USC Sustainability Plan | Executive Briefing Summary

Introduction

This Executive Briefing document has been developed for President and Senior Leadership review and is intended to act as a primer, ahead of mobilizing on a process to update the USC Sustainability Plan that will define USC's activities between 2021 and 2028. This document has been structured to achieve a number of objectives:

1. To introduce the current sustainability environment in California and more locally in Los Angeles
2. To benchmark other high tier institutions
3. To begin to consider alignment and synergies between USC's activities and those occurring or planned to occur at the City level
4. To identify quick wins and potentially strategic projects or initiatives
5. To consider barriers and challenges that will need to be overcome to maximize the impact of the new Sustainability Plan

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Key Recommendations and Takeaways

This Executive Briefing Summary aims to describe the current status of sustainability at USC, ahead of a planned process to develop a 2028 Sustainability Plan through fall of 2019. It was found that fair progress had been made against the current 2020 Sustainability Plan, with positive movement around transportation and energy (Appendix B: USC 2020 Sustainability Plan Goals Progress Report). The goals and targets within this Plan, however, were found to be lacking when benchmarked against other comparable institutions (Appendix C: USC Peers Sustainability Benchmarking), and it is recommended that this be rectified with the 2028 Plan.

The 2028 Plan should leverage recent momentum around sustainability at USC, provided in part by the implementation of a number of innovative projects. These include renewable energy systems (on residential housing at North University Park Campus, and upcoming at the Galen Center), as well as a large energy storage system. We recommend that some quick wins be captured by further expanding successful existing programs (e.g. LED lighting retrofits, classroom scheduling optimization software, and retro-commissioning of existing buildings). Additionally, early engagement with key stakeholders also should occur on smart initiatives that have gained some level of momentum on campus (e.g. development of a transportation demand management program). USC's 2028 Plan can also leverage recent state and local policy, such as the LA energy and water benchmarking ordinance and alignment with the recent City sustainability pLAn update. Finally, the sustainability values of the 2028 Olympics should be considered and if appropriate, leveraged, when developing the 2028 Plan.

Although there is broad support for more aggressive sustainability initiatives at USC from a range of student, academic, and administrative stakeholders, there appears to be significant organizational and resourcing constraints that need to be addressed in order to get support for, and implement, a new Plan. This includes a focus on where responsibility for sustainability sits within USC's organizational structure; reporting and accountability for the Plan; and top-down support for its recommendations. This should enable more active engagement between USC and the City agencies at the highest levels. There also is a strong need to better integrate sustainability into the healthcare division of USC administratively, and have this division buy into the new Plan and provide resources to implement it.

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Sustainability Context

Local

Both the City and County of Los Angeles have recently developed sustainability plans outlining key goals and priority areas for the region. Both plans call for:

- achieving carbon neutrality by 2050 or earlier, with a focus on net zero energy and carbon buildings, and de-carbonizing the energy supply
- exponential progress in the conservation of potable water
- reducing solid waste through circular economies
- electrifying transportation and improving non-motorized mobility options

Recent legislation, such as the City's Existing Building Energy and Water Efficiency (EBEWE) ordinance, also reinforces that sustainability is an important consideration in Los Angeles.

State

California has some of the most progressive building codes in the US, including Title 24, Part 6 California Energy Code and Title 24, Part 11 California Green Building Standards Code (CALGreen). All of these codes have already been integrated into USC's existing building standards. California building codes are becoming progressively more stringent, with the energy code set to require all residential construction be net zero energy by 2020, and commercial construction by 2030. California has also established aggressive state-wide goals around waste diversion, transportation planning, and renewable energy. The California Renewable Portfolio Standard requires utilities to provide an increasing proportion of electricity from renewable or carbon-free sources until reaching 100% clean electricity supply state-wide in 2045.

Global

Los Angeles is the host city for the 2028 Olympics, with sustainability a key selling point for the City's Olympics bid. With USC Village serving as the main media hub, and with events planned at LA Memorial Coliseum, the LA Football Club Stadium, the Galen Center, and Dedeaux Field, millions of visitors from around the globe will be introduced to USC. USC is currently a member of the LA28 Sustainability Planning Council. LA28 and an increasing number of public and private institutions are aligning themselves with frameworks such as the UN Sustainable Development Goals (UNSDGs) that shape how they approach their business and operations.

Benchmark Against Similar Universities

The implementation of sustainability strategies at universities has exponentially increased within just the past few years. To date, over 460 universities have signed the Second Nature Presidents Climate Leadership's carbon commitment - a pledge that indicates the university is striving towards carbon neutrality. While USC has been addressing sustainability in some contexts, the University's sustainability commitments and achievements have not kept pace with competitor universities. Stanford University and UC Berkeley, for example, have committed to 80% and 100% greenhouse gas emissions (GHG) reduction by 2025, respectively. Similarly, over 300 public and private universities have achieved a certification through Sustainability Tracking Assessment & Rating System (STARS), including UCLA, UNC Chapel Hill, and Stanford.

Opportunities

USC is well positioned to leverage the 2028 Sustainability Plan to establish itself as a leading institution for sustainability. Specific opportunity areas include carbon neutrality, transportation, resource and waste management, and the 2028 Olympics (Appendix A: USC Sustainability Gap Analysis Matrix).

Carbon Neutrality

Reducing carbon emissions is the most critical step toward addressing climate change. USC is currently on track to meet its 2020 Sustainability Plan energy conservation goal of reducing greenhouse gas emissions on a square foot basis by 20% (2014 baseline year). Many other universities and institutions, however, are making increasingly more ambitious commitments. USC should consider committing to carbon neutrality by no later than 2050, with interim short- and medium-term milestones to gauge progress.

Zero Net Energy

Zero Net Energy is not only the new standard for high performance buildings; by 2030 achieving ZNE will be the baseline building code. As ZNE buildings typically have low operational costs and on-site renewables paired with storage, achieving ZNE can protect USC from rising energy costs, protect the university from future energy shocks and allow USC to take advantage of existing LADWP energy efficiency incentive programs.

Renewable Energy

With the university considering its first major solar photovoltaic project at the University Park campus – on the roof of the Galen Center – and the existing solar installation on the Cardinal & Gold apartments in the North University Park area, USC has an opportunity to capitalize on these investments by developing a holistic university renewable energy strategy that explores both on- and off-campus options and is right-sized based on energy, financial and similar impacts.

Building Electrification

With LADWP's target of decarbonizing LA's grid by 2045, USC's energy supply is becoming increasingly decarbonized. However, the only way to truly eliminate carbon emissions from buildings is to eliminate onsite combustion of natural gas and similar fuels. USC should consider requiring building electrification for all future building construction projects. Electrifying the existing campus buildings will be complex and challenging so a longer implementation time horizon is recommended.

<u>Short-term Wins</u>

- USC is improving building energy efficiency by working toward compliance with the EBEWE ordinance. It should continue to improve efficiency through a combination of capital equipment replacements and controls measures, such as classroom scheduling optimization software and retro-commissioning
- Implement solar PV at Galen Center, and consider potential for energy storage to help with demand response cost savings
- Develop university renewable energy strategy including on-campus and off-campus solar energy assessment to understand potential for solar and procurement options

<u>Medium- and Long-term Wins</u>

- ZNE pilot projects
- Electrification of new construction

Opportunities

Transportation

USC has proactively approached and successfully improved transportation management over the past few years. Even with these successes, responses to the 2028 Sustainability Planning Survey (Appendix D: USC 2028 Sustainability Planning Stakeholder Survey Analysis) indicate near-unanimous agreement across the spectrum of USC stakeholders that transportation must continue to be a top priority for the university. Regionally, the City, County and Metro have prioritized initiatives to decrease use of single-occupancy vehicles (SOVs), develop and improve electric vehicle (EV) infrastructure, and diversify mobility solutions. For instance, as part of Metro's Twenty-Eight by '28 plan, Metro is building a new Bus Rapid Transit line that will connect to the Vermont Expo Line station. Combined with the Expo Line, and future connectivity through the nearby Crenshaw line, USC is situated in one of the most transit dense locations in Los Angeles.

Transportation planning must be coordinated with external transportation plans and long-term trends in order to maximize accessibility, avoid redundancies, and minimize conflicts to ensure safety. For example, a decrease in SOVs would impact USC's parking need, especially at the Health Sciences Campus, but could also impact revenue from parking fees. Likewise, an increase in EVs will impact the university's electrical distribution network and the need for charging infrastructure.

Short-term Wins

- Implement a comprehensive Transportation Demand Management (TDM) program
- Plan for new mobility solutions, including external and internal transportation needs
- Avoid short-term transportation decisions that restrict long-term flexibility, such as subsidized transit passes that could affect participation in a future TDM program

Medium and Long-term Wins

- Strategically plan and install EV charging infrastructure
- Develop alternative revenue schemes that do not rely on parking fees for conventional SOVs

Opportunities

Resource and Waste Management

Net Zero Waste

Responses to the 2028 Sustainability Planning Survey make clear that solid waste management - particularly recycling and composting - is a priority area for students. Certain aspects of the university, in particular the Health Sciences Campus, have been identified as needing dedicated attention to improve solid waste management. Long-term waste management planning will also be essential for USC to prepare for the additional City, County, and State waste policies that will likely be enforced in the coming decade. The City and County both envision a Zero-Waste future; initiatives in the pipeline to attain this goal include banning single-use plastics, non-compostable food packaging, and Styrofoam by 2021. Pre-emptive coordination with on-campus dining and housing, event planning, and affiliated vendors will prevent rushed procurement and waste processing outsourcing or infrastructure construction.

Procurement

Procurement extends to all sectors of USC's operations, making sustainable procurement both high impact and difficult to manage. USC stakeholders have identified a need for a sustainable procurement policy, and other universities are increasingly focusing on greening their supply chains. UCLA, for example, has developed a sustainable procurement plan that leverages on-campus resources, while others are turning to external partners. The regulatory environment is changing, as well, with the City poised to establish by 2025 extended producer responsibility (EPR) policies, in which the manufacturers bear financial or physical responsibility for their products' life cycle impacts on human health and the environment. USC should explore the development of a sustainable procurement program and/or policies, either using campus resources or an external specialist partner.

<u>Short-term Wins</u>

- (Waste) Develop a comprehensive waste management plan. Implement necessary tools, processes, education and training, with an immediate focus on recycling and composting initiatives in student-facing locations such as Residential Housing and Dining, and other dining facilities on campus
- (Waste) Explore alignment of waste receptacle branding across main campus and Health Science Campus
- (Procurement) Consider working with a specialist consulting firm to audit current procurement practices and develop a sustainability focused procurement plan and performance metrics

<u>Medium- and Long-term Wins</u>

- (Waste) Implement a waste diversion program at the Health Sciences Campus
- (Procurement) Implement sustainable procurement plan

Opportunities

Olympics

The Los Angeles winning Olympic bid was built on themes of social and economic benefit, utilizing existing venues and delivering a sustainable model for the Olympic Games. It is helping drive infrastructure development within Los Angeles and could also be used as a vehicle for USC to drive sustainability. USC forms part of the Olympics "Downtown Sports Park", with the Galen Center and Dedaux Field being used for events and University Village being used as the main press center. Locations adjacent to USC are also being used for events including the Banc of California Stadium, LA Memorial Coliseum, and Figueroa Street. This offers USC an opportunity to align with the sustainability values of the winning bid and use the media coverage from the games to communicate USC's values and commitment to sustainability to a global audience.

Short-term Wins

- Understand how USC's venues align with the 2028 Olympics sustainability goals

Medium and Long-term Wins

- Implement innovative sustainability projects at Olympic-aligned facilities that distinguish USC as a sustainability leader

Stakeholders and On-Campus Governance

There is no single entity at USC currently that is responsible for sustainability. Each vertical within the organizational structure and stakeholders across the spectrum of the USC family bears some responsibility, with certain departments such as the Office of Sustainability having a more prominent role than others. There is a need for horizontal integration of sustainability, including a reporting structure with direct access to senior administrators. Such an entity would provide accountability for sustainability actions and decision-making, while reinforcing sustainability as a priority for USC. It is critical that this entity is provided staffing and resources commensurate with the magnitude of the issues it is tasked with addressing. This will allow USC to not only manage sustainability across all of its campuses and verticals, but also to raise its external profile as a leader in sustainability.

Challenges

USC

While a diversity of USC stakeholders has been addressing sustainability in disparate ways, sustainability has not traditionally been part of the university's culture. The lack of a single entity being responsible and accountable for sustainability at USC has presented challenges for integrating sustainability into USC's decision-making processes. Additionally, traditional financial metrics and benchmarks that decisions have been premised on may not adequately capture the benefits of sustainability, suggesting a need to investigate whether more appropriate metrics should be considered.

Renewable Energy

With the University Park campus already densely built out, the opportunities for siting solar photovoltaics or other renewable energy sources on new construction projects are limited. While installing solar PV on USC's existing buildings presents some opportunity, most of the university's existing buildings were not designed for solar installations and would require additional considerations beyond acquiring equipment. Moreover, the density of buildings limits the amount of viable roof space. Also, the electric utility, LADWP, prohibits power purchase agreements so offsite solar has not been a viable option.

Carbon Emissions

Much of USC's extensive buildings infrastructure uses natural gas combusted onsite to provide heating and hot water. Additionally, laboratory buildings, Keck Medical Center, and other facilities depend heavily on natural gas for sterilization and other process uses. Moreover, these building types tend to be highly energy intensive, presenting challenges for demand reduction. While there is an opportunity to electrify future construction, eliminating Scope 1 carbon emissions from existing USC buildings will be a capital intensive and lengthy process. Although LADWP is actively working to de-carbonize the electricity grid, USC also has a limited capacity to affect the source emissions from the electricity it receives from the utility.

Transportation

USC has invested significant effort and resources into improving the breadth, depth, and quality of mobility options available, with these efforts yielding considerable improvements. Nevertheless, transportation remains a major challenge for the Southern California region and this directly impacts USC. Intra-campus transportation presents its own challenges, with a proliferation of bicycles causing congestion and safety concerns. At the same time, many students use the University-funded free ride share program, implemented to help ensure public safety, just to commute across campus. Additionally, fees from parking provide a significant revenue stream to USC, creating mixed incentives for reducing car travel to campus. Alternative transportation-related revenue mechanisms should be explored in lieu of continuing to depend on parking revenue.

