresh water be in the future? How are carbon storage and biodiversity changing? How can we better prepare for extreme events like earthquakes and volcanoes? Such questions, and others, will continue to drive JPL science, technology, and engineering to innovate new ways to observe how Earth responds to both natural and human-caused changes, and provide actionable results for research, education, and decision-making.

Earth Science Applications

JPL, working closely with and funded by NASA Applied Sciences, works with international, federal, state, and local agencies to maximize the potential benefit of science applications and information for the nation and the people of the world, in the areas of public health, environmental health, and international development. This information is essential to help societies adapt and change as well as to safeguard the natural resources that are vital to economic growth and environmental quality.

Western Water Applications Office

It is estimated that over 1 billion people worldwide today live without access to adequate water supplies and about 2.6 billion people lack adequate water sanitation. Improved understanding of water processes at global

and regional scales is essential for sustainability. The mission of NASA's Western Water Applications Office (WWAO), located at JPL, is to improve how water is managed in the western U.S. by getting NASA/JPL data, technology, and tools into the hands of water managers and decision-makers.

JPL and NASA researchers are working with water managers to apply their expertise and data (satellite, airborne and ground-based) to deliver actionable information on water availability, water use, water quality, and water infrastructure. WWAO partners with universities, government agencies and other stakeholders. NASA's projects include developing better estimates of snowpack, as well as monitoring groundwater, soil moisture, evapotranspiration, water quality, and fragile levee systems.

Tracking Earth's Water with Gravity Recovery and Climate Experiment (GRACE)/GRACE Follow-On (GRACE-FO)

A pair of Earth satellites designed to keep track of the planet's water resources and evolving water, GRACE (2002-2017) and GRACE-FO, launched in 2018. GRACE and GRACE-FO maps changes in underground aquifers, the amount of water in large lakes and rivers, soil moisture, changes in ice sheets and glaciers, and sea level caused by the addition of water to the ocean. These discoveries provide a unique view of Earth's climate and have benefits to society and the world's population.

Measuring the Temperature of Plants with Ecosystem Spaceborne Thermal Radiometer Experiment on Space Station (ECOSTRESS)

NASA's ECOSTRESS instrument, built and managed by JPL, provides frequent and detailed information on how plants respond to changes in water availability. By measuring Earth's surface temperature at different times throughout the day and night, ECOSTRESS helps scientists understand the relationship between water availability and plant behavior, which can help

better manage agricultural water use and monitor ecosystem health. ECOSTRESS data is also being used by the Iowa Climatology Bureau for drought monitoring, and the California Department of Fish and Wildlife to monitor habitats for endangered fish.

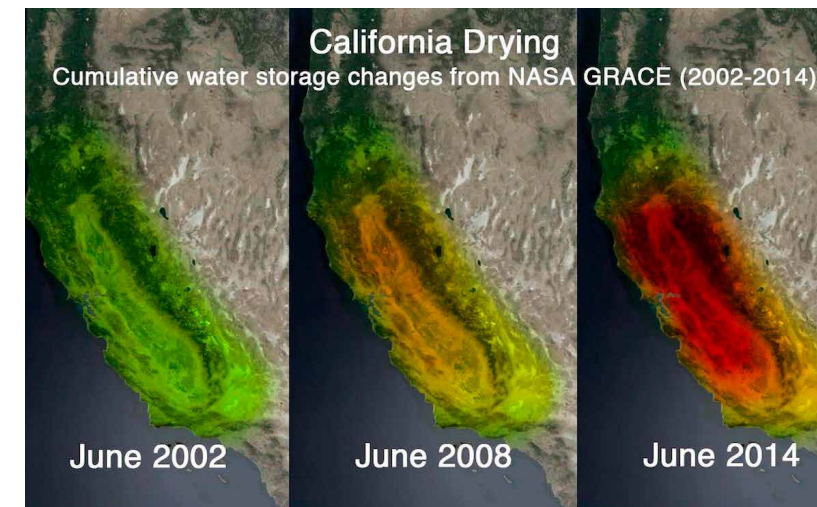
Study of Air Pollution with Multi-Angle Imager for Aerosols (MAIA)

An estimated 4.2 million people die prematurely worldwide each year as a result of outdoor air pollution from natural and anthropogenic sources, such as volcanoes, wildfires, factories, and automobiles. MAIA is a satellite instrument for which the main purpose is to study how different types of particulate matter (PM) air pollution affect our health. The MAIA instrument, launching in 2021 and being developed by JPL under a contract with NASA, represents the first time NASA has partnered with epidemiologists and health organizations to use space-based data to study human health and improve lives.

Monitoring Global Forest Resources

The world's populations rely on forests for sustaining life and biodiversity, and as a resource for a vast number of products and services. As demand for forest products and the competition for forest land is increasing, modern timber management is committed to sustainable forest management. Currently, timber has more than 30,000 applications worldwide. Also, non-timber products are harvested in forests, such as plants for food and medicines, fish and game. In addition to the productive function of forests, they have a central role in the protection and stabilization of the natural environment, including the protection of water resources, reduction of erosion, and in air purification.

The upcoming NASA-ISRO Synthetic Aperture Radar (NISAR) mission, a joint project between NASA/JPL and the Indian Space Research Organization (ISRO), will essentially provide measurements on this critical forest biomass and help us better quantify existing resources.



NASA GRACE data shows land in much of California's Central Valley sinking from groundwater extraction

1 Billion

Number of people world wide that live without access to adequate water supplies

2.6 Billion

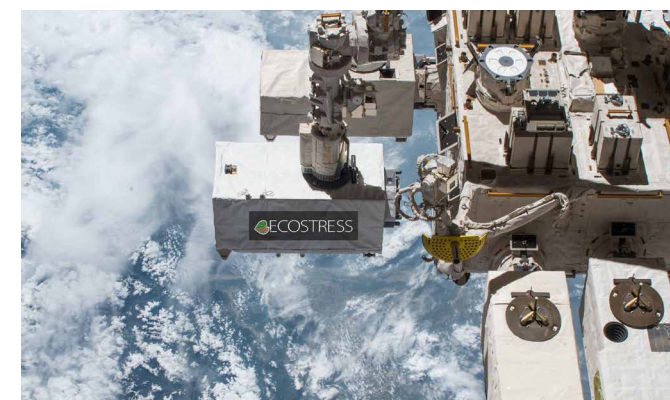
Number of people world wide that live without access to adequate water sanitation



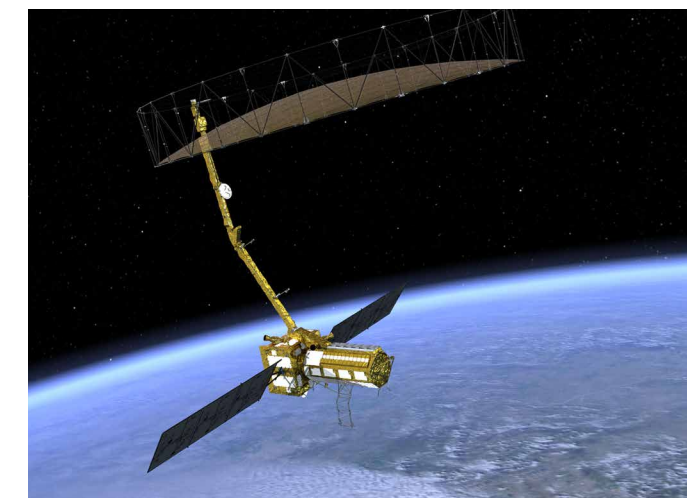
4.2 million people die prematurely each year due to outdoor air pollution



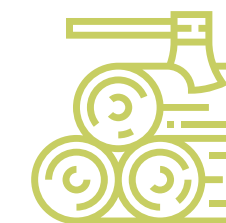
The goal of MAIA is to study how different types of particulate matter affect our health



ECOSTRESS, which is stationed on the ISS helps scientists understand the relationship between water availability and plant behavior



NASA-ISRO Synthetic Aperture Radar mission will provide independent information that is sensitive to the mapping of forest disturbance



The worlds population relies on forests and timber for sustaining life, as well as being a resource for over 30,000 applications worldwide



GREENHOUSE GAS EMISSIONS

Overall, greenhouse gas (GHG) emissions have significantly reduced in FY19 compared to baseline year. While there are no federal annual performance targets regarding GHG emissions, Executive Order 13834 specifies that reductions are to be tracked and compared to FY08 baseline year.

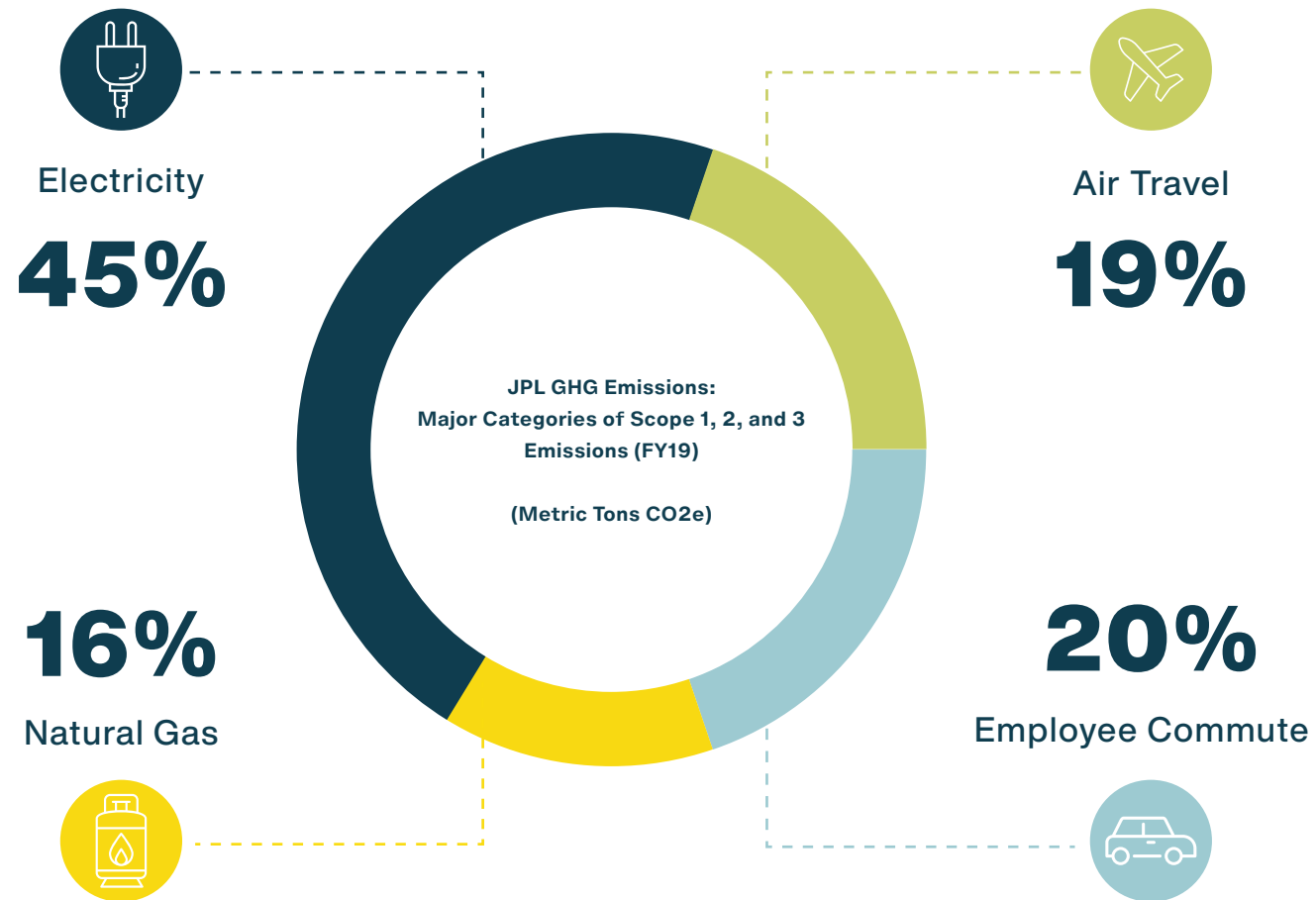
Scope 1 and 2 GHG emissions are those produced within JPL's operational control. The greatest contributors are due to indirect (e.g., electricity) and direct (e.g., natural gas, gasoline, etc.) combustion of energy sources. In FY19, JPL's Scope 1 and 2 GHG emissions consisted of 31,422 metric tons of carbon dioxide equivalent (MT CO₂e), which was offset by 3,566 MT CO₂e through the purchase of renewable energy credits (RECs). The resulting net emissions for FY19 was 27,856 MT CO₂e, resulting in a decrease of 39% since FY08, or

the equivalent to saving the annual energy use from 2,061¹ homes.

Scope 3 GHG emissions are those produced outside of JPL's operational control. Calculation of these emissions extend to employee commute and air travel. While Scope 3 GHG emissions have increased since FY13², they have stayed generally consistent when normalized by employee headcount. JPL policies in support of flexwork, alternative and shared transportation, and public transportation also significantly help level increases of emissions from employee commute.

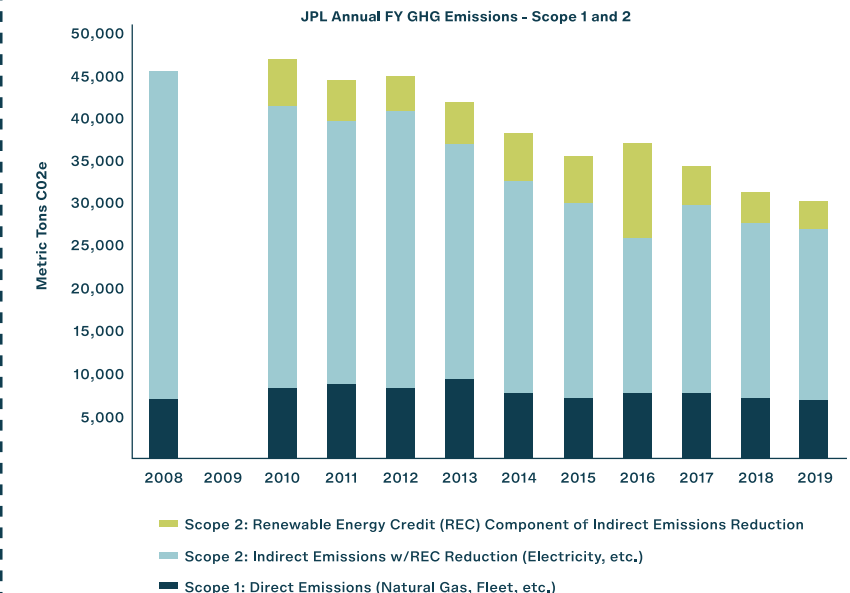
¹ <https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>

² Earliest quantitative Scope 3 emission data is available from FY13



Scope 1 & 2 Emissions are those that exist within JPL's operational control such as: Electricity and Natural Gas usage

Through the general statewide increase of more electricity from zero-GHG sources in utility-scale power (e.g., hydro, solar, wind, and nuclear energy), purchase renewable energy credits, and other energy saving initiatives, JPL has seen a steady decline in overall GHG emissions throughout the years.



**3,566
MT CO2e**

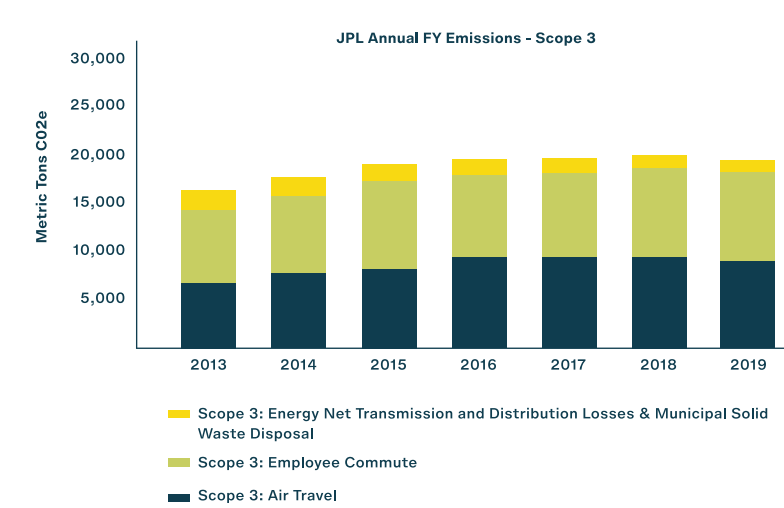
Amount of Scope 1 & 2 emissions offset by JPL's purchase of renewable energy credits (RECs) in FY19

The resulting FY19 net emissions (27,856 MT CO2e) is a 39% decrease since FY08



Scope 3 Emissions are those that exist outside of JPL's operational control such as employee commutes and air travel

JPL's support of Flex-work, alternative and shared transportation, as well as public transportation have all contributed to the leveling off of Scope 3 Emissions over time



2,061

Number of homes that could be powered by Scope 1 & 2 reductions since FY08 (17,864 MT CO2e)

* 1 🏠 = 100 homes

ENERGY EFFICIENCY

In FY19, JPL consumed 99,507,000 kilowatt hours (kWh) of electricity and 1,318,000 therms of natural gas, representing an energy use intensity of 164,000 British Thermal Units per gross square feet (btu/gsf). This represents a 13% reduction from the 2003 baseline year, and a 3% increase from FY18.

Although JPL's FY19 energy use intensity is above its target, JPL is committed to continual improvement in identifying and pursuing practices to reduce its energy use intensity. JPL has 200 electrical and 150 natural gas and BTU submeters covering 2.6 million gross square feet of real estate across a campus of 167 acres.

JPL implemented a number of energy efficiency projects in FY19:

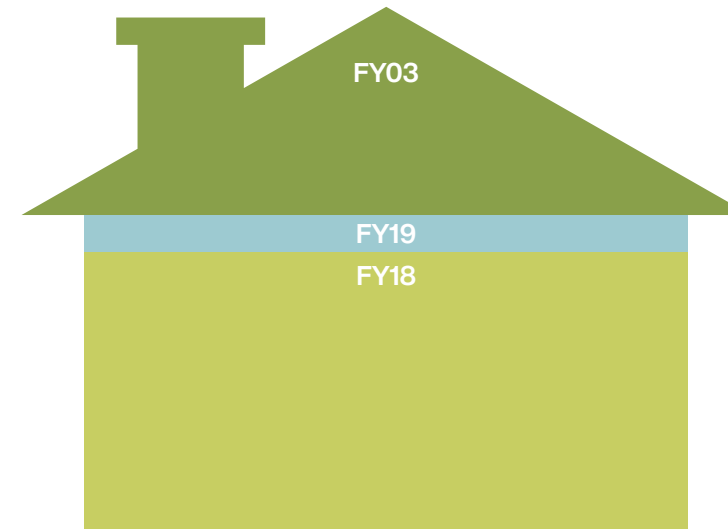
- JPL implemented Smart Scheduling, which refined operating hours and operation of building mechanical systems, resulting in a savings of 1.39 million kWh and \$125,000.
- Southern California Edison (SCE) Retro-Commissioning of Building 306, which replaced sensors for variable frequency drive (VFD) and revised sequence of operations of mechanical system air supply fans.
- An Energy Savings Performance Contract (ESPC) project for Building 230 decommissioned inefficient data centers at Woodbury Building 600 and consolidated them into Building 230's new state of the art modular data center pods.
- JPL applied to and was selected to participate in the Federal Energy Management Program (FEMP) Re-Tuning Challenge, which provided a no-cost opportunity to receive re-tuning training

and support for Building 321. Re-tuning is a systematic process aimed at minimizing building energy consumption by identifying and correcting operational problems that plague buildings. Re-tuning is a no cost method that relies on building automation system data to identify and implement programmable control improvements for energy savings.

- JPL joined FEMP's Smart Lab Accelerator Program and committed to 10-year energy efficiency target of 20% reduction for laboratory buildings. Key Smart Lab principles aim to incorporate energy efficiency considerations in JPL buildings for design, operations, and renovations.

New energy efficiency projects include:

- JPL will be participating in NASA's ISO 50001 Ready Program, a voluntary standard for establishing an energy management system through transformation of organizational culture.
- Lighting in Buildings 179 and 233 will be upgraded and replaced with energy efficient LED lights.
- Energy Management Control System (EMCS) will be upgraded and will enable better building operational controls and setpoints.
- SCE Retro-Commissioning will continue in additional buildings.



**99,507,000
Kilowatt Hours**

Total kilowatt hours JPL consumed in FY19. This represents a 13% reduction from FY03, and 3% increase from FY18

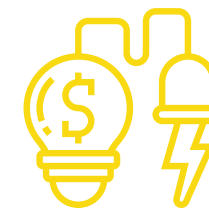


There is an initiative to decommission inefficient data centers at Woodbury Building 600 and consolidate them into Building 230's new state of the art modular data center pods

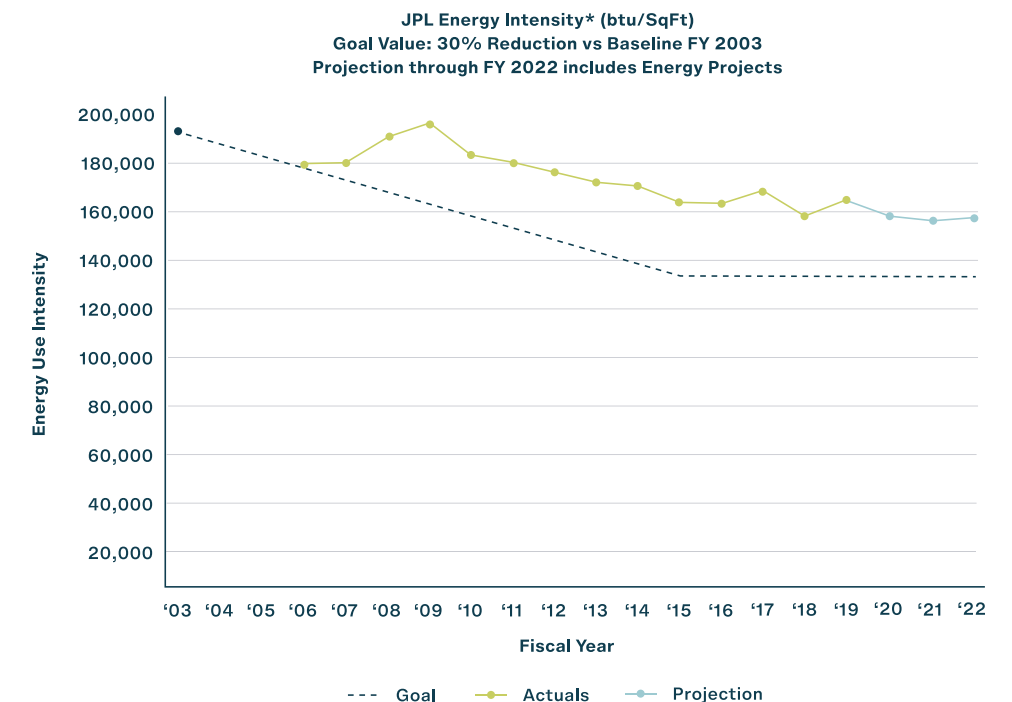


\$125,000

Amount of money saved with Smart Scheduling, which resulted in a reduction of 1.39 million kWh



Although JPL is currently above the target energy use intensity (EUI), there are many continual and prospective initiatives in progress to help further bring down the EUI



RENEWABLE ENERGY



JPL recognizes the importance of renewable energy in order to achieve a low carbon future, and well exceeds its KPI targets.

JPL has made investments to advance the use of renewable energy to power the Lab from both onsite and offsite sources. Existing renewable energy infrastructure on lab includes EV charging stations and solar photovoltaic system on the rooftop of Building 301.

In FY19, JPL purchased 70 million kWh of renewable energy credits (RECs), representing an offset of 18% of its total energy consumption. RECs are legal instruments that allocate generation and consumption of renewable energy to the REC purchaser, and represents proof that electricity was generated from an eligible renewable energy resource. RECs incentivize carbon-neutral energy project development and signal renewable energy market demand.

New renewable energy initiatives include:

- Installation of a new carport solar photovoltaic (PV) system on the upper deck of Building 349 Parking Structure. Construction started in September 2019 and is anticipated to be complete in 2020. The PV system size is 929 kilowatt and is estimated to produce 1.5 million kwh per year.

1.5 million kilowatt hours

The amount of kilowatt hours expected to be generated per year by the new photo-voltaic (PV) system on the upper deck of Building 349 Parking Structure



As of FY19 JPL will have a total of 94 EV charging stations—52 Level 2s, 41 Level 1s and one Level 3.



In FY19, JPL purchased 70 million kWh of renewable energy credits (RECs), representing an offset of 18% of its total energy consumption.

WATER EFFICIENCY



JPL understands the importance of water conservation as part of southern California's ecosystem and for years has exceeded its water intensity reduction targets.

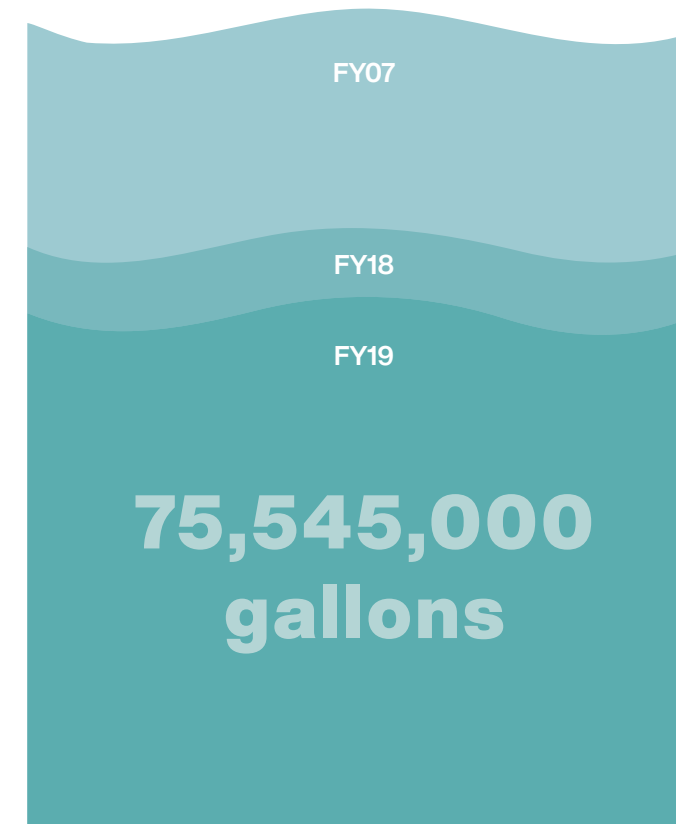
In addition to a main water meter, JPL has less than 10 domestic water meters and 30 irrigation meters on Lab. In FY19, JPL consumed 75,545,000 gallons of water. JPL's water use intensity (WUI) was 29 gallons per gross square feet, representing a 36% reduction compared to baseline year FY07 and 12% reduction compared to prior year FY18.

JPL's notable water projects include:

- JPL's Landscaping Master Plan promotes water conservation through turf removal and conversion to drought tolerant and native plant landscaping, resulting in significant multi-year water savings.
- JPL served as a member of Pasadena Water and Power's Water System & Resource Plan Stakeholder Committee. As part of this committee, JPL provided feedback to help Pasadena Water and Power (PWP) make critical decisions on water supply/distribution, reuse opportunities, and conservation measures that will guide PWP's water planning for the next decade.
- Water reuse for cooling tower consumption by using reverse osmosis (RO) effluent water and harvesting of groundwater.
- Use of low-flow aerators in domestic plumbing features.

New water projects include:

- JPL is planning to rehabilitate and modernize an out of commission 1960's era water fountain and its surrounding area, reimagining the space into a water saving area that is welcoming for meetings, events, team collaboration, as well as formal and informal gatherings.



Total gallons of water JPL consumed in FY19. This represents a 36% reduction from FY07, and 12% reduction compared to prior year FY18.



In addition to a main water meter, JPL has <10 domestic water meters and 30 irrigation meters on Lab

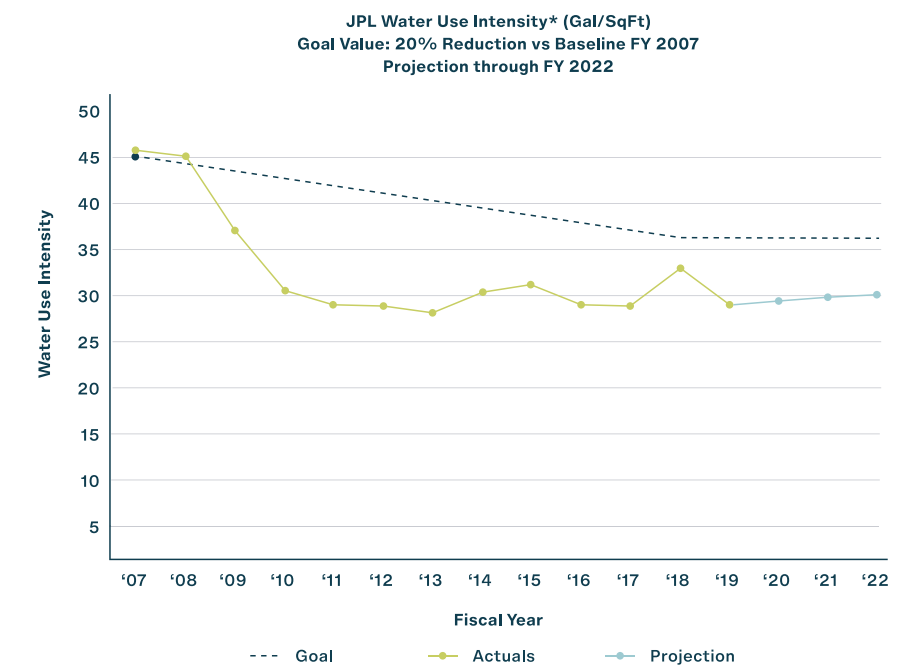


29

Gallons of water per gross square foot consumed in the 2019 fiscal year

116%

Amount that JPL is exceeding its 20% water use intensity reduction goal



SUSTAINABLE BUILDINGS

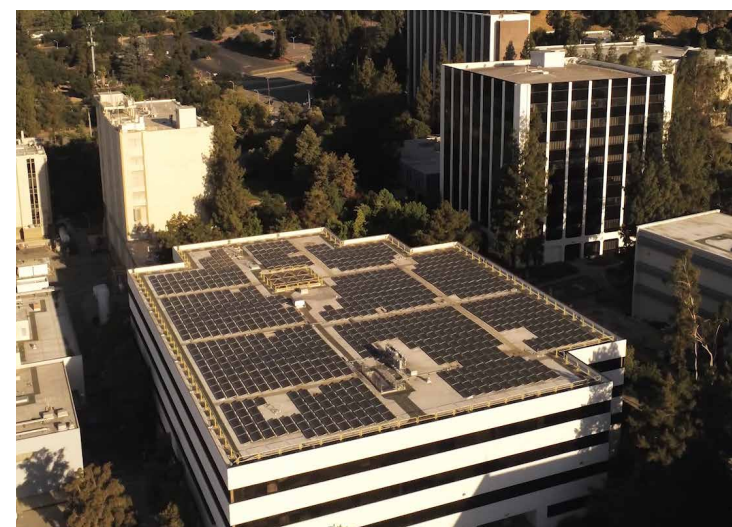


JPL has made continual progress to increase sustainable square footage on lab. In FY19, JPL met the target of 15% of building square footage meeting sustainable building criteria by obtaining Leadership in Energy and Environmental Design (LEED) Operations and Maintenance (O&M) Gold Certification of Building 301, adding to JPL's existing LEED certified buildings. In addition to Building 301, Building 321 was certified as LEED New Construction Gold at the time of construction.

The LEED Green Building Rating System is the national benchmark for the design, construction, and operations of high performance green buildings. Building 301, the Central Engineering/Project Formulation Building was awarded LEED Gold status for innovative green features and efficient operation of this existing building. Certification requirements included a thorough review of building performance data and existing sustainability initiatives as well as a LEED action plan with further recommendations for optimization and an analysis of building systems, design, and operational practices.





New sustainable building projects include:

- Buildings 171, 202, and 241 are being evaluated for additional LEED O&M certification.



Pictured above is the 0.292 megawatt (mW) solar panel system on the roof of Building 301, which was installed in 2016.

LEED for Existing Buildings (Building 301)

-  **61%**
Occupant Satisfaction Reported
-  **35%**
Alternative Transportation Use
-  **43%**
Waste Diverted
-  **73rd**
Percentile of Energy Use

LEED® Facts

Jet Propulsion Laboratory
Building 301
Central Engineering/ Project Formulation
Pasadena, CA

LEED® v4.1 O+M
Certification Awarded December 20, 2018

Gold 64*

*Out of a possible 100 points

Location and Transportation	10/14
Sustainable Sites	2/4
Water Efficiency	7/15
Energy and Atmosphere	26/35
Material and Resources	7/9
Indoor Environmental Quality	11/22
Innovation	1/1





FLEET MANAGEMENT

JPL's fleet has steadily become more environmentally sustainable over the years. From 2014 to 2016, four diesel buses were replaced with electric vehicle (EV) buses. From 2010 to 2013, JPL's internal fleet of golf carts were replaced with EV equivalents. JPL now operates 80 EV golf carts. Through ongoing efforts to replace fleet vehicles at the end of their useful life with more fuel efficient or EV alternatives, JPL continues to see a reduction in its fleet petroleum use.



SUSTAINABLE ACQUISITIONS

JPL recognizes the importance of driving demand for sustainable materials in the marketplace in order to support a more sustainable, circular economy. JPL's standard acquisition instructions reference requirements in Federal Acquisition Regulation (FAR) clauses for procurement of sustainable products.

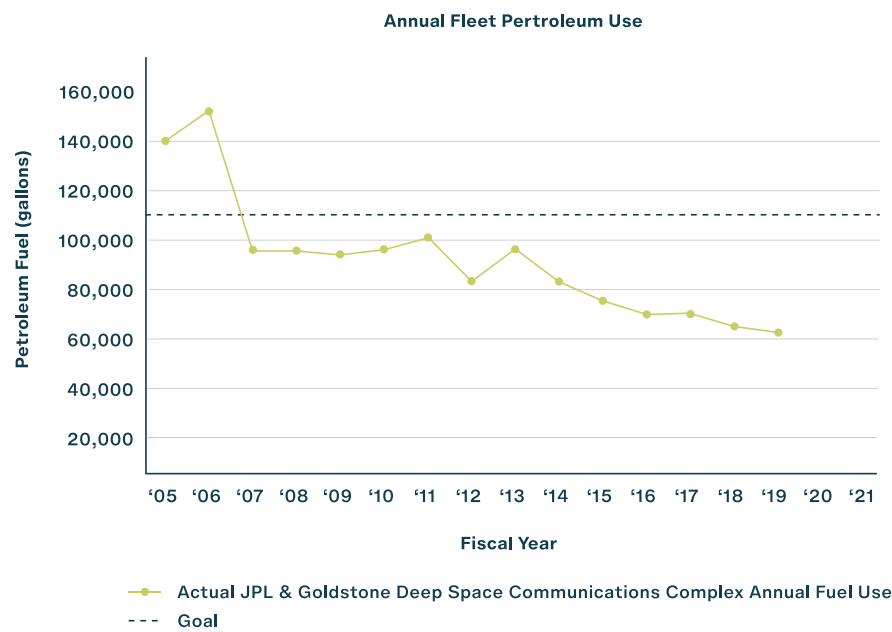
Percentage of sustainable (e.g., contain recycled material) acquisition purchases by dollar value increased to 42% in FY19 compared to 14% FY18. JPL plans to work with its suppliers to enable greater ease in selection and purchase of recycled content office supplies.

Successes in sustainable acquisition include:

- All electronic products procured meet or exceed federal energy efficiency requirements (e.g., contain Energy Star designation)
- Facility Design Standards specify use of construction products containing recycled content

New sustainable acquisition projects include:

- For the most commonly purchased office supplies (e.g., paper and toner), exclusively source goods that contain recycled content materials
- Manage and improve environmental, social, and economic performance throughout supply chain
- For goods such as office paper, source recycled content and Forest Stewardship Council (FSC) certified paper. FSC certification ensures that products come from responsibly managed forests that provide environmental, social, and economic benefit.



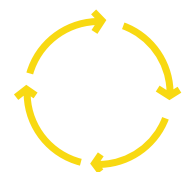
4 diesel buses on lab have been replaced with EV equivalents

46%

Total percentage JPL has reduced petroleum use since baseline year 2005



60 golf carts on lab have been replaced with EV equivalents



When fleet vehicles reach the end of their useful life, they are replaced with a more efficient alternative, allowing JPL to continually improve fuel usage in the years to come

42%

Amount of acquisitions purchased in FY19 that contain recycled material

28%

Total increase in a sustainable acquisitions since FY18



All electronic products procured meet the federal energy efficiency requirements



Paper goods are sourced from responsibly managed forests that meet FSC certification standards



WASTE REDUCTION AND DIVERSION

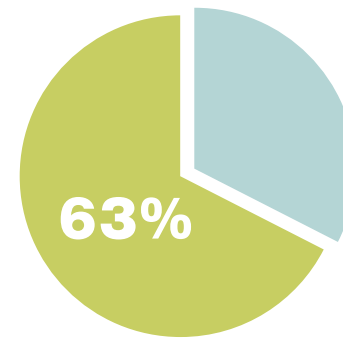
In FY19, JPL diverted over 63% of its total waste from landfills. Of the total waste, 87% of construction and demolition debris waste and 61% of non construction and demolition debris waste was diverted from landfills. Construction and demolition debris waste constituted just 7% of JPL's overall waste. JPL aims to continually improve waste reduction and diversion:

Successes in waste reduction and diversion include:

- A compost collection expansion pilot was implemented at Cafeteria 190 in September 2019. The compost-collection program included dual stream collection for "compost" of food scraps and food-soiled compostable containers and "landfill/recycle" for everything else. This pilot was implemented as the first step in

a wider deployment of compost collection expansion.

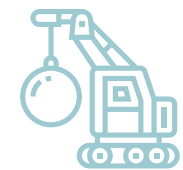
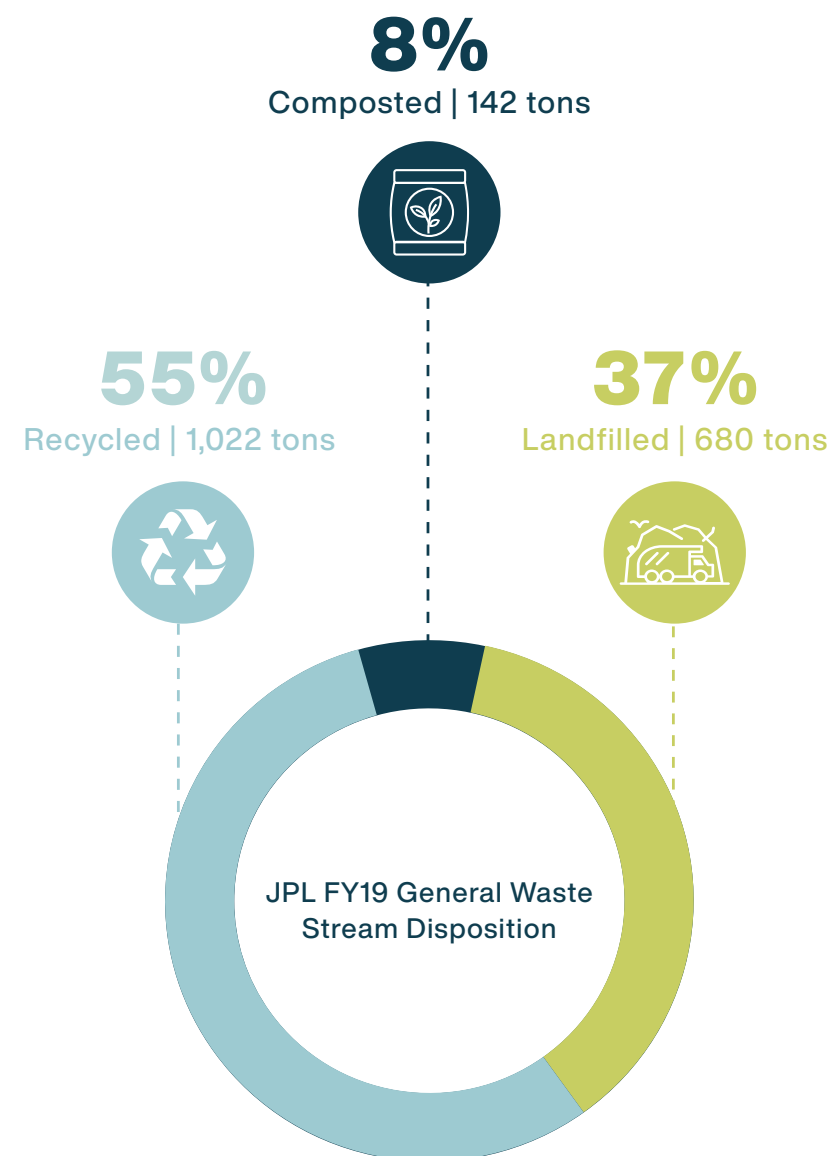
- Revision of Facilities subcontractor requirements to mandate construction projects adhere to a minimum of 50% diversion of construction and demolition debris from landfills.
- Initiatives from organizations around the Lab demonstrate improved processes to increase efficiency and reduce paper waste. For example, Environmental Affairs Program Office (EAPO) switched from carbon copy to digital hazardous waste forms, saving significant processing time as well as decreasing its paper footprint.
- In an effort to increase transparency and communication about ongoing environmental practices, an education campaign informed JPLers that in addition to the dedicated recycling bins, general trash receptacles around Lab are sorted offsite for recycling.



Total amount of waste JPL was able to divert from landfills in FY19 year



Pictured above is the compost collection expansion pilot at Cafeteria 190 in September of 2019. This was the first step in a wider deployment of compost collection around lab.



Of the waste produced at JPL by construction and demolition debris, 87% was able to be diverted from the landfills

61%

Amount of waste produced at JPL not produced by construction and demolition debris that was able to be diverted from the landfills



Process improvement such as the EAPO switching from carbon copy to digital forms has saved time and paper waste!



COMMUNITY

JPL recognizes the importance of being an active partner in the community and giving back. Every year, hundreds of JPLers participate in the Annual Giving Campaign, raising funds for United Way of Greater Los Angeles or any 501c3 they wish to support. JPL also relies on the support of its people to act as an amplifier of sustainability and to promote environmental stewardship. As a means towards continuous improvement, JPL's online process improvement platform, Spark, houses a campaign that seeks to improve sustainability at JPL by crowdsourcing suggestions. In general, 2019 marked a year of increased engagement for JPLers around sustainability and community.

Key activities in FY19 include:

- JPL launched a number of communication channels aimed to better communicate about sustainability related issues including the sustainability intranet site, wiki page, slack channel, and Spark campaign.
- JPLers raised over \$495,000 in one-time or recurring donations. Additionally, through the partnership of JPL and United Way of Greater Los Angeles, JPLers had the opportunity to participate in 11 volunteer events both on and off lab, resulting in more than 300 volunteers hours, including a United Way beautification event, where volunteers cleaned up and installed a learning garden for a Boys & Girls Club in Burbank, California.
- As part of Earth Hour, a global event that raises awareness of climate change and other environmental issues, JPL joined more than 7,000 cities and towns around the world to turn off non-essential lights. JPL hosted a special on-Lab event for JPLers and their friends and families about exoplanets, earth, and JPL's place in it, followed by a star-gazing gathering.
- Earth Day is an annual event celebrated in more than 190 countries around the globe on April 22. On this day of action, various events are held worldwide to demonstrate support for environmental protection. JPL celebrated Earth Day by planning over a week's worth of events including an Earth Event and electric vehicle fair, which filled the mall with enthusiastic JPLers showing off and talking about their electric vehicles. JPL also held screenings of a documentary play, centered around the theme of climate change. Earth Week activities also included well attended plant and geology walks.
- In collaboration with JPL's Green Club, JPL installed a native plant wellness garden. The garden was completely designed and planted by JPL volunteers organized by the Green Club. The garden features a host of native and non-native plants to attract pollinators such as bees, butterflies, and hummingbirds. The garden's purpose is to be visually attractive and support health and well-being of employees and the environment.



JPL celebrated Earth Day with an Electric vehicle fair, which allowed fellow JPLers to share and show off their electric vehicles.

\$495K

Amount of money raised through donations to United Way

108

Total amount of JPLers who have joined and participated in the Green Club FY19



JPL now has a wellness garden with native and non native plants to support the health and well being of employees, as well as being visually attractive and attracting pollinators to lab.



WANT TO GET INVOLVED?



Check out the Green Club's intranet site: <https://gateway.jpl.nasa.gov/communities/greenclub/SitePages/About.aspx>



Check out the Spark platform to add and upvote on suggestions to help JPL operate more sustainably: <https://jplspark.ideascalegov.com/a/campaign-home/225>



Join #sustainability or #greenclub channels on slack for daily communication and updates on current events!



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