



USC
Sustainability
Annual
Progress
Report
2019



The push for a green USC has never been stronger

Every day, we see and feel the effects of climate change. Wildfires have devastated our very own region, heatwaves are imposing greater hardships on our most vulnerable constituencies, and pollution continues to impose severe health risks. As an institution and as a community, USC must rise to the challenge and live the values that we espouse. Enclosed in this report, you will find much progress has been made to combat this existential threat. I am grateful for the hard-working staff, students, and faculty who made this possible and look forward to all that we can achieve together in the time ahead.

With 2014 as a baseline, USC pushed to become greener by 2020. We increased water and energy conservation, celebrated zero-waste events, and exceeded one goal two years early by buying 39 percent of our food from sustainable sources.

Already underway are planning efforts for USC's Sustainability 2028 Plan. We will be even more aggressively reducing greenhouse gas emissions, eliminating single-use plastics as we move to zero-waste campuses, and adding more charging stations for electric vehicles as we convert our fleet to electric power.

However, our culture is also at the heart of our future successes. This past year, the Office of Sustainability has made it their mission to engage campus constituencies regarding their priorities for a sustainable USC. Through your active participation, we can truly be at the leading edge of sustainability.

The only limit is our willingness to act.

Sincerely,

Carol L. Folt
President

In 2008, USC created the Office of Sustainability to implement greener, more renewable practices that lessen our impact on the environment while developing innovative outreach programs for the university and surrounding community. In 2015, we set goals in the form of the USC Sustainability 2020 Plan, which has served as our roadmap over the past five years and supports coordination and implementation of these efforts across our campuses.

The push for a green USC has never been stronger. With the support of our new president, we are making meaningful strides to expand sustainable operations, starting with President Carol Folt's zero waste inauguration in September 2019, and a comprehensive behavior change marketing campaign to engage students, faculty, and staff regularly throughout the 2019-20 academic year.

Now, as we near completion of the Sustainability 2020 Plan, we are setting our sights on 2028 and our next long-term blueprint, the completion of which will coincide with the Olympics' return to Los Angeles. By harnessing our ingenuity and our collective determination to make a real difference locally and globally, we're working to ensure that our future is sustainable.

**How are we doing so far?
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Progress Report on Sustainability 2019

The Sustainability 2020 Plan serves as a baseline for understanding USC's opportunities and challenges surrounding resource conservation practices, as well as a foundation for a sustainable future. This comprehensive effort involves faculty, staff, students, alumni, and the surrounding community. We know we must all come together to effect the change we want to see on campus and in our world.

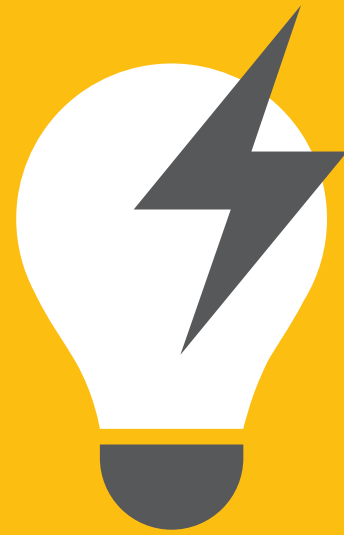
Note: Although the Sustainability 2020 Plan originally included goals for academic programs and research initiatives, responsibility for those areas of environmental education and scholarly investigation falls under the purview of the provost and are not included in this progress report.

Progress on Sustainability 2020 Plan Goals

as of December 2019

Goals (compared to 2014 baseline)	Achieve goal by December 2019	Projected to achieve goal by December 2020
Energy Conservation		
Reduce greenhouse gas emissions per square foot by 20% from 2014 levels	Yes	Yes
Capitalize on energy risks and opportunities	Yes	Yes
Transportation		
Reduce single-occupancy vehicles traveling to/from USC's campuses	Yes	Yes
Expand participation in alternative transportation programs	Yes	Yes
Waste Diversion		
Achieve 75% waste diversion rate	No	No
Expand diversion and recycling programs and increase awareness	Yes	Yes
Water Conservation		
Decrease potable water use by 25%	No	No
Increase awareness of conservation practices	Yes	Yes
Implement audience-appropriate educational campaigns	Yes	Yes
Procurement		
Engage 75% of USC departments in responsible purchasing practices	No	Yes
Purchase 20% of food from sustainable sources	Yes	Yes
Engagement		
Increase awareness of sustainability practices	Yes	Yes
Establish USC as a living laboratory for sustainability	No	Yes
Engage the broader community in sustainability	Yes	Yes

For more information, please visit green.usc.edu



Energy

Reducing USC's Greenhouse Gas Emissions

USC continues to make changes to reduce energy use and increase efficiency, with an ambitious goal to reduce our greenhouse gas (GHG) emissions per square foot by 20% from 2014 levels by 2020. Data from our FY19 GHG emissions inventory revealed that, in 2019, we surpassed our GHG reduction goal a year ahead of schedule, achieving a 33% GHG reduction from 2014 levels. In summer 2019, we added energy and water data for 150 USC buildings to ENERGY STAR's Portfolio Manager. This effort is part of the Existing Building Energy and Water Efficiency (EBEWE) Ordinance —an important component of L.A.'s Sustainable City Plan. Our alignment with this plan is just one way we are helping make our city more sustainable.

33%

reduction in GHG emissions per square foot since 2014



Engaging approximately 1,000 students, the USC Housing energy competition resulted in an overall energy reduction of 3.42%, saving 13,385 kWh



Easing Energy Grid Demand

In summer 2019, USC participated in the LADWP Demand Response Program. With 45 campus buildings participating over three days, our energy reduction target was 600 kW. During one event, the university achieved 833 kW in reduction.

Real-Time Data from the Energy Dashboard

In summer 2019, USC's energy team launched a digital dashboard that displays real-time energy use on our University Park (UPC) and Health Sciences (HSC) campuses. The dashboard also can display historical water and energy usage. By broadening awareness of how we're using these critical resources, we can motivate people to improve efficiency efforts.

Automated Scheduling to Improve HVAC Efficiency

Heating, ventilation, air conditioning, and cooling (HVAC) scheduling has been implemented in 18 buildings, 237 classrooms, and 40 air-handling units, and we're registering energy savings at or above projected levels. In one month alone, this project saved more than 42,000 kWh. The program is projected to extend to an additional 259 classrooms.

LED Lighting Installations

We kicked off our LED lighting project at Popovich Hall, and are preparing for installations at Lewis Hall, Mark Taper Hall, and Von KleinSmid Center. The Grand Avenue parking structure completed an LED retrofit, as did the Galen Center in its arena and practice courts. Roof lights and stairway wall packs were completed at the Jefferson, Downey, McCarthy, and Figueroa parking structures. The HSC Bookstore and Keck parking structure also completed lighting retrofits, and Keck Hospital is performing lighting retrofits in portions of the building. The USC Pacific Asian Museum completed a second phase of LEDs, and the Wrigley Marine Science Center on Catalina Island finished an LED retrofit across its entire campus.

USC Housing Energy Competition

In spring 2019, USC Housing coordinated an energy competition among seven residential colleges, engaging approximately 1,000 students during the two-week competition and resulting in an overall energy reduction of 3.42%, saving 13,385 kWh.

More Solar is Coming to USC

USC currently operates small-scale solar installations at the Cardinal & Gold apartment building and at the Wrigley Marine Science Center on Catalina Island—where solar power provides 20% of the energy needs of the dining hall and kitchen—with more solar coming to Wrigley in 2020. Solar panels also will be installed on the Galen Center roof, which will provide up to 15% of the arena's energy use starting in mid-2020.



Transportation

Making Sustainable Transportation a Reality

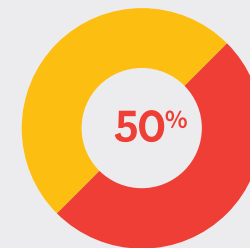
Los Angeles has a reputation as a car-centric city but, at USC, we are doing our part to help faculty, staff, and students take advantage of more efficient, sustainable ways to commute to campus. The Sustainability 2020 Plan laid out goals to reduce the number of single-occupancy vehicles traveling to and from USC, and to increase student, faculty, and staff participation in alternative transportation programs. We completed both of these Sustainability 2020 Plan goals for transportation two years ahead of schedule, in 2018. Our efforts continue to reduce our campus community's impact while on the go.



A USC Transportation survey shows a 7% drop in single-occupancy vehicle use between 2014 and 2018 and a 9% increase in people walking to campus



130 electric vehicle charging stations at UPC and HSC



of faculty and staff public transit costs are subsidized by USC

27.4

tons of CO2 saved by Traveler alternative transportation users

Surveying USC Commuters

USC Transportation surveys all USC commuters annually to track how they travel to and from campus, and reports the results to the South Coast Air Quality Management District (AQMD). The data showed a 7% drop in single-occupancy vehicle use between 2014 and 2018, a 9% increase in those who report walking to campus, a 5% increase in people biking to campus, and a 4% increase in carpooling. For the eighth straight year, USC has exceeded our AQMD target of having an average of 1.50 riders per vehicle coming to campus; in 2019, we reached 2.00.

Subsidized Transit for Faculty and Staff

As of October 2019, USC is subsidizing 50% of the costs of public transit for faculty and staff members enrolled in the new USC Transit Subsidy Program, administered by USC Transportation. The transit subsidy is intended to reduce the number of single-passenger cars on the road during peak commuting hours. The subsidy already has resulted in a reduction of 174 cars commuting to and from our campuses.

Charging Stations for Electric Vehicles

A total of 130 electric vehicle charging stations are available in over half of the parking structures on the University Park Campus and both structures on the Health Sciences Campus.

Rolling Out Traveler

Our Traveler mobile platform, which enables trip planning focused on alternative transit-oriented options, now has more than 10,000 users. USC Transportation has expanded the platform to integrate Waze mapping for carpoolers, Enterprise for vanpoolers, Lyft for rideshare participants, and LA Metro for the Southern California region. Traveler users already have saved 27.4 tons of CO2 and \$20,000 through alternative commuting options.

Waste

Diverting Campus Waste from Landfills



An emphasis on zero waste campus events, installation of multi-stream waste bins, water bottle refill stations, and increased composting in Residential Restaurants are leading USC's efforts to divert campus waste from landfills. USC's waste diversion practices have changed significantly since 2018 due to RecycLA, the City of Los Angeles's new waste franchise agreement. We now separate landfill and recycling waste on campus, rather than having our waste haulers sort our waste off-site. Additionally, compostable materials other than food waste were not accepted at our waste hauler's composting facility until summer 2019, and construction and demolition waste is no longer included in USC's waste diversion calculations. These changes have resulted in a dramatic decrease in our university-wide waste diversion rate, from 54% in 2015 to 27% in 2019.

27%

campus-wide waste diversion rate

Waste Diversion Rate by Location

University Park Campus	36%
Health Sciences Campus	19%
USC Village	45%
USC Housing (off-campus)	22%
CAL Building	47%
Coliseum (football season)*	91%

**not included in the university-wide waste diversion rate*

2019 Zero Waste Events diverted 18,479 pounds of waste from landfills.

Diverted Waste	in pounds
President's Inaugural Events	4,535
Campus Game-Day Tailgates	8,394
Trojan Family Weekend	3,600
President's Staff Holiday Breakfast	1,950



tons of waste diverted from Rams and Trojans games during the 2019 season

Hosting Zero Waste Events

President Carol Folt set the precedent for zero waste events at USC through her inauguration ceremonies, which diverted an estimated 4,535 pounds of waste from local landfills and helped to educate the USC community on the importance of recycling and composting. USC holds roughly 10,000 events each year; in 2019, we worked with event hosts to divert waste through composting, recycling, and donating leftover food. The Office of Sustainability and Facilities Management Services (FMS) also worked with campus groups to pilot zero waste campus tailgates, diverting 8,394 pounds of waste during the 2019 football season.

Multi-Stream Waste Bins

FMS has placed 136 new multi-stream waste bins in UPC academic and administrative buildings, along with signage developed by the Office of Sustainability that illustrates proper landfill and recycling sorting. 49 multi-stream waste bins have been installed at HSC.

Composting in USC Housing

In spring 2019, USC Housing partnered with Undergraduate Student Government (USG) on a composting pilot at Cardinal Gardens Apartments and Nemirovsky Residential College. Over six weeks, eight students diverted over 50 pounds of compost from landfill.

Reducing Waste in Residential Restaurants

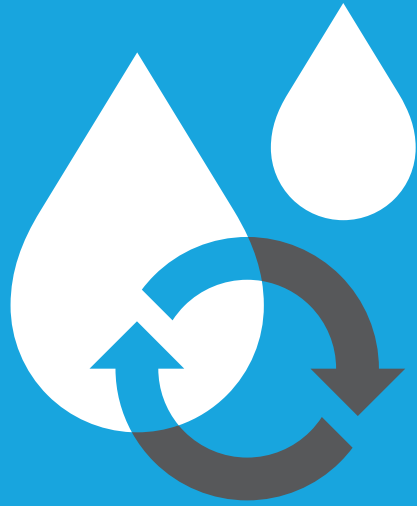
We have eliminated 95% of single-use, personal consumption items—such as individually wrapped packets of sugar, butter, and condiments—to reduce waste. Residential Restaurants also compost pre- and post-consumer food waste; an audit in October 2019 revealed that 1,100 pounds of post-consumer waste was being composted daily.

Coliseum Zero Waste Program

During the 2019 football season, fans diverted over 240 tons of waste during Rams and Trojans games through recycling and composting. Since the inception of the Coliseum Zero Waste program in 2016, over 1,000 tons of waste have been diverted from landfill.

Water

Reducing USC's Water Consumption



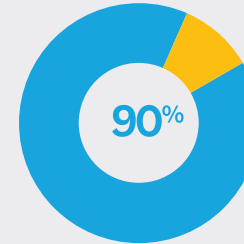
Although California's eight-year drought came to an end in 2019, water still is a critical constrained resource. In 2015, USC set a goal to decrease potable water use by 25% by 2020. Although we have achieved just a 6% reduction in water use (baseline 2014), this shortfall almost entirely is due to a delay in the the City of Los Angeles's delivery of recycled water to the University Park Campus (UPC) until 2024. In 2019, Facilities Management Services (FMS) completed the main "purple pipe" infrastructure required to receive recycled water from the City for irrigation and industrial use at UPC. We are also advancing toward our water conservation goal by expanding metering to improve our data on water use, prioritizing mitigation strategies by cost and effectiveness, and continuing behavior change awareness campaigns.

6%

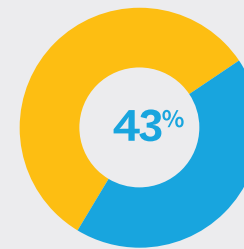
decrease in
potable water use
since 2014



USC Housing has
replaced approximately
6,800 water fixtures
with newer, more
efficient fixtures



90%
of the irrigation
at UPC uses centrally-
controlled irrigation
controllers with
weather-based
sensors



43%
water savings from
landscaping changes that
include converting to
drought-tolerant plants

Metering Water Use at UPC

Facilities Management Services installed 17 water sub-meters on the University Park Campus to provide detailed data on water usage—information that will better inform our water conservation plans moving forward.

Updating Fixtures

Facilities Management Services is replacing outdated water fixtures across the University Park Campus—replacing sink faucets, showerheads, and other fixtures with new, low-flow models. USC Housing has replaced approximately 6,800 old water fixtures, and installation of the remaining 1,200 water fixtures in non-housing buildings will be completed by 2020. USC also has implemented standard practices for all new construction projects on both the University Park and Health Sciences campuses to improve water conservation efforts.

Drought-Tolerant Landscaping

Wherever possible, drought-tolerant plants are being incorporated on both the University Park and Health Sciences campuses. These landscaping changes already have yielded up to 43% water savings for the converted areas. A major beautification project on the Health Sciences Campus is adding many native and drought-tolerant plants and trees.

Smart Irrigation

Much of the non-turf landscaping area on the University Park Campus already uses drip irrigation, and three-quarters of the landscaping around the Health Sciences Campus have now been converted to drip systems, which will greatly improve USC's water efficiency. The difference in water usage for a spray head versus a drip emitter is 120 gallons per hour versus half a gallon per hour. This slower application rate further increases efficiency by reducing water runoff and evaporation due to direct application to plant roots. Over both campuses, FMS maintains 152 irrigation controllers, 112 of which are now "smart" CALSENSE units.



Procurement

Increasing Sustainability through Purchasing Decisions

Purchasing decisions ultimately impact all key areas of sustainability, making sustainable procurement a crucial tool in facilitating progress toward the university's Sustainability 2020 Plan goals. The USC teams that carry out purchasing decisions are committed to supporting sustainability initiatives by leveraging the university's buying power and supplier partnerships. In 2019, the university took additional steps to procure environmentally responsible products and services. These changes helped reduce greenhouse gas emissions, increase campus waste diversion, and promote energy efficiency.

39%

of food purchases from sustainable sources

USC Hospitality: Purchasing Food from Sustainable Sources

By 2019, nearly 39% of food purchases for USC Hospitality came from sustainable sources—allowing us to dramatically exceed our Sustainability 2020 Plan goal of 20% ahead of schedule. 65% of meat and 50% of produce in our Residential Restaurants now come from sustainable sources.

Procurement of Sustainable Goods and Services

USC Procurement is focused on providing options for schools and departments to procure sustainable products and services through USC's preferred suppliers. Some recent efforts include standardizing office copy paper from 0% recycled content to 30% post-consumer recycled content, and providing easy access to shopping from Office Depot's "Greener Office" products catalog. Additionally, Office Depot ships to USC departments and offices utilizing reusable plastic totes and recycled paper bags in order to minimize cardboard and packing material waste.

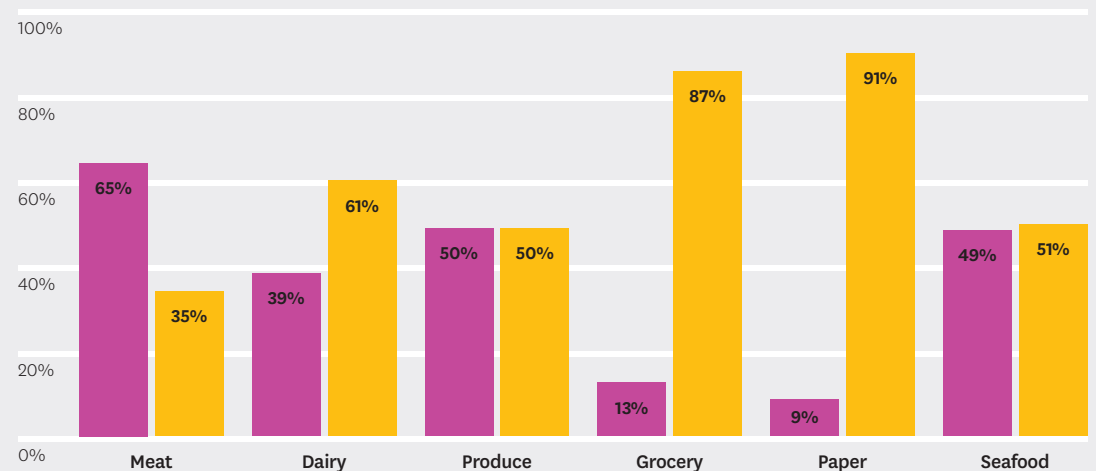


USC Hotel Green Seal Silver Certification

The USC Hotel earned Green Seal Silver Certification in November 2019. Green Seal is a nonprofit organization that evaluates and certifies hotels for their leadership in key sustainability categories, including environmentally sensitive purchasing. The certification represents a collaborative effort to increase sustainable purchasing in USC business units, which has reduced waste generation and increased energy efficiency.

USC Hospitality Sustainable Purchases by Category

- Sustainable items (% by lbs.)
- Non-sustainable items (% by lbs.)





Engagement

Educating our Community about Sustainability at USC

In 2019, the Office of Sustainability team grew from two to four full-time employees, enabling the department to increase campus-wide messaging about sustainability. Through comprehensive marketing and engagement campaigns, the Office of Sustainability was able to promote the university's sustainability efforts and educate the broader USC community about sustainable behavior change. In 2019, the Office of Sustainability also launched the year-long 2028 Sustainability planning process in conjunction with the USC Sustainability Steering Committee. Through event programming, class presentations, and various tabling opportunities, the Office of Sustainability spread awareness of USC's current and forthcoming sustainability initiatives, while informing the community about progress toward our Sustainability 2020 Plan goals.



850

students, staff, and faculty shared insights through the Sustainability 2028 Plan survey

“Our Future is Sustainable”

Our multi-platform media campaign appeared in:

- 20 housing locations
- 2 Residential Restaurants
- USC Bookstore
- 12 libraries/ computing centers
- 11 FMS screens
- 4 Student Affairs screens
- *Daily Trojan*
- USC buses and bus shelters

“Our Future is Sustainable”

Multi-Platform Media Campaign

The Office of Sustainability launched the “Our Future is Sustainable” marketing campaign, which highlights steps USC is taking to advance sustainability as well as ways that all Trojans can make small behavior changes with big environmental impacts. The campaign included regular advertisements in the *Daily Trojan* and on digital screens throughout campus, including USC Housing and Residential Restaurants, University Libraries, Tutor Campus Center, and the USC Bookstore. The ads also began to run on two USC buses and in four campus bus shelters.

Sustainability Pledge

In partnership with Undergraduate Student Government and Auxiliary Services, the Office of Sustainability developed a sustainability pledge and door hanger collateral that reminds students to commit to making changes in how they shop, commute, use water and electricity, and more.

Coliseum Zero Waste Program

The Office of Sustainability continued supporting the high-profile Coliseum Zero Waste program through vendor compliance, ensuring that all Coliseum vendors adhere to the venue's sustainability standards.

Campus Outreach

The Office of Sustainability provided regular outreach and engagement through class presentations, student orientation sessions, the Trojan Trash Talkers at campus game-day tailgates, spring and fall Sustainability Forums, the Provost's Retreat on Sustainability in Education and Research, the Earth Day SCelebration, Team Up to Clean Up Expo Park, and other events throughout the year.

Sustainability Metrics Reporting

The Office of Sustainability continued maintaining USC's sustainability website, updating the community on progress toward our Sustainability 2020 Plan goals and publicizing campus sustainability news and events. The Office of Sustainability also continued gathering and reporting data on key sustainability metrics in the Sustainability Annual Progress Report.

Student Initiatives



200+
students participated
in USC's first major
climate rally

Student Activism

In September 2019, the Environmental Student Assembly (ESA) and Environmental Core (ECore) held the university's first major climate rally with more than 200 student participants, including an appearance by President Carol Folt. Student groups also collaborated on a letter to the president asking the university to increase transparency of endowment investments, divest its endowment from fossil fuels, and reinvest this money in renewable energy and green technology.

Sustainability Projects and Programming

In 2019, many student groups ramped up their efforts to promote sustainability. The Wrigley Ambassadors Program collected student feedback quantifying demand for applied sustainability learning across departments and organized a clothing swap with over 800 donations. USC's Sustainability Affairs Advocacy team collaborated on a composting pilot project with USC Housing and an awareness campaign with Greek Life to encourage fraternities and sororities to engage in more sustainable practices. Graduate Student Government passed a resolution to add a Director of Sustainability to its executive board for the 2020-2021 academic year. ESA hosted VegFest—a free vegetarian and vegan food festival—and Earth Month, featuring guests including Bill Nye.

Expanding USC's Student Sustainability Network

Several new student organizations—including Bloom Boutique, USC Food Recovery Network, Wrigley Ambassadors, and the Garden Club—were formed in 2019 to address a wide range of sustainability concerns at USC and beyond.

Looking Ahead

With the university's current sustainability plan concluding at the end of 2020, one of the most vital projects undertaken by the Office of Sustainability and the Sustainability Steering Committee in 2019 was initiating collaborative development of USC's Sustainability 2028 Plan. As a community, USC will continue developing the critical teams and tools needed to build upon the successes of the 2020 Plan, leverage lessons learned and opportunities identified, and provide the blueprint for determining and achieving our vision for 2028.

Partners involved in this critical work include:

- Presidential Working Group on Sustainable Education, Research, and Operations
- Office of Sustainability
- Sustainability Steering Committee
- Academic Senate
- Staff Assembly
- Facilities Management Services
- Auxiliary Services
- Procurement
- Undergraduate Student Government, Graduate Student Government, Environmental Student Assembly, Environmental Core, Wrigley Ambassadors, and other student groups
- and many faculty, student, and staff sustainability experts and advocates

The outcome of these efforts will be a Sustainability 2028 Plan that aligns with USC's mission of serving as a global research university focused on solving difficult problems affecting our city and the world. The 2028 Plan will position USC as a responsible sustainability leader in our local community and beyond. We intend to align with or exceed the Los Angeles city and county goals for carbon neutrality, energy, waste, and water.

With the Olympics returning to Los Angeles in 2028, the eyes of the world will be on Los Angeles, as well as on USC, which will host a number of events during the Games. This provides us with an opportunity to showcase our vision for a sustainable future and USC's role as a responsible leader in our local community and on the global stage.





USC University of
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