Water

USC has worked diligently to reduce water consumption across the university and has completed or is in the process of completing numerous conservation projects, from landscape replacements to water fixture retrofits throughout both campuses. Despite these efforts, the 2020 Sustainability Plan goal of 25% reduction by 2020 will not be achieved. Issues that are outside of the direct control of USC, such as a delay in the provision of purple pipe infrastructure for municipally-supplied recycled water have been major factors. In addition, HSC has a high water table that limits the potential for below-grade water projects. Similarly, many of the "low-hanging fruit" have already been addressed and further conservation could require substantial commitment and investment.

Waste

Several factors, some of which are outside of USC's control, have contributed to low solid waste diversion rate of approximately 30%. One factor is the City's recently-instituted RecycLA waste franchise program, which mandated that, starting January 2018, USC switch to a new waste hauler (Republic Services) that does not offer "dirty MRF" waste sorting. Also, until June 2019, Republic did not provide comprehensive food waste composting services, leaving USC without viable options for diverting this very substantial waste stream. Comprehensive solid waste management at the Health Sciences Campus has not been implemented, which also adversely affects USC's waste diversion rates.

Next Steps

USC has publicly announced the goal of developing the 2028 Sustainability Plan this fall, aiming to have a final draft for internal approval by the end of 2019. Noting that this is an aggressive time frame for such a large organization, it is essential that a transparent and robust engagement process be developed quickly in order to gather directional consensus across the various stakeholder groups. At a minimum, stakeholders would need to include representatives from administration, procurement, transportation, academia, FMS, the student body and the healthcare division. USC may also want to consider including stakeholder groups from outside the campus for parts of the process – for example, the local community, The City, LADWP or LA Metro.

Involving external stakeholders may also act as a springboard for USC to become more involved in engagement with City agencies at the highest level - something that is firmly recommended as it will help USC to influence shaping City policy, ensure that USC is kept informed of the latest sustainability direction and progress, and offer collaboration opportunities.

Finally, it is essential to discuss and quickly find solutions to the issue of sustainability governance on campus. Realistically, this needs to happen early in the planning process for the new Plan – towards the end of Summer / early Fall - so that new teams and processes can be formulated and brought into the targeting initiatives.

About Arup

Arup is an employee-owned international firm of consultants, planners, and engineers that provides global best practice advice to their clients locally. They are collaborating with institutions such as Stanford, UC Berkeley, and UCLA where they are helping advance sustainability goals and aspirations. They have collaborated extensively with USC by providing design and consulting services for USC Village, USC School of Architecture, and USC Keck Hospital. They have also recently supported the City of LA in updating its own sustainability "pLAn" framed as LA's New Green Deal, and have also supported City departments in understanding and implementing LA's recent energy and water benchmarking ordinance.

Appendix A

USC Sustainability Gap Analysis Matrix

USC Executive Briefing Summary - Gap Analysis

USC ARUP

Date: 07/02/19

*Goals and initiatives included under LA 2028 Olympics are taken from the bid submission for the LA 2024 Olympics. No updated plans have been made since.

Topic	Sub-Topic	USC Stakeholders				Alignment between USC Stakeholders	Community Plans			Alignment between USC and Community Plans
		Students	Academia	Business Operating Units	Office of Sustainability (OoS)		City - Sustainability pLAn 2019	County - OurCounty Plan	LA 2028 Olympics*	
Energy	**GHG emissions goals**	President's office needs to commit to carbon neutrality.	• Achieve carbon neutrality across all buildings by 2030. • Reduce GHG emissions per sqft by 20%, 30% and 40% from 2014 levels by 2020, 2025, and 2030 respectively. • Create an internal cap and trade program so units can trade credits to achieve carbon neutrality.	Investigate a plan to reduce on-site emissions to the greatest extent possible.	Get USC halfway to carbon neutrality in next 10 years [unclear if this only encompasses buildings].	**Misalignment** Difference in carbon neutrality goals.	• Reduce GHG emissions 50% below 1990 levels by 2025; 73% by 2035 and carbon neutral by 2050. • All new buildings will be NZC by 2030; and 100% will be NZC by 2050.	• Reduce GHG emissions by 25% below 2010 levels by 2025; 50% by 2035; and carbon neutral by 2050. • All new buildings to be ZNC. • 50% of major building renovations to be ZNC by 2025; 75% by 2035; and 100% by 2045.	Ecodistrict accredidation for each Games cluster. Ecodistrict is a district-level sustainability framework; one of its requirements is to develop a plan for the district to reach carbon neutrality.	**Alignment** OoS aligns more closely with City & County plans; Academia is more aggressive. Olympics will require USC to be part of a district-wide carbon neutrality plan.
	Climate action plan		Execute a carbon budget study of UPC and HSC.		OoS plans to complete a CAP in fall 2020.	**Consensus** CAP is needed.	Inherent in above GHG goals.	Inherent in above GHG goals.	Inherent in Ecodistrict accredidation.	**Alignment**
	Energy performance goals		• All new buildings must use at least 30% less energy than ASHRAE baseline. • All new construction (NC) buildings achieve energy neutrality.			**Misalignment** Lack of defined energy consumption goals apart from in Academia.	• Reduce building energy use per sqft for all building types 22% by 2025; 34% by 2035; and 44% by 2050. • Use energy efficiency to deliver 15% of L.A.'s projected electricity needs by 2020 and 30% by 2030.		•First energy-positive Olympics (produce more renewable energy than consumed). • Net zero energy retrofits for projects over a certain size • All facilities that will be used as part of running the Games will be encouraged to achieve a 15% improvement in energy efficiency in existing buildings by 2020.	**Misalignment** Lack of defined energy consumption goals set by stakeholders contrast with City's and Olympics' plans. Olympics may require ZNE retrofits.
	Energy auditing / retro-commissioning (RCx)		Perform an energy audit annually.	Complete RCx in all EBEWE applicable buildings. **Stretch Goal:** All buildings.	Complete RCx on all buildings.	**Alignment** Energy auditing and RCx needed; discrepancy in extent (all or just EBEWE buildings).	Achieve and maintain >85% compliance with EBEWE program.			**Alignment** USC goals suggest strong commitment to EBEWE compliance.
	Energy metering		Measure and track building-level smart meter data in buildings without an existing monitoring system.	Install additional metering.		**Alignment** Metering requested but no firm goals.				
	Smart buildings/grid		Add smart automation to built environment such that lighting and HVAC systems are optimized to real-time occupancy.	• Expand Smart Buildings / Smart Grid infrastructure. • Launch USC Smart Labs program.		**Alignment** Smart building systems requested but no firm goals.				
	Demand response			Increase the number of USC buildings participating in LADWP's DR program.			Increase DR programs to 234 MW by 2025; and 600 MW by 2035.			**Misalignment** Lack of DR goals set by stakeholders.
	Demand control		Create incentive program to engage students to reduce energy usage, particularly in residential colleges.							
	Energy storage		Evaluate storage for offsetting peak energy usage.	Investigate energy storage opportunities. **Stretch Goal:** Develop off-site storage solutions with LADWP.	• Complete thermal energy storage (TES) infrastructure project on UPC & HSC. • Develop off-site storage solutions with LADWP.	**Alignment** Storage identified as a strong need.	Increase energy storage capacity to 1,654-1,750 MW; 3,000 MW; and 4,000 MW by 2025, 2035 and 2050.			**Alignment** Intention set but defined goals will be needed to see contribution to City goals.

Energy	**On-Site Renewables**	Focus on solar energy, installing solar panels on Galen Center roof and assess feasibility of other campus locations.			• Conduct survey to assess viability of rooftop solar; install where appropriate. • Add solar power to the Galen Center, CAL, CDF, UPX, and all the NUPC buildings USC owns.	**Alignment** Study rooftop solar feasibility and install at least on Galen Center.	• Increase cumulative MW of local solar to 900-1,500 MW; 1,500-1,800 MW; and 1,950 MW by 2025, 2035 and 2050. • Require all newly built parking structures to have solar by 2021.	• Achieve 3 GW of new DER by 2025; 6 GW by 2035; 10 GW by 2045.	Collaborating with venue partners to explore opportunities for onsite renewable generation.	**Alignment** Intention set but defined goals will be needed to see contribution to City goals. Olympics may require some onsite generation at USC.
	Off-Site Renewables		Offset 10%, 50% and 100% of energy requirements from on or off-site renewable energy or storage by 2020, 2025, and 2030 respectively.	**Stretch Goal:** Develop off-site renewable solutions with LADWP.	Develop off-site renewable solutions with LADWP.	**Alignment** Coordinate with LADWP to increase renewable energy supply. Only academia has set specific targets.	LADWP will supply 55% renewable energy by 2025; 80% by 2036; and 100% by 2045.			**Alignment** Intention set but defined goals will be needed to see contribution to City goals.
	LED lighting		Complete LED installations in all buildings.	Complete LED installation in first phase of campus buildings (~69 bldgs). **Stretch Goal:** All buildings.	Complete LED installations in all buildings (except research labs where it interferes with results).	**Alignment** Install LED in all buildings.				
	LEED		All new buildings must meet LEED Silver standards.		LEED Platinum on all NC buildings.	**Alignment** LEED certification needed; discrepancy in level.				
	Classroom scheduling software			Extend classroom scheduling software usage to second phase of campus buildings. **Stretch Goal:** All buildings.	Extend classroom scheduling software usage to all buildings.	**Alignment** Extend classroom scheduling software usage to all buildings.				
Transportation	**Alternate mobility goals**		Decrease SOVs by 50%.	Decrease SOVs by 50%.	Decrease SOVs by 50%.	**Consensus** Decrease SOVs by 50%.	• Increase the percentage of all trips made by walking, biking, micro-mobility/matched rides or transit to 35% by 2025; 50% by 2035. • Increase LA's average Walk Score to 75. • Reduce Vehicle Miles Travelled (VMT) per capita by 13% by 2025; 39% by 2035; and 45% by 2050.	• Ensure 25 cities and/or unincorporated communities have a walk score of 70 or more by 2035; 35 cities by 2035; 45 cities by 2045. • Increase the percentage of all trips made by walking, biking, micro-mobility or transit to 15% by 2025; 30% by 2035; and 50% by 2050. • Reduce average daily Vehicle Miles Travelled (VMT) per capita to 20 miles by 2025; 15 miles by 2035; and 10 miles by 2050.	Twenty-Eight by '28 is a Metro initiative to build 28 infrastructure projects by 2028, including a Bus Rapid Transit Line through the current Expo Line's Vermont Station.	**Misalignment** More aggressive than City and County. Major transportation projects planned for 2028 Olympics that involve USC.
	Zero-emission vehicle fleet		• Convert fleet to alternative fuels via replacement scheduling (15% per year of oldest vehicles). • Annually updated inventory of vehicle fleet.	Zero-emission vehicle fleet.	Ensure all vehicle purchases going forward are electric vehicles by centralizing the vehicle fleet purchasing under USC Procurement Services.	**Alignment** Convert to zero-emission vehicle fleet. Lack of definition in phasing.	Increase the percentage of zero emission vehicles in the city by 25% by 2025; 80% by 2035; and 100% by 2050.	30% of all new light-duty private vehicles are zero-emission vehicles by 2025; 80% by 2035; 100% by 2045.		**Alignment** Timeframe will need to be refined.
	Electric bus fleet		Prioritized conversion of cleanest bus fleet possible (upgraded every 4 years).	Zero-emission buses.	Implement an electric bus fleet and replace all other petroleum-powered busses.	**Alignment** Convert all buses to clean fuel.	100% Zero Emission school buses in LA by 2028; Electrify 100% of Metro and LADOT buses by 2030.			**Alignment**
	Building EV infrastructure		Install more EV charging infrastructure (2 per parking lot per year).	Supporting infrastructure for zero-emission fleet/buses goals.	• Conduct a demand assessment of EV vehicles and add sufficient charging stations in all parking areas. • Build out necessary building electrical infrastructure to support zero-emission initiatives.	**Alignment** EV chargers needed but only Academia has set specific targets.	Install 10,000 publicly available EV chargers by 2022; 28,000 by 2028.	60,000 new public EV charging stations by 2025; 130,000 by 2035.		**Alignment** Intention set but defined goals will be needed to see contribution to City and County goals.

Transportation	**Transportation Demand Management (TDM)**			Create micro-mobility and TDM Enhancement Plan (actions incl. permit programs and Mobility Living Lab).	Partner with faculty experts to create a TDM System.	**Alignment** But no definition in targets.	Update the TDM ordinance.	• Develop and implement a transportation demand management (TDM) ordinance that requires developers of new buildings to incorporate measures such as subsidized transit passes and car share.		**Alignment**
	Bicycles		• Work with City to increase bike lanes to/from USC. • Add bike infrastructure. • Expand free on-campus shared bike system. • Bike rental system coherent with city-wide rental bike systems.				Expand bike lane network by 20 lane-miles per year and increase supporting infrastructure.			**Misalignment** May need more of a focus on bike initiatives to align with City.
	Alternative transport incentives	• Establish stronger financial carpooling incentives for commuting student, staff, and faculty. • Ensure USC Transportation revenue is not dependent on maximizing number of SOVs coming to campus every day.	• Establish strong subsidy/reward program for employees using public transit, carpool, or zero-emission vehicles. • Charge carbon offset fees for students using the parking infrastructure. • Annually increase carpool priority parking (5+ in each lot per year). • Priority parking for alt-fuel vehicles. • Incentivized costs for carpools.	• Subsidies to deter SOVs. • Campus-wide employee/student universal UPASS.	• Incl. in TDM, funding for vanpool, carpool, and alternative transportation. • Subsidize EV or hybrid ridesharing only. • Incl. in TDM, the reinstatement of transit pass subsidies.	**Alignment** Alignment in tactics: increase incentives for alternative transport, in particular reinstate transit pass subsidies. Academia push for priority parking as well.				
	Tele-conferencing		Adopt technologies to facilitate teleconferencing to reduce air-travel (one conference facility in each school unity building by 2030).							
	Vendor		Motivate/incentivize vendor-fleet to be clean.				100% of urban delivery vehicles are zero emission by 2035.			**Misalignment** May need more of a focus on vendor vehicle emissions to align with City.
Waste	**Waste diversion goal**		Achieve Zero-Waste (90% diversion) by 2030.		Achieve Zero-Waste by 2050.	**Misalignment** Alignment in goal but misalignment in time frame.	• Increase landfill diversion rate to 90% by 2025; 95% by 2035; and 100% by 2050. • Design and implement a zero waste policy for City-sponsored and permitted events.	• Increase landfill diversion rate to 80% by 2025; 90% by 2035; and 195% by 2050. • Decrease overall per capita waste generation by 25% by 2025; 30% by 2035; 35% by 2045.	Emphasis on zero-waste Games operations in alignment with the City's Sustainability pLAn.	**Mixed Alignment** Alignment with Academia but not with OoS.
	Faculty and facilities staff training program / requirements		Disseminate annually-updated educational material to all students, staff and faculty .	Create a mandatory training program on waste literacy for faculty and facilities.	Create a mandatory training program on waste literacy for faculty and facilities.	**Alignment** Enforce mandatory waste training to faculty and facilities. Academia suggest different mechanism and to incl. students.				
	Waste auditing		Conduct annual waste audits.	• Conduct and report (publicly and to bldg operators) waste characterizations at least every semester. • Conduct daily visual audits at UPC and HSC. • Conduct daily waste audits of internal buildings.	• Conduct and report (publicly and to bldg operators) waste audits for each campus at least every semester. • Conduct full waste stream assessment at UPC and HSC.	**Consensus** in need and frequency of waste audits.	Conduct waste characterization and diversion study every 4 years.	Conduct regular Waste Characterization Studies for sectors and sub-sectors.		**Alignment**

Waste	**Food waste / composting**	• Standardize recycling and composting programs on both campuses. • Establish a pre-enrollment training module requirement for all incoming students that educates on how to correctly compost/recycle.					• Pass legislation by 2021 that requires take-out foodware to be made from compostable material. • Eliminate organic waste going to landfill by 2028. • Recover and distribute 30% of discarded edible food.	• Reduce organic waste to landfills by 75% by 2025; 90% by 2035; 95% by 2045. • Increase total capacity for organic waste processing in Southern California by 20% by 2025; 30% by 2035; 45% by 2045.		**Misalignment** Will need more of a focus on organic waste.
	Single-use plastics	• Initiation of sustainable procurement should first focus on elimination of single-use plastics. All containers for on-campus catering should be in compliance. • Ban/limit use of plastic and paper products across USC Hospitality units. • Educate/normalize		Focus on single-use plastics in daily visual audits. **Stretch Goal:** Consider eliminating single-use plastic bottles.		**Alignment** Strong push from students and business units to eliminate single-use plastics.	Ban expanded polystyrene citywide by 2021.	In collaboration with the City of Los Angeles, develop an equitable strategy to phase out single use plastics.		**Alignment**
	E-waste		• Collect data on use and life cycle of procured electronics. • Form an E-Waste Management Committee from a E-Waste conference. • E-Waste Management Committee will form best practices.							
	Recycling and reuse						• Increase proportion of waste products and recyclables reused or repurposed in the County to 25% by 2025; 50% by 2035. • Increase construction and demolition waste recycling requirements to 80% by 2021.			**Misalignment**
	On-site waste management			**Stretch Goal:** Consider on-site waste sorting.	• Consider on-site waste sorting. • Develop paper, cardboard, and Styrofoam sorting processes further.	**Alignment** Vague consideration of on-site sorting.				
	Education	Have educational sustainability signage on waste bins at orientations.								
Water	**Water goals**		Decrease potable water usage by 50% by 2030.	Undefined (% left blank)	Achieve Zero-Water by 2050.	**Misalignment** OoS suggests Zero-Water but no set potable water use reduction targets.	Reduce potable water use per capita by 22.5% by 2025; 25% by 2035.	• Per capita water demand does not exceed 125 gallons per day by 2025; 110 gal by 2035; and 85 gal by 2045. • Develop a Net Zero Water Ordinance for new development.	Emphasis on low-water Games operations.	**Alignment** General alignment but more milestones needed to see contribution to City and County goals.
	Water auditing			Audit HSC building fixtures.						
	Building water metering		Meter all buildings and provide central database for monitoring, research and teaching.	Continue installation of building sub-metering.	Meter all buildings.	**Consensus** To meter all buildings.	Expand sub-metering and evaluate smart water meter technologies.			**Alignment**

Water	**Fixture/fitting upgrades**			Complete low-flow showerhead and faucet installation in UPC buildings. **Stretch Goal:** Toilet and urinals in UPC/HSC buildings.						
	Water re-use and reclamation		• Establish water reclamation program. • Irrigate with reclaimed water.	Complete recycled water cooling tower on UPC.	Build double-piping into all NC buildings for gray water re-use in toilets.	**Alignment** Implement re-use. Discrepancy in how.	• Source 70% of LA's water locally by 2035. • Capture 75,000 AFY of stormwater by 2021, and 150,000 AFY by 2035. • Recycle 100% of all wastewater for beneficial reuse by 2035. Increase non-potable reuse of recycled water by 6,000 AFY and 8,000 AFY by 2025 and 2035 respectively. • Build at least 10 new multi-benefit stormwater capture projects by 2025 to improve local water quality and increase local water supply (then 100 by 2035, 200 by 2050).	Source 50% of water locally by 2025; 65% by 2035; 80% by 2045.		**Alignment** Intention set but defined goals will be needed to see contribution to City and County goals.
	Drought-tolerant landscaping	USC must commit to a full conversion of landscaping over to native California species (not just drought tolerant). All plant purchasing must be native, and current non-native must be proactively replaced.			Remove turf and plant drought-tolerant landscape where possible.					
	Irrigation practices	Reduce water consumption by maintenance by checking sprinklers for leaks.	Install integrated irrigation control and water control system.	• Expand irrigation metering. • Complete field irrigation infrastructure on UPC.	• Eliminate sprinklers. • Investigate feasibility of installing subterranean watering systems for all turfs/parks.	**Alignment** Remove sprinklers. Little definition on replacement/improvements.				
	Spray washing	Power-wash USC Village less often.			Determine alternative to spray washing public spaces.	**Alignment** Reduce frequency of spray washing to clean.				
	Water infiltration				Include rainwater infiltration in all NC building scope.		• Increase number of green infrastructure sites. • Divert up to 28,000 AFY of urban runoff.			**Alignment** Intention set but defined goals will be needed to see contribution to City goals.
	Water features				Develop an annual schedule for no fountain days/nights.					
	Potable water contamination							Reduce number of public drinking water systems violating contaminant levels annually to 5 by 2025, 2 by 2035 and 0 by 2045.		**Misalignment**
	Education		Establish a USC Residential College focused on water conservation.							
Procurement	**Sustainable procurement goals**	USC should initiate sustainable procurement.	Develop Sustainable Procurement Guidelines.	Mandate USC departments to follow.		**Consensus** to create sustainable procurement guidelines.			Form a Sustainable Sourcing Working Group that will apply a Sustainable Sourcing Code to implement circular economy solutions wherever possible.	**Alignment**

Procurement	**Sustainable procurement policy features**		Establish a tracking and verification system.	• Require to purchase from preferred suppliers/products when sustainable alternatives are identified. Block/restrict identified conventional items with sustainable alternatives. • Establish spend category targets (% green spend of total spend per product category) and a timeline to reach the target. •Identify sustainable items in product catalogues (e.g. via icon).		**Misalignment** Only Academia has proposed features of sustainable procuremnet guidelines.	Establish extended producer responsibility (EPR) policies by 2025.			**Misalignment** Difference in procurement policy features.
	Vendor procurement policy		Motivate/incentivize vendors'clean-fleet-campus delivery visits.							
Engagement	**Governance / oversight**	E-Core requests that more staff should be hired for sustainability, waste, water, and energy departments; Environmental Student Assembly reiterates this an particularly notes the need to increase the number of full-time staff and student positions in the Office of Sustainability.	• Sustainability Leadership Council comprised of Provost, 2-3 Deans, the two Senior Vice Presidents, and the Chief Sustainability Officer (CSO) • All key constituents of the university have a sustainability representative who reports to the CSO. • The CSO should engage with Faculty Senate, Student Gov, and Staff Assembly. AND • Form a Waste Minimization Committee, E-Waste management committee.		OoS is in agreement with Academia except: • They are more vague on Sustainability Steering Committee repositioning in reporting structure. • They additionally suggest the OoS should report to the CFO to be close to finance/facilities/construction.	**Consensus** to restructure and expand sustainability administration.		Create an inclusive governance structure.		**Alignment**
	Document and tracking		Create a centralized means of documenting, promoting, and developing sustainability programs. This entails a database and sustainability program guidelines.							
	Streamline efforts		• Create resource list (of all sustainability committees, offices, etc.). • Ensure up-to-date website.							
	Workplace		• Implement mandatory sustainability training for all employees. • Implement green workplace.							
	Partnerships		• Align with existing local and State non-profits. • Work directly with City of LA to achieve and exceed government-mandated sustainability goals.							
	Community	Spread sustainable initiatives beyond campus to USC magnet schools and across the local community.	• Work with USC family of schools to create community gardens. • Provide education for K-12 students in USC neighborhood. • Host educational events.			**Alignment** to extend initiatives to community, especially education events.	Increase the number of urban agriculture sites in LA by 25% by 2025; and 50% by 2035.			**Alignment** with Academia.

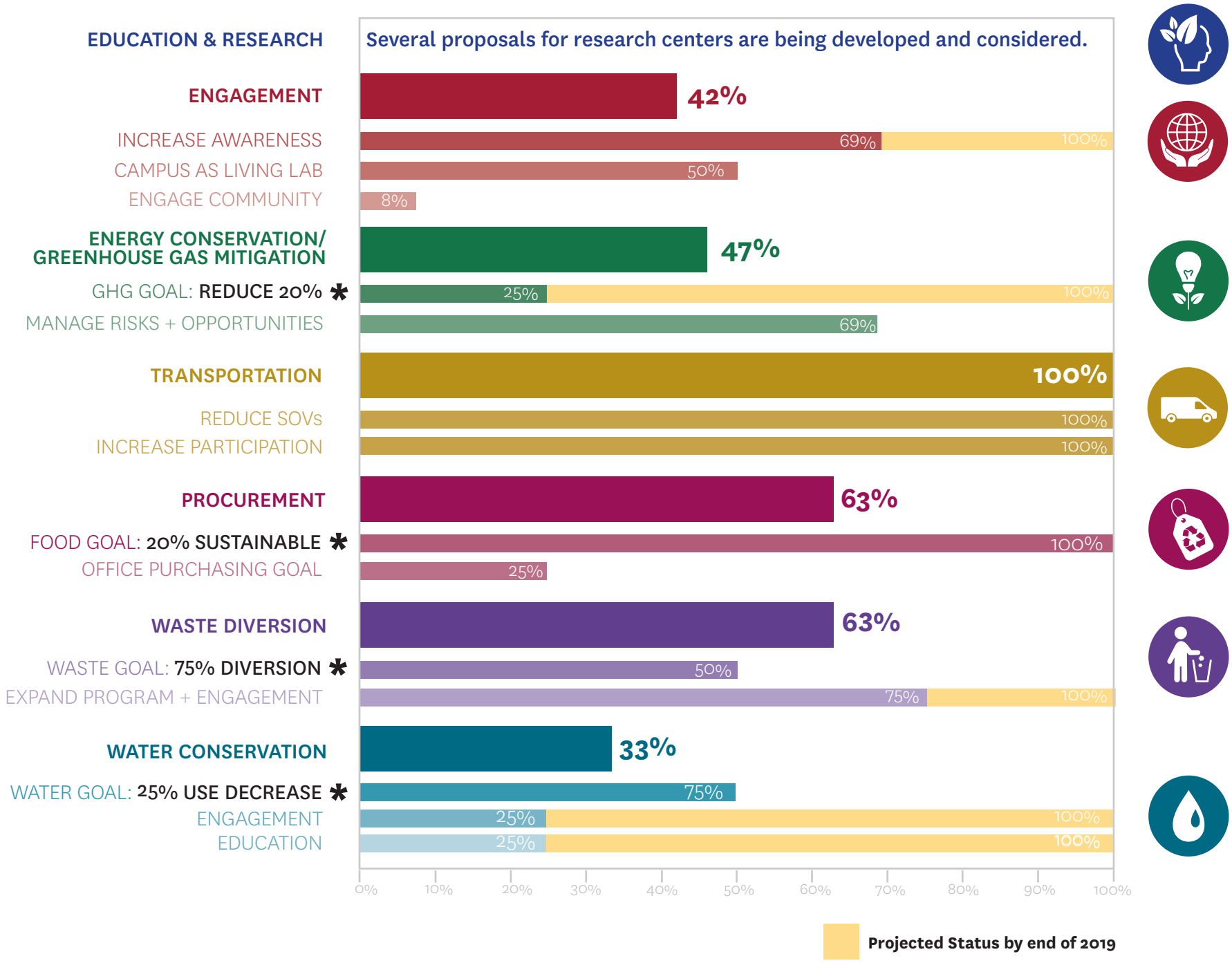
Engagemnet	**Financing**	The overhaul of sustainability staff should include funding for sustainable initiatives.	• Develop a Green Revolving Fund. • Create a portfolio-based methodology to evaluate sustainability projects such that projects with a short ROI can be used to leverage projects with a long ROI.			**Alignment** need for funding/financing mechanisms.				
	Living Lab		• Dedicate several buildings as Living Laboratories. • Use campus as a living laboratory through procurement practices [p.18 of USC Sustainability Strategy 2030].	• Promote and expand real-time energy use dashboard to support Living Lab efforts. • Bridge faculty and operations through Living Lab efforts.	Designate at least one major new building to be net neutral building (incl. EE, rooftop solar) to serve as a living lab.	**Consensus** to capitalize on sustainability initiatives to make USC a Living Lab.				
Missing	**Heat island effect reduction**						• Reduce urban / rural temperature differential by at least 1.7 degrees by 2025; and 3 degrees by 2035. • All new roofs must be cool roofs by 2020; install an additional 13,000 cool roofs by 2021. • Update "cool surface" regulations to require 50% of all non-roof/hardscape surfaces around new buildings to meet criteria.	• Increase the total land area covered by cool surfaces by 10% (2019 baseline) by 2025, 20% by 2035 and 30% by 2045.		**Misalignment**
	Heat exposure mitigation						• Upgrade cooling centers to meet needs of elderly and disabled. • Implement a Street Furniture program that reduces heat exposure, provides cool transit stops. • Identify opportunities to implement cool corridors for pedestrian comfort at transit stops.	• Reduce the number of heat stress emergency department visits by 15% (2014 baseline) by 2025; 45% by 2035; 75% by 2045. • Build shade structures at major transit stops.		
	Resilience						• Prepare for natural disasters by increasing the resiliency of the food system infrastructure; Identify opportunities to increase capacity for distribution points (such as schools) to serve people after a disaster.	• Achieve 5,000 people trained on emergency response through the Community Emergency Response Team (CERT) program; 10,000 by 2035 and 15,000 by 2045.	100% biodiesel in all temporary generators at venues.	
	Air Quality						• Reach US EPA 80 ppb ozone attainment standard by 2025 and meet all future compliance dates. • Deploy community air quality monitoring networks by 2021.	• Decrease average on-road diesel particulate matter emissions to 80% below 2017 levels by 2025; 100% by 2035. • Partner with school districts to monitor air quality and identify measures to reduce pollution exposure.		
	Ecology						• Increase tree canopy in areas of greatest need by 50% by 2028. • Plant and maintain 90,000 trees citywide by 2021, and an additional 4,000 trees annually. • Complete citywide tree inventory by 2021. • Achieve and maintain no-net loss of native biodiversity by 2035.	• Increase urban tree canopy cover by 10% by 2025; 15% by 2035; 20% by 2045. • Ongoing achieve no net loss of native biodiversity.	Biodiversity Initiative aims to restore biodiversity within and adjacent to the four Sports Parks, as well as restore/reintroduce native species and the natural habitat of the LA River and Basin.	

Missing	**Jobs**						• Create green jobs 100,000 by 2025; 300,000 by 2035; and 400,000 by 2050. • Work with local trade and technical schools to create an EV workforce pipeline. • Establish workforce training programs for landscape managers on the installation and care of native plants. • Increase the total number of businesses certified and recertified through the Green Business Certification Program to 1,000.	• Increase living wage job placements from County Workforce Development programs by 30,000 by 2025; 100,000 by 2035; and 200,000 by 2045.		**Misalignment**
	Transportation Autonomous vehicles						• Ensure LA is prepared for AVs by the 2028 Olympic and Paralympic Games. • Ensure all AVs used for sharing services are electric.				
	Transportation Pedestrian and bike safety						• Implement Vision Zero safety improvements. • Inspect and repair 200 crosswalks on high-injury network. • Enhance and maintain all bikeways on high-injury network.	• Decrease pedestrian and bicycle deaths and severe injuries by 100% by 2035.		

Appendix B

USC 2020 Sustainability Plan Goals Progress Report

USC Sustainability 2020 Goals : January 2019 Progress Report



Appendix C

USC Peers Sustainability Benchmarking

USC University of Southern California

CONFIDENTIAL: DATA NOT VERIFIED

The purpose of this resource is to offer the USC Sustainability Steering Committee and other groups sustainability program information related to peer universities and industry best practices. This research was undertaken to benchmark USC's sustainability efforts in relation to their peers and industry best practices and to aggregate the information into a centralized database for easy use and access. This resource outlines peer university sustainability staff size, climate action plans, green revolving funds, resource goals and strategies, messaging, STARS reporting scores, and sustainability related policy and legislation.

WSJ RANK ORDER (2017)	INSTITUTIONS *Top STARS Participants	STUDENT POPULATION (2018)	SUST. STAFF SIZE (2018)	CLIMATE ACTION PLAN	GREEN REVOLVING FUND	PROGRAM START DATE	WATER GOALS	WASTE GOALS	ENERGY & CARBON GOALS
1	Stanford University* (Private)	16,336	5	YES	YES	2008	Meet a water performance target and implement water conservation strategies.	Develop zero-waste programs for 20 row houses by the end of 2015 school year.	50% reduction in GHG emissions from 2000 levels by 2050.
2	Harvard University (Private)	22,000	15	YES	YES	2008	Reduce University-wide water use 30% by 2020 from a 2006 baseline, including process, irrigation, and potable water usage.	Reduce waste per capita 50% by 2020 from a 2006 baseline, with the aspirational goal of becoming a zero-waste campus.	Reduce University-wide greenhouse gas emissions 30% by 2016 from a 2006 baseline, including growth.
3	Massachusetts Institute of Technology (Private)	11,466	8	YES	NO	2015	Minimize the water used in energy generation, discover methods of reuse to meet needs for both potable and nonpotable water, and investigate methods for ensuring an adequate supply of quality water.	Develop innovative, cost-effective, and socially responsible strategies to divert waste from landfills, reduce air, water, and soil pollution, decrease emissions, recover and repurpose valuable materials, and compost and redirect surplus food.	To minimize emission of carbon dioxide, methane and other global warming agents into the atmosphere.
4	University of Pennsylvania (Private)	25,367	6	YES	NO	2007	Develop a Water Center is the primary goal to make the University of Pennsylvania a highly respected institution for water research, integrated water management, and water sustainability.	Increase recycling rate to 30% by 2019.	- Emissions from campus buildings: 7% reduction by 2019 and 18% reduction by 2042. - Energy used by buildings: 10% reduction by 2019 and 27% reduction by 2042.
5	Columbia University (Private)	32,429	5	YES	YES	2007	Develop baseline measures of use and efficiency for water and adopt periodic monitoring and reporting of these and other measures of Columbia's environmental performance.	Establish CY 2018 Base Year GHG inventories for select waste streams	Reduce absolute Scope 1 and Scope 2 GHG emissions from stationary combustion and purchased electricity as calculated in FY 2006 base year inventory by 35 percent by CY 2020, using The Climate Registry protocol.
6	Yale University (Private)	12,312	8	YES	NO	2005	Reduce potable water use on campus 5% below 2013 levels by June 2016.	Achieve a 50% waste diversion rate by June 2016 via reuse, recycling, and/or composting strategies.	Reduce greenhouse gas emissions by 43% below 2005 levels by 2020.
7	Duke University (Private)	14,832	8	YES	NO	2004	Focus water-reduction strategies on the top 20 water-consuming buildings, which account for 70% of water use.	Create meaningful targets for waste diversion and reduce the overall campus waste stream.	5% reduction every five years starting in 2010 calculated from a 2007 baseline
8	Cornell University (Private)	23,016	6	YES	YES	2010	Create and launch a comprehensive sustainable landscape and water management plan by 2023.	Reduce overall waste generation including recycling, compost, and landfill by 20%, and achieve a 30% per capita reduction in landfill waste, by 2020.	Meet 100% of campus energy needs with renewable energy by 2035.
9	Princeton University (Private)	8,138	5	YES	YES	2006	By 2020, decrease personal water use by 25% below 2007 levels per student through the use of conserving technologies and community education.	Increase household recycling percentage from 2007 rate of 38% of all recyclable materials to 50% by 2012.	Decrease campus carbon dioxide emissions to 1990 levels by 2020.
10	Northwestern University (Private)	21,842	7	YES	NO	2015	Establish a water conservation plan by 2018.	Increase landfill diversion rate to 50 percent of total waste generated by 2020.	Reduce energy consumption at Northwestern by 20 percent (from 2010 baseline) by 2020.
11	Washington University of St. Louis (Private)	14,385	5	YES	NO	2010	Decrease campus potable water use 15 percent by 2020 relative to 2010 baseline.	Achieve a 55% waste diversion rate on the Danforth Campus and 44% diversion rate at the School of Medicine by 2020, excluding construction and demolition waste.	Reduce greenhouse gas emissions to 1990 levels (253,000 metric tons of CO2 equivalent) by 2020.
12	California Institute of Technology (Private)	2,238	5	YES	YES	2009	30% reduction in water use across buildings from FY2015	3% increase on campus recycling from FY2015	Not explicitly stated
13	Johns Hopkins University (Private)	23,917	5	YES	NO	2016	Displace all 5-gallon plastic water bottles by switching to Quench systems.	Waste diversion rate of 43%.	Reduce greenhouse gas emissions by 51% by 2025.
14	University of Chicago (Private)	16,016	5	YES	YES	2008	Reduce the consumption of potable water.	Reduce the amount of total landfill waste.	Reduce greenhouse gas emissions by 20 percent by 2025.

USC University of Southern California

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15	Dartmouth College (Private)	6,509	5	YES	YES	2006	None	None	30% reduction in greenhouse gases from a 2005 baseline by 2030.
16	Carnegie Mellon University (Private)	14,386	2	YES	NO	1999	None	None	None
17	University of Southern California (Private)	44,000	1	YES	NO	2008	Decrease potable water use 10% by 2017 and by 25% by 2020.	Achieve 75% waste diversion levels by 2020.	Reduce GHG emissions per square foot by 20% from 2014 levels by 2020.
	Notre Dame (Private)	8,624	4	YES	YES	2007	Determine how the University's water use and reuse compare to that of peer institutions and entities.	Decrease food waste throughout campus—in food services, dining halls, retail, concessions, dorms, and administrative buildings.	Reduce emissions by 83% from 2005 levels by 2050 and eventually become carbon neutral.
	UNIVERSITY OF CALIFORNIA								
	University of California, Berkeley	41,910	5	YES	NO	2008	Reduce potable water use to 10% below 2008 levels by 2020.	Achieve a 75% diversion rate by June 2012 and zero waste by 2020.	Carbon Neutral Berkeley by 2025
	University of California, Davis	36,441	5	YES	NO	2008	Reduction of at least 22 percent in the use of potable water and landscape irrigation water, March through October, compared with the same period in 2013.	Zero waste by 2020	Reduce GHG emissions to 1990 levels by 2020
	University of California, Irvine*	33,467	7	YES	NO	2013	UC Policy on Sustainable Practices requires a potable water reduction of 20% by 2020 and 36% by 2025, with a three-year average baseline of FY2005/06, FY2006/07, and FY2007/08.	Zero waste by 2020	Climate neutrality by 2025
	University of California, Los Angeles	44947	7	YES	YES	2004	20% reduction in potable water use per capita from campus baseline by 2020	Zero Waste to landfill by 2020	Climate Neutrality by 2025
	University of California, Merced	7,967	3	YES	NO		36% water consumption reduction by 2025, when compared to a three-year average.	Zero Waste to landfill by 2020	Net Zero Energy by 2020.
	University of California, Riverside	23,278	3	YES	NO	2010	None	Zero Waste to landfill by 2020	Climate Neutrality by 2025
	University of California, San Diego	35,821	3	YES	NO	2010	20% reduction by 2020 and 36 percent by 2025, when compared to a three-year average baseline of FY 2005-06, FY 2006-07, and FY 2007-08.	Zero Waste to landfill by 2020	Carbon Neutrality in Scope 1 and 2 emissions by 2025 and in Scope 1, 2 and 3 by 2050
	University of California, San Francisco	3,300	4	YES	NO	2011	36% reduction from baseline by 2025.	Zero Waste to landfill by 2020	Climate Neutrality from scope 1 and 2 sources by 2025.
	University of California, Santa Barbara	24,346	16	YES	NO	2002	12% reduction in potable water consumption by March 1, 2016, compared to 2013 baseline.	Zero Waste to landfill by 2020	Carbon Neutrality in Scopes I and II emissions by 2025 and in Scopes I, II and III by 2050.
	University of California, Santa Cruz	18,063	5	YES	NO	2010	36% reduction in potable water consumption by weighted campus user by 2025 from a 2005-08 baseline.	Zero Waste to landfill by 2020	Carbon Neutrality for scopes 1 & 2 emissions by 2025.
	***TOP STARS PARTICIPANTS**								

USC University of Southern California

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WSJ RANK ORDER (2017)	INSTITUTIONS *Top STARS Participants	STUDENT POPULATION (2018)	SUST. STAFF SIZE (2018)	CLIMATE ACTION PLAN	GREEN REVOLVING FUND	PROGRAM START DATE	WATER GOALS	WASTE GOALS	ENERGY & CARBON GOALS
	Colorado State University*	33,413	Not Available	YES	NO	2008	Develop and implement water reduction strategies.	Work towards Zero Waste game days in new stadium.	Support Energy & Water Efficiency Measures in Buildings, Infrastructure
	University of New Hampshire*	15,398	14	YES	YES	1997	Develop and implement water reduction strategies.	Expand and Improve Waste and Recycling Signage.	50% GHG reduction by 2020 and 80% by 2050.
	PAC 12								
	University of Arizona	44,831	2	YES	YES	2007	None	UA currently recycles 35 percent of all waste, goal is to increase 10 percent a year for the next 5 years	None
	Arizona State University	71,946	5	YES	YES	2006	Reduce water consumption by 50% and eliminate 100% of campus water effluent by 2020.	Eliminate 90 percent of campus solid waste from the landfill by 2015.	Achieve carbon neutrality for Scope 1, 2 and non-transportation Scope 3 emissions by 2025; carbon neutral for Scope 3 transportation emissions by 2035.
	University of Colorado Boulder	33,246	6	YES	YES	1970 (1st environmental center)	None	Campus zero-waste goal of a 90% diversion rate by 2020 and Zero Waste by 2025	- Energy: 20% reduction per square foot for each building against a 2014 Baseline of FY14 btu/gsf/HDD of 15.76 - Carbon: 20% campus total reduction against 2005 baseline.
	University of Oregon	22,980	3	YES	YES	2007	2030: Total campus water use to be decreased 45%.	Zero Waste program invented in 1990.	Carbon neutrality by 2050.
	Oregon State University	28,886	2	YES	YES	2005	None	None	Climate Neutral by 2025.
	University of Utah	32,760	13	YES	YES	2008	Water neutrality by 2020.	25% waste reduction by 2015.	None.
	University of Washington	46,081	8	YES	NO	2008	None	70% diversion by 2020.	15% reduction from 2005 levels by 2020 and a 36% reduction by 2035.
	Washington State University (Pullman)	29,686	3	YES	NO		None	None	Carbon: 57.5% of 2005 levels by 2050.

Appendix D

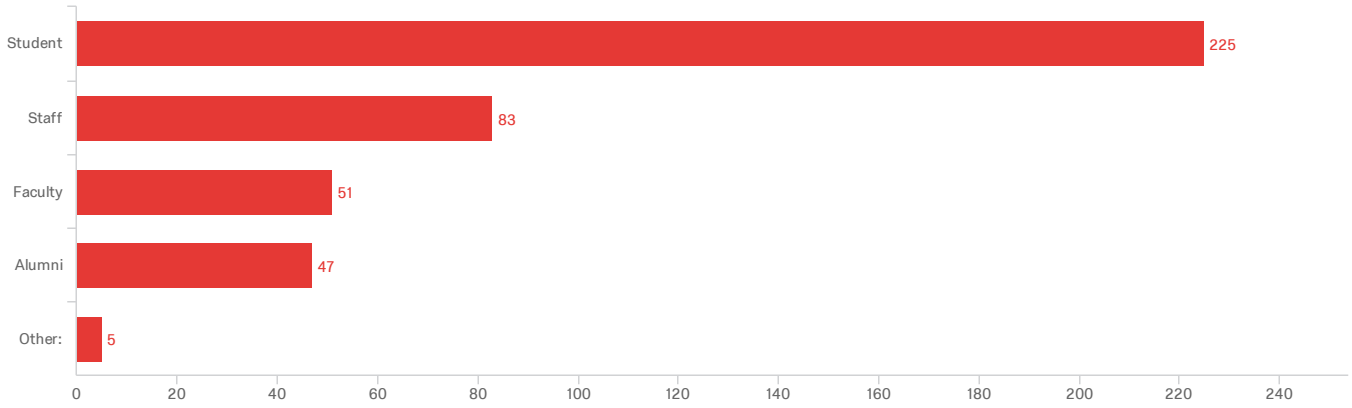
USC 2028 Sustainability Planning Stakeholder Survey Response Analysis

Survey Results

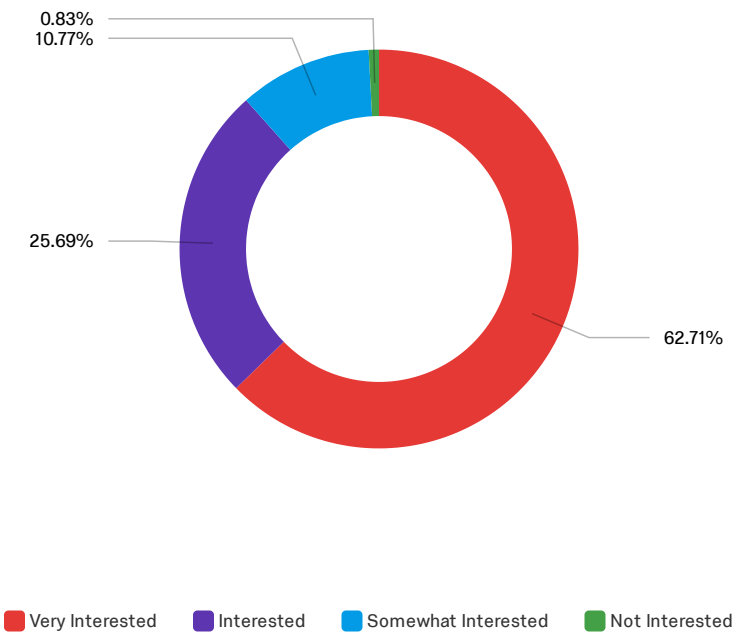
USC Sustainability 2028 Plan Survey

July 2, 2019 9:49 AM MDT

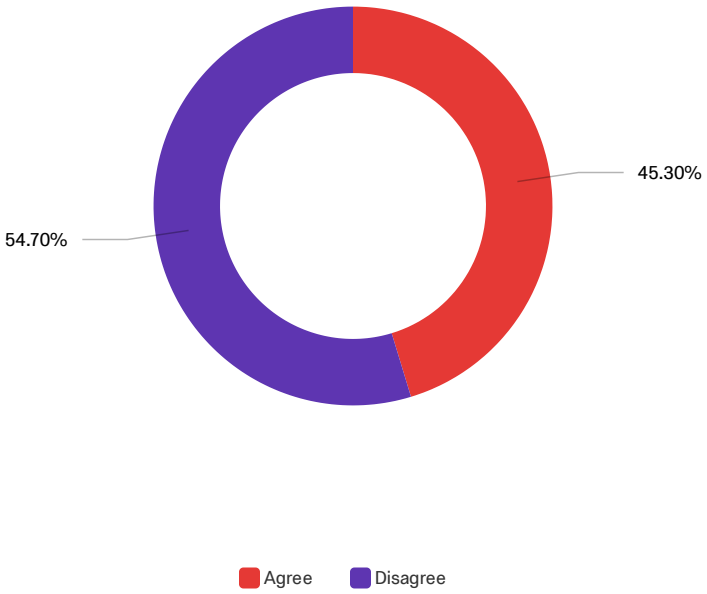
Please identify your USC affiliation (select all that apply) (1 of 11)



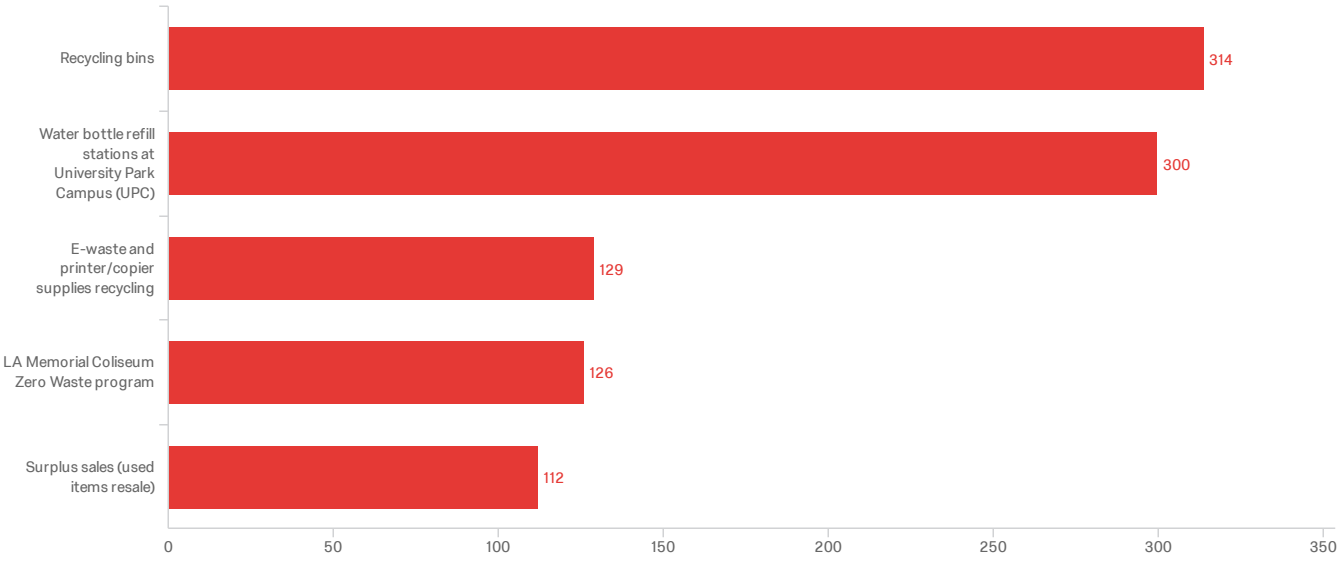
Please indicate your level of interest in sustainability on USC's campus (2 of 11)



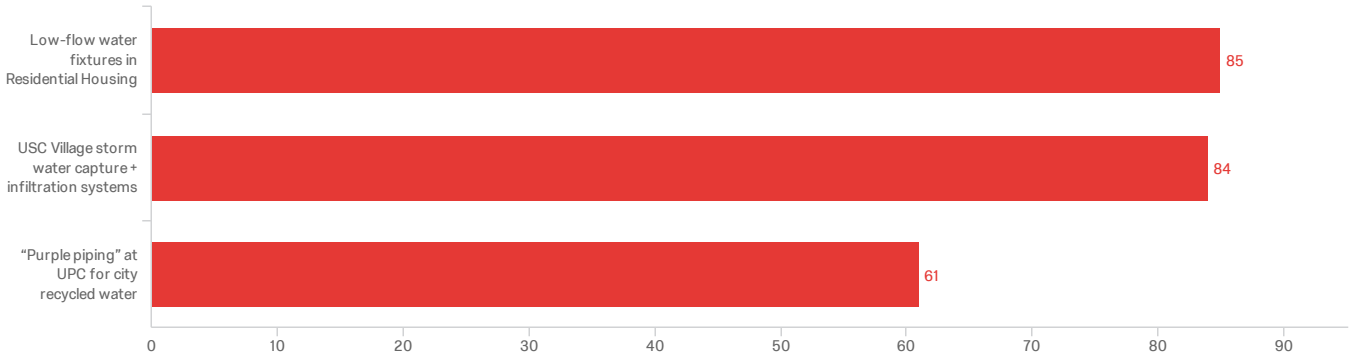
Do you agree with the following statement: "I know how to participate in efforts to advance sustainability at USC?" (3 of 11)



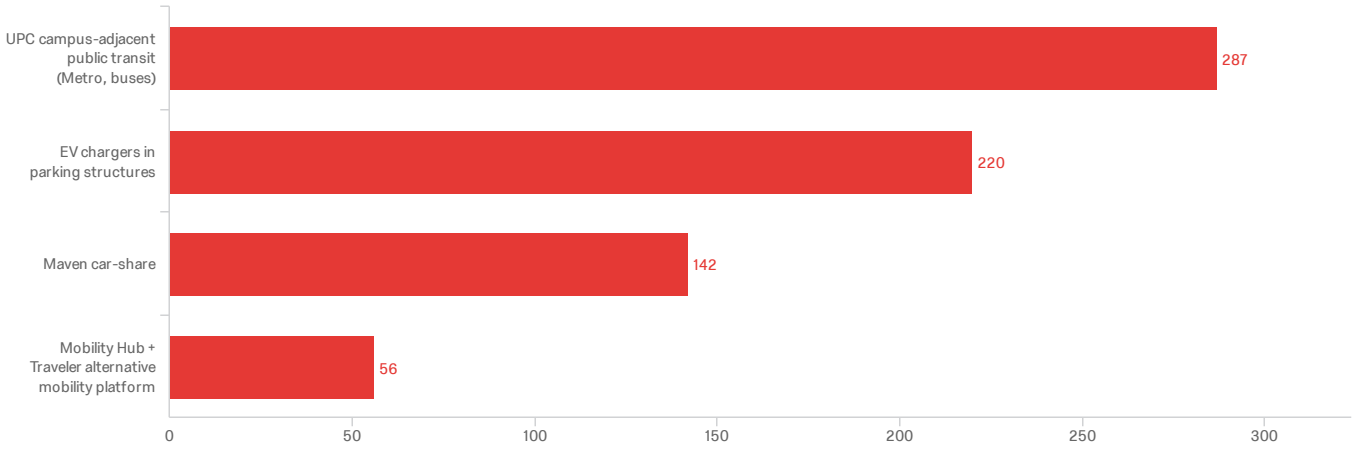
Which of the following waste diversion initiatives currently in place at USC are you aware of? (4.1 out of 11)



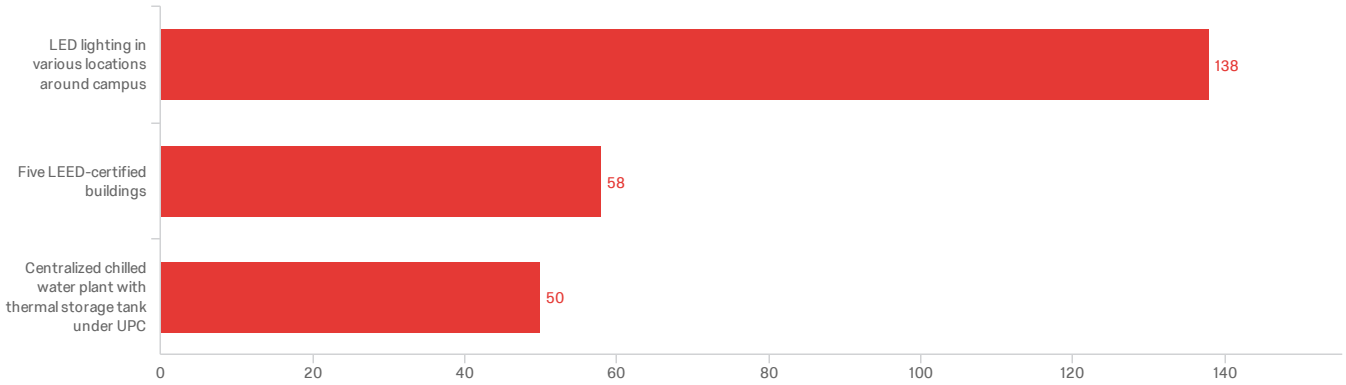
Which of the following water conservation initiatives currently in place at USC are you aware of? (4.2 out of 11)



Which of the following transportation initiatives currently in place at USC are you aware of? (4.3 out of 11)

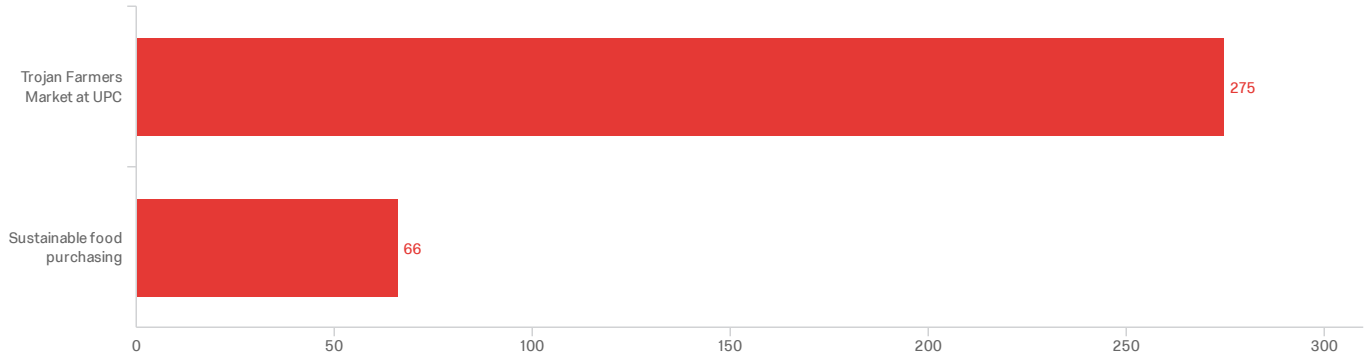


Which of the following energy conservation initiatives currently in place at USC are you aware of? (4.4 out of 11)

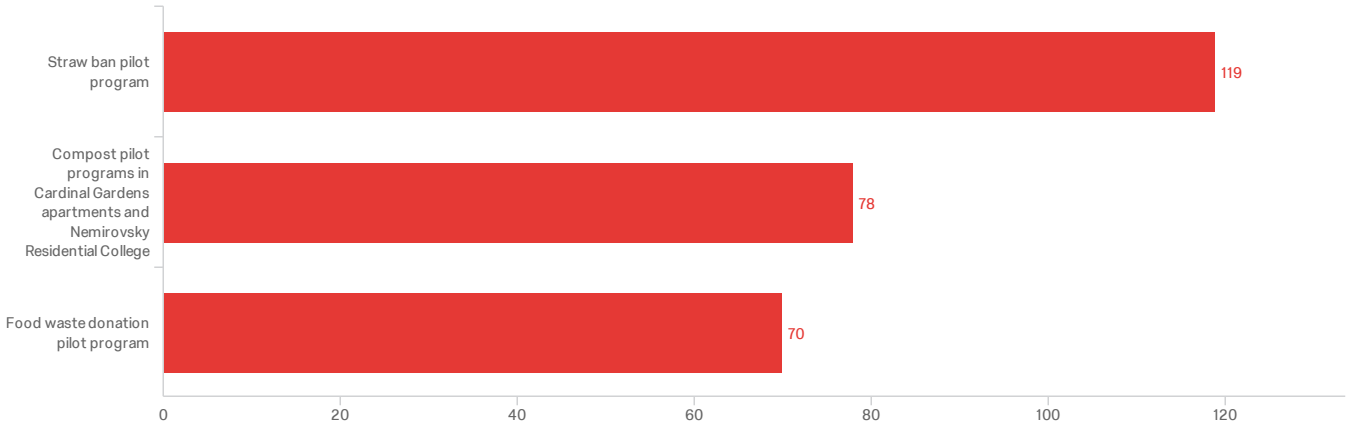


Which of the following purchasing initiatives currently in place at USC are you aware of?

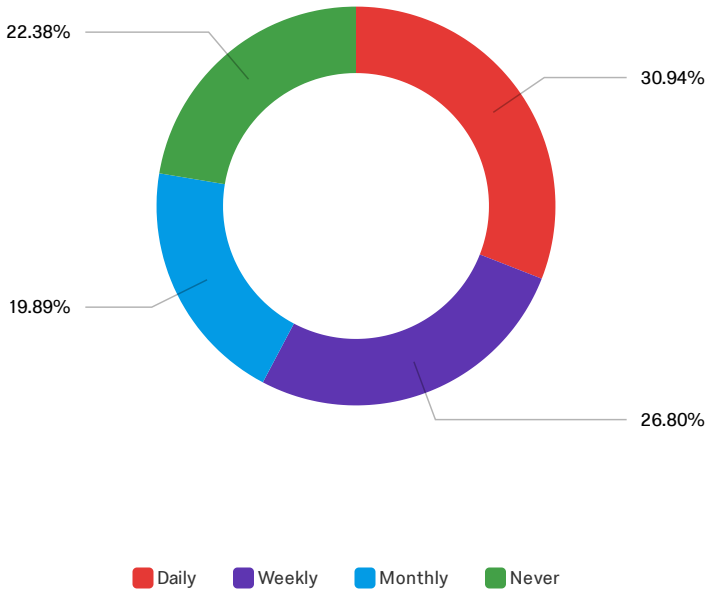
(4.5 out of 11)



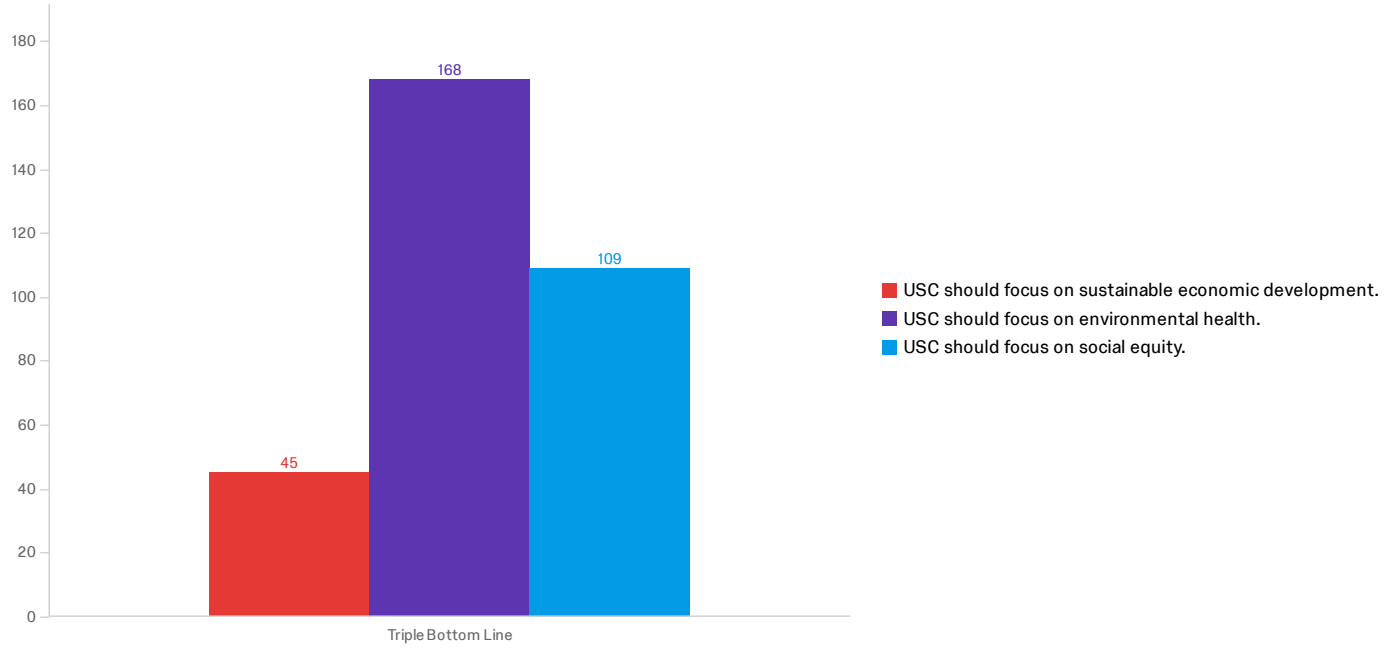
Which of the following residential dining and housing initiatives currently in place at USC are you aware of? (4.6 out of 11)



About how often do you participate in sustainability activities on campus (5 of 11)

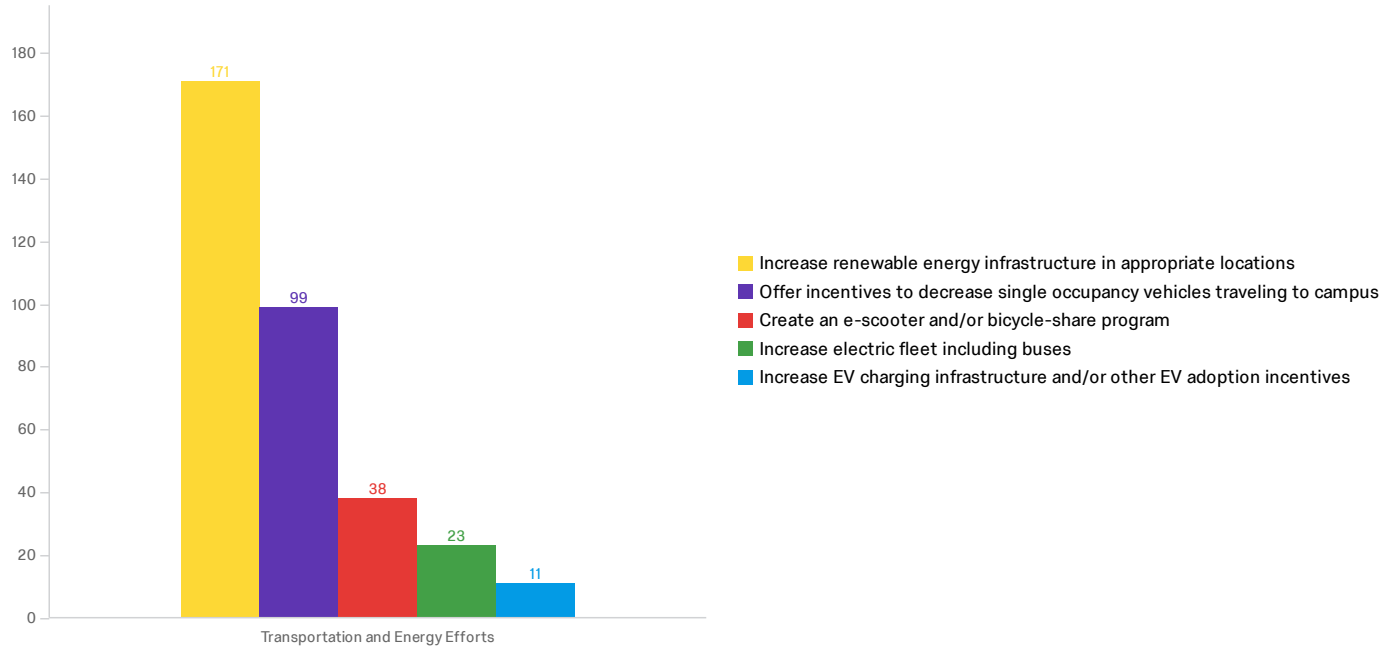


Sustainability is commonly referred to as having a triple bottom line: economic development, environmental health, and social (including intergenerational) equity. Rank in preference the following statements (drag and drop) (6 of 11)



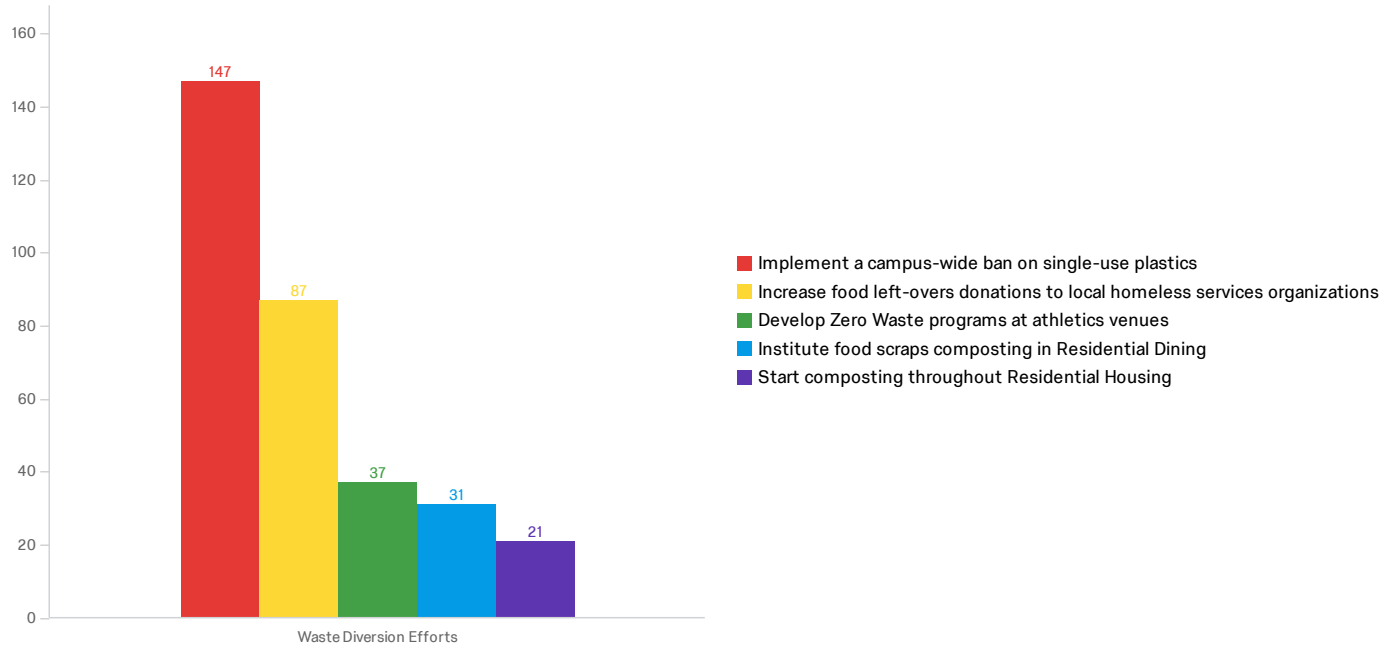
Which of these potential sustainable transportation and energy efforts would work well at USC? (rank by dragging and dropping) (7 of 11)

Respondents prioritized transportation and energy efforts at USC in the following order:

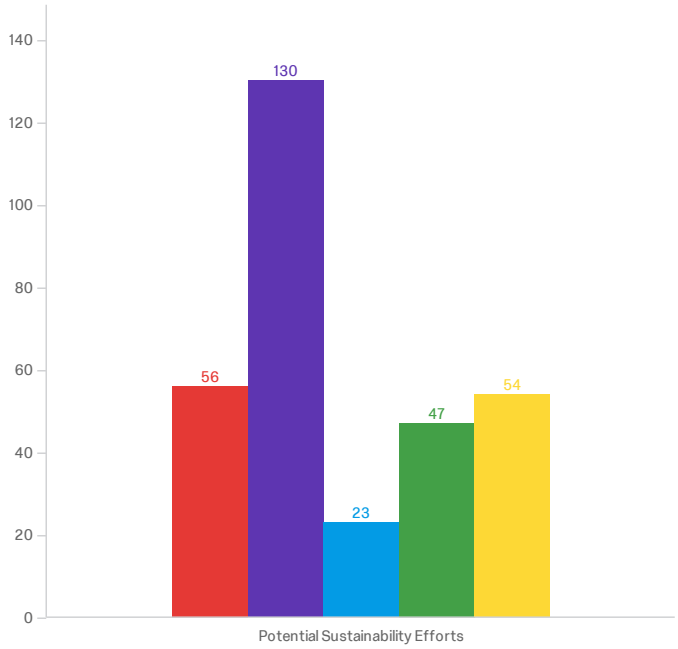


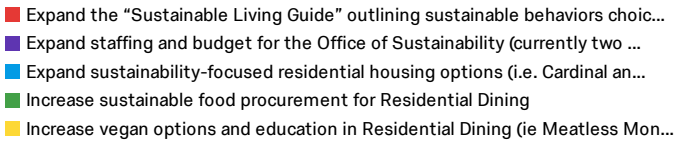
Which of these potential waste diversion efforts would work well at USC? (rank by dragging and dropping) (8 of 11)

Respondents prioritized waste diversion efforts at USC in the following order:

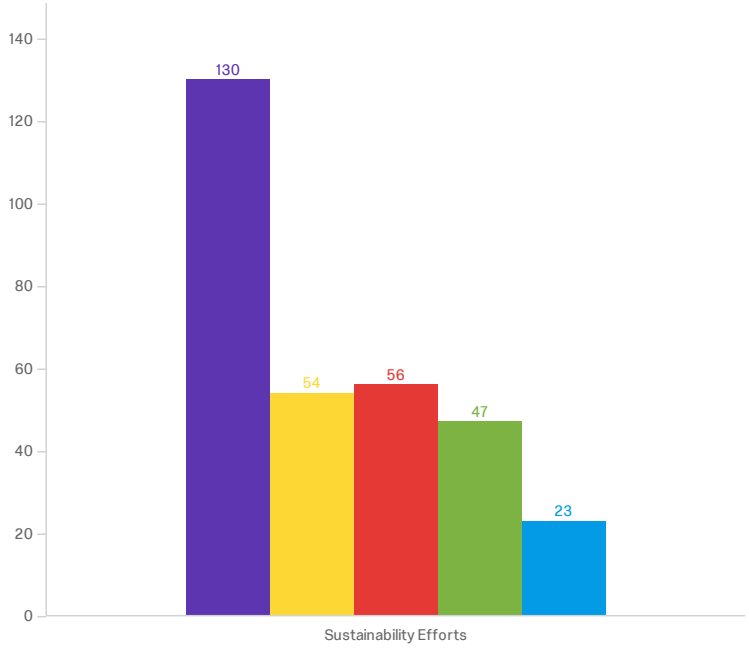


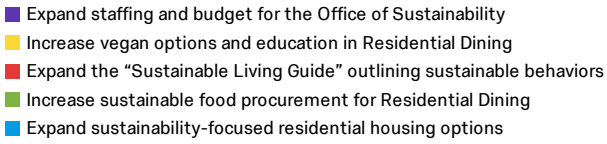
Which of these potential sustainability efforts would work well at USC? (rank by dragging and dropping) (10 of 11)





Respondents prioritized sustainability efforts at USC in the following order:

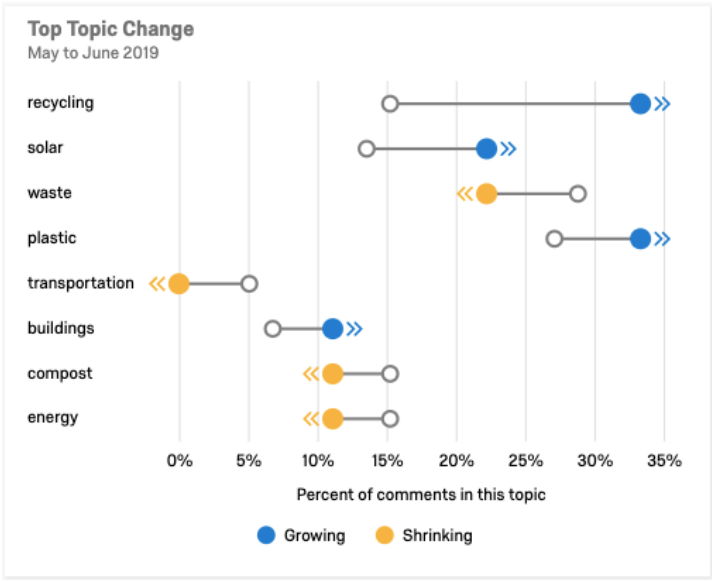


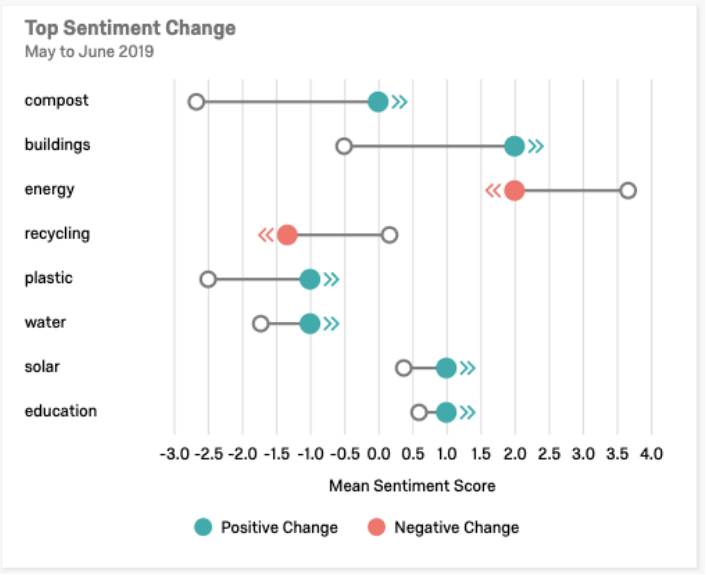


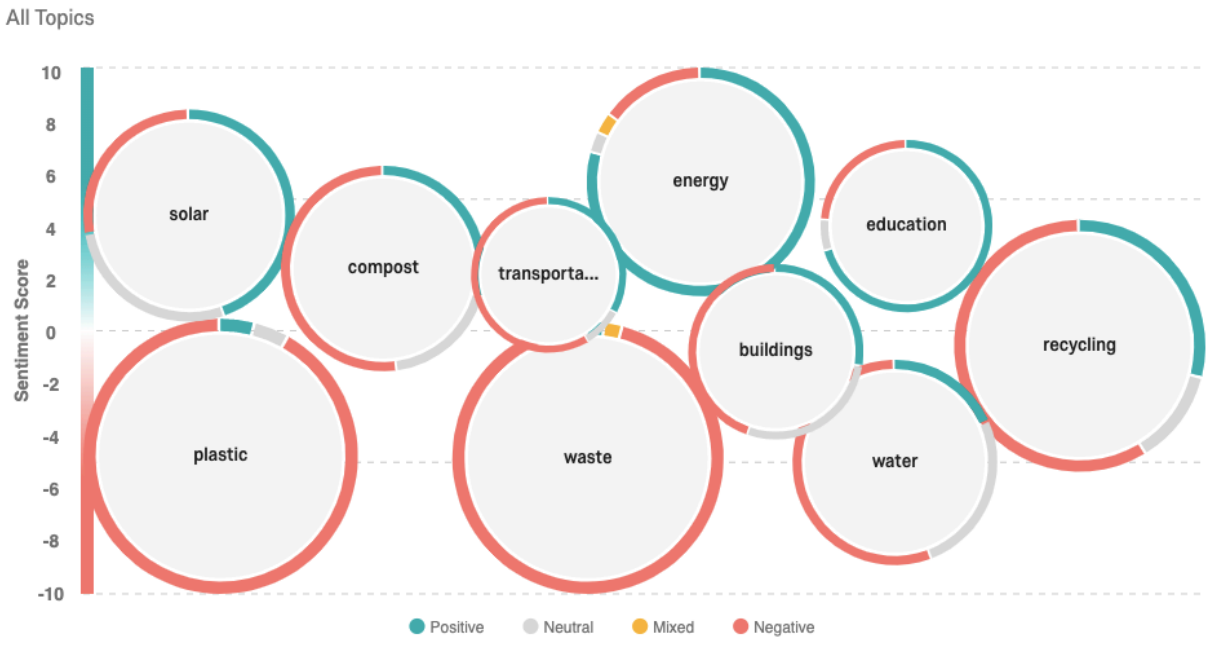
2028 Survey Results: Question 11 Analysis – July 2, 2019

Q: What are the most important things USC should do to be more sustainable? (11 of 11)

364 Survey Responses	
Key Word	**Count**
Waste	47
Plastic	46
Recycling	41
Energy	34
Solar	29
Compost	27
Water	26
Buildings	18
Education	17
Transportation	12







What are the most important things USC should do to be more sustainable? (open) (11 of 11)

What are the most important things USC should do to be more sustainable? (o...
Eliminate the use of plastic water bottles in food vendors who service events on campus - require boxed water or paper cups.
Educate all students on how to best live more sustainably on a daily basis.
Eliminate single-use plastic on campus, there is no need for any of them!
Food waste and our treatment of waste in general is extremely inconsiderate of our impact on the greater community. Campus does not provide students with many opportunities to responsibly rid of waste. I am an architecture student and there is an incredible amount of paper wood and plastic supplies left at the end of each semester that gets thrown away. I propose that USC creative programs find outside arts programs or at least specialized recycling programs to deal with this particular loose end. Seriously it is just piles and piles of usable materials
Checking and regulating the food in campus and to see how sustainable they are; Send emails to get more people to be aware of the problem; Regulating power use (e.g. no light in buildings within a certain time range)
Make it easier to eliminate food waste! Put compost and recycling bins everywhere!!

What are the most important things USC should do to be more sustainable? (o...
Solar power
Education, make guidelines easy. In dorms, there was just trash and recycling, people didn't respect the difference.
Solar and other renewable energy sources. Get rid of grass.
Sustainable investments, renewable energy/reducing carbon footprint, waste reduction, and foster/support a culture of sustainability
Advertise it to incoming students more to attract students who make potential change
Increase funding for initiatives and hold more meetings with provost.
USC should be a leader in the community in regards to environmental sustainability. Considering it's position and influence, I feel that USC should do whatever it can to make all parts of campus sustainable and more environmentally friendly. I don't think the school should take any shortcuts but instead should dedicate more budget and effort into supporting better environmental health.
Ban plastic use
-education -transportation -decrease meat consumption -electricity literally anything....reducing straw usage is not the answer; go bigger
Can they repurpose the endowment for fountaining and gardening to fulfill some of these potential sustainability projects?
Listen to the environmental student orgs and the people who participate in them. They have a lot of good ideas and need the chance to share them so USC can work towards a more sustainable future. We can't claim we are a leader in the higher academic sphere if we aren't actually making progessive and effective steps towards a more sustainable and eco-friendly campus. Discussions pertaining towards the future of our degrading environment and the direct role humanity has played in that degredation are only becoming more prominent and relevant. In our for USC to participate in those discussions in a meaningful manner, there needs to be more open mindness towards solutions proposed by community individuals. Also just have more sustainable education. Maybe consider making it one of the things USC has a online module for that students can go through at the beginning of the year. None of the sustainability measures USC does are going to be that effective if the students don't understand what is being done and why it is.
Tackle waste, divest from fossil fuels, increase involvement in environmental justice, work to make neighborhood more walkable/bikeable/safe to discourage students from driving/ubering short distances
USC must first completely divest from all fossil fuel developers and companies. We are very behind on many sustainability initiatives in place in California and it's quite embarrassing. Solar panels, composting and LEED gold certified should be the norm at this university. Ban plastic materials, make recycle bins more accessible, reduce water use (turn off fountains, better irrigation), more renewable energy use. Our future depends on places like USC taking charge. BRING THIS TO ADMINISTRATION!
USC has the resources and land to become a leader in sustainable urban practices in Los Angeles. USC should focus on sharing knowledge and providing tools for students and staff to practice sustainability in their daily lives. USC should definitely have a dedicated office or space on campus for environmental health, sustainable practices, and involvement with USC's 2020 and 2028 goals.
Cut carbon footprint of university by 75% in the next five years. This will likely require renovating and retrofitting all or most buildings to be LEED certified, investing in rooftop solar for major buildings or parking structures. Cut water waste by 50% in the next 5 years (e.g. finding solution to massive water waste from labs/research facilities, increasing groundwater replenishment by increasing green spaces on campus, etc.) Reach 75% complete waste diversion in next five years through composting, proper recycling, and single use trash restrictions. Publicly and financially support the designation and continued protection of federally protected wilderness areas (e.g. national monuments, parks, marine protected areas, etc.), and continue to fund research within these areas that ultimately furthers the maintenance and greater understanding of these regions importance for global biodiversity and climate change mitigation. Basically, what we all want as Trojans is specific, measurable, action-oriented projects targeting the most urgent environmental issues facing our world. Vague statements of support and low budget projects are NOT enough. We're past the point of just needing to educate people. As a university, we don't have a problem with that. We have a problem with not putting our money where our mouth is. It's time to become a leader in sustainability (and ethics) in the collegiate community.

all new campus vehicles should be electric (shuttles, safety), effective immediately. phased replacement of existing ICE vehicles, most polluting being replaced first, within 5 years, by 2024. (air pollution is bad in the UPC area, need urgent solutions for student, faculty, staff and community health) public transport subsidies - paid for by rate hikes on parking structures. waste (compost in all dining areas, sorting all trash for recycling, eliminate single-use plastics immediately) immediate change, i.e. for the 2019-20 AY. all green groundskeeping. audit flights for athletics teams, administrators, faculty and students. calculate the emissions associated with all activities, including commuting. 49% drive to work is a disgrace. provide audit and educational information. provide annual targets. forget 2028, act now. Do better SC.
foster a culture of sustainability, driven by senior administration, that permeates every aspect of the Trojan experience
Reduce waste and focus on energy conservation.
Eliminate or significantly reduce single-use plastics. More outreach about waste reduction, what/how to recycle for faculty, staff, and students. More publicity at events about waste and sustainability.
Divest the endowment fund of fossil fuel companies! That one thing would do far more for real world sustainability issues than everything in this survey combined. Marginally better composting practices and low flow toilets won't do a thing to improve sustainability if we insist on continuing to help and benefit from the industries gutting the planet.
- Eliminate all single-use plastics in dining areas, cafes, vending machines, etc. - Eliminate products made with palm oil (immense cause of deforestation & environmental degradation in Asia & other areas) - Limit red meat served in dining areas - Limit seafood options--ensure seafood is from a sustainable source (but fish stocks are too depleted either way) - All food should be organic-- especially if implementing compost programs - Fair trade, rain forest friendly & sustainable coffee & chocolate - Solar panels on main campus - Clothing exchanges, re-purpose workshops - Mandatory workshops concerning ocean health for incoming students/ faculty
Make sustainability part of our strategic plan and a fundamental goal for USC in academics, campus operations, and community outreach.
I think it starts with the little everyday things...organic, sustainable food in our dinning halls. Nontoxic cleaning products and maintenance practices. Education and the why behind these efforts is also helpful so instead of being told to do something they understand that its more of a participation in a better tomorrow. Get rid of plastic in vending machines. Source humainly raised/organic/sustainable animal products and organic, local produce.
I think the most important things USC should do is limit the amount of single use plastics on campus, and instate more meat free options in dining halls
Need President and executive commitment at USC both for classroom (faculty & staff) as well as for students in residential areas. Many professors have individual printers which contribute to landfill (printer cartridges, paper). Needs to be more focus on electronic document submission, less individual printing, utilization of more electronic tools to eliminate this waste. More marketing and communication regarding USC Sustainability Policy, actions, priorities, goals needs to happen. Right now most of the communication is on housing related stuff - how about everything else?
Create plan for carbon neutrality
Invest in solar/renewables in the local sphere.
Unplug all charging devices, if done, we could cut wasted watts/miliwatts/miliamps/ etc.
Put solar panels on campus to off set energy use on campus Use of reclaim water options for gardening/fountains/other facility maintenance items Replacing old lighting with new LED lighting options Using sustainable food options for dining as in hydroponics/aquaponics systems that are on campus and used in the dining facilities
Renewable energy! SOLAR!!! Reduce our carbon footprint. Increase the number of electric vehicles. Offer organic and sustainable food options. US foods (a USC vendor) does not offer any organic or sustainable options for purchase. Embrace the Wrigley Institute
Make more sustainable buildings, install clean energy, divest on fossil fuels, directly fund carbon sequestration R+D
Sustainability is about reducing waste at the source. Even if we increase our recycling rate, we have to hinder the need to recycle to begin with. USC should ban all departmental offices from purchasing single use plastics/styrofoams. (especially black plastics which cannot be recycled).

They need to make changes that make a big difference but students won't really notice. For example, purchasing food from sustainable sources, mostly replacing red meat with white meat, updating lighting fixtures, supporting more sustainability research, and purchasing clean energy. USC could also make a big difference by publicly supporting sustainability efforts and publishing data about our progress. Students would benefit from seeing that there is some top-down leadership occurring in this area

Increase recycling bins around campus

Reminding all of us that we can do something about sustainability, every day.

Make sustainable options default or more convenient

Provide food donation/recycling services for events across campus. I find that there is tremendous food waste at catered events.

stop power washing the village EVERY DAY

Social sustainability. Reducing social reliance on violent policing and prisons.

All new infrastructure should be LEED certified. Ban single use plastics and encourage people to bring their own utensils, containers etc as much as is feasible. We are also training the next generation so there should be more offerings for students to learn about sustainability issues and to make sure they know we as an institution value that work.

At events - let the staff take leftovers. We have had events at USC Hotel and UClub and we are not allowed to take the leftover food. Waste of food and MONEY

Just be conscious that there are always ways to improve.

Discounted or free bus/train passes for students, staff, faculty

Encouraging students, staff and faculty to use Mass Transit and provide convenient shuttles/bikes/scooters to get from Mass Transit stations to University campuses.

Reduce paper waste in academic units create more awareness about the initiatives already in place. provide more recycle and compost bins around campus provide only biodegradable packaging on campus

Incentive rewards for those who take the bus and/or Metro to work.

Eliminate plastic. Subsidize shared transportation for fac, staff, students. Incentivize recycling and sustainable behavior with competitions.

Whatever is effective based on existing data, research. Avoid wasting time and resources for low return activities.

Get linked with a homeless shelter and donate all the stuff that gets left behind by seniors getting ready to graduate.

-Incentives to students and staff to carpool or use public transportation - right now there is no incentive to buy a monthly metro pass since it's roughly the same price as parking structure. I would stop commuting and purchase a metro pass if it was subsidized by USC. Right now the time it takes to use public transport/shuttle system from Union to UPC is x 2 as long as well so I would need some incentive to make it worth the extra time. - Increase shuttle times for commuting from Union Station and make sure they are electric/hybrid vehicles. - Create a university wide policy about purchases of plastics/non reusable items. - Have recycling bins in all the offices for plastic bottles/cans not just paper.- - Ban plastic bags/utensils/plastic packaging on food across all campus restaurants/dining options. - Create employee and student awareness campaigns to learn more about the recycling options

Make it easier to recycle. Reduce food waste and the contributions USC vehicles make to pollution.

What are the most important things USC should do to be more sustainable? (o...

Improve energy and water conservation efforts on campus.

Solar power generation on parking structures, compost bins at all buildings.

Implement a campus wide ban on single use plastics. ESPECIALLY in offices!!! My office alone goes through a ridiculous amount of Styrofoam cups. This problem can be easily fixed if everyone brings their own coffee mug from home (or if we all get welcome mugs on our first day)

I think there's a tremendous amount of food waste at USC dining halls and the worst part about it is that we don't even compost it ourselves. Also, there is very very little sustainability courses at USC, and I would've thought a university like ours would, so I must say I was very disappointed with our environmental studies program. Also, I think one thing we could do to be more sustainable is definitely banning plastics, and charge for plastic bags. Also, I'd really like to see a biking program on campus. Something that has not been mentioned could be like a separate drying bin in bathrooms, where paper towels that have been only used with water can be dried and then recycled.

Waster diversion, energy

STOP. USING. BALLOONS. More sustainable landscaping practices

Focus on eliminating food waste, donating leftovers, composting, and making recycling ins widely available and visible

Reducing print across campus. Eliminating excess packaging, bags, and single-use plastics. Giving students discounts for bringing back a reusable cup to purchase a drink, or if they bring their own bag to shop with (not single-use plastic bags). Ensuring campus buys more green products and reduces selling other products. USC should establish environmental goals and shares results with campus.

Ban plastic on campus as much as possible (Seeds especially). Stop designing buildings that aren't solar equipable. Stop wasting water on non-native species. Create more LEED-certified buildings (5 is not a lot at all). Stop serving red meat EVERY DAY at the dining halls. Introduce pre-enrollment sustainability education (how and what to recycle especially).

Regular sustainability education for faculty, staff & students. Limit single use ware: cups, plates, utensils, bottles, etc.

Educate faculty about use of paper and recycling printing paper. Eliminate plastic bags from the food services. Introduce rain barrels at HSC.

Efforts towards food waste and packaging waste reduction for students Transportation refinements and building infrastructure for staff/faculty and student sustainability goals

Be willing to make sacrifices.

Go zero waste Conserve water and electricity Compost food

1) Re-negotiate the deal with DWP that throttles the university's ability to use solar panels. Put solar panels on the rooftops of the Village. 2) Revamp the way the grounds are maintained and kept. It's my understanding that a majority of the plants are annuals, not perennials, and have to be regularly uprooted and re-planted. They are also quite thirsty, requiring heavy amounts of water. Look for waste/efficiency gaps and address them. 3) Update older buildings with low-flow faucets that turn off automatically. 4) Eliminate single-use plastics perpetuated through food centers, ie, the food court outside Seeds. 5) Offer alternative to-go containers, perhaps wax paper wraps, compostable containers. 6) Host a "black out" day once a month, to conserve energy and educate students. 7) Offer incentives for car-sharing or carpooling students. 8) Host sustainability tours of campus. 9) Work with LACI, the Los Angeles Clean Tech Incubator, to find more ways to be environmentally friendly. 10) Re-negotiate with the company who handles our waste services to stop using heavy black plastic bags and switch to a compostable version. I've seen facilities staff in the library take a 32 gallon bag with 4 scraps of paper waste, tie a knot in the top, and put that in another large black plastic bag. They don't consolidate waste, and they don't use environmentally friendly bags.

implement solar power, increase the number of recycling bins in campus

What are the most important things USC should do to be more sustainable? (o...

While the amazing Office of Sustainability and various environmental student groups are very vocal, transparent, and dedicated in terms of sustainability efforts, this is a very small group. Sustainability efforts need to come from the highest offices at USC. Furthermore, we need more sustainability-minded students. We can attract more of these students (who would rather go to schools like Berkeley or UCLA which already have so many amazing sustainability opportunities) by creating more sustainability research, offering more sustainability degree programs, and increasing the size of our ENST department (offering more classes, more professors who do research in fields other than just ocean focused studies, etc.)

Get rid of all of the fountains!! Using all that water is so wasteful!! Also why don't the rooves have solar panels? That seems like basic sustainability 101.

Please don't do half of this. Banning single use plastics is ridiculous. A sustainability GE? We already have to take a year and a half of GE's. Recycling bins should be increased and there should be OPTIONS to get reusable plates/silverware at oncampus restaurants.

Educate, educate educate. Spread the word to everyone. Share your successes and failures and keep asking for input from anyone, anywhere. Put good ideas to work and let everyone know about it. Everyone will buy into it. Make it as routine as brushing your teeth.

I think the number one thing USC should strive for immediately is implementing a sustainability-focused course for every student, likely in the form of a GE requirement. While ENST majors are thinking about and acting in the name of sustainability every day, some students don't consider sustainability in their daily lives at all, because the relevant conversations are not included in their education. In an age where climate change is the greatest threat to human development and security, how is USC going to create the next generation of successful leaders and forward thinkers if the student body is not taking sustainability into account in their careers and personal lives? It only takes one incredible and informative class to change a student's perspective.

Expand opportunities within Dornsife ENST program. I'm an ENST major and too many of the classes are focused on the natural sciences and not enough on sustainable business / economic growth, LEED / Envision certifications, renewable energy.

more recycling bins

Make it easily accessible to be sustainable. Students who are not passionate about sustainability will not go out of their way to practice sustainability. If it is just as easy as the alternative option, they would!

Convert to renewable energy , Reduce water usage in landscaping, eliminate use of disposables, educate all about climate change

USC should find a way to be completely carbon neutral by a reasonable date by divesting from fossil fuels and implementing solar energy by investing in an off-campus solar field. USC should ban all single use plastics, especially from USC Hospitality. USC should make sustainability a part of campus culture through more programming, emails from the president, posters in every class, teachers mentioning sustainability in every class no matter the discipline, RA's teaching sustainability to their residents, and in every other method possible.

Solar Panels, ban of single-use plastic on campus

Convert to %100 renewable energy and ban all single use plastics

Reduce waste in offices (k-cups, plastic ware for events, etc.)

Divest from all fossil fuels. This could've happened long ago, and it's as easy as ever now with the price of renewables being so low. USC has an incredible amount of sway and could easily accomplish this. Also focus less on more buildings, and give students more affordable options for food, hiding, etc.

USC needs to work towards becoming carbon neutral and using more renewable energy. In addition, USC needs to use native plants that do not require as much water. The fountains on campus should use reusable water and not potable water. Ban single use plastics.

Conduct a GHG emission inventory across Scope 1, 2, and 3. Then target emission sources by biggest reduction potential and then cross-sort the sources by feasibility and cost of reduction. Tangible, material changes to the campus are more important than flowery engagement activities.

Open a coal plant reaching carbon neutrality using renewable energy sources Open a campus nuclear reactor Choose one

do not give out too many free things because that is a waste

USC needs to acknowledge its environmental impact publicly and make public, measurable and attainable goals to reach by specific benchmarks to move towards sustainability. It needs to increase its budget into sustainability initiatives and provide funding to each school to help schools invest into sustainable processes. Students should be very involved in this process and meetings with administration should be make public so that more students are aware of what USC is and isn't doing to address sustainability on campus. USC should take inventory of everything that emits carbon emissions and prioritize reducing these emissions first.

Get rid of any fossil fuels. Install solar on roof tops. Rid campus of all plastics, including those sold at Trader Joes and Target.

I think one important way USC can educate everyone about sustainability is by making it a GE requirement. I'm an Environmental Science and Health major, and I didn't start changing my habits and becoming more aware of the sustainability of systems until I started taking ENST and other sustainability classes. Education is the first step to creating change, especially on such a large scale. I think once people are educated on the issues, they will be more willing to learn about and help out with sustainability initiatives on campus.

I believe that USC should focus on holistic change through integrated systems. This entails combining our efforts in Energy, Waste, Water, and Transportation to figure out changes that increase sustainability not only within each department but across multiple departments. The departments should also be appropriately staffed and have ample funding to embark upon ambitious projects not just the low hanging fruit of sustainability. To become a leader we have to push the boundary further than our peers not just satisfy to minimum requirements. We should also convert our landscaping over to Native California Species to not only reduce our water use but also to rebuild the ecosystem so heavily impacted by the urban landscape of Los Angeles.

Turn off lights in buildings that are unoccupied at night!! Stop planting such water intensive plants all over campus- a native landscape would truly be a tribute to being a force in Southern California. I participated in weighing food scraps when I was in undergrad (now in grad school at USC) and the amount of waste was incredible. There must be a way compost and increase donations to non-profits. Pair up with sustainable retailers for the book store and food vendors. Push for environmental policies at the law school and poly-sci majors. Participate in Meatless Monday. The time to act is now!! Be a leader in sustainability!

Sustainable energy Get the frick rid of plastics on campus (NO MORE WATER BOTTLES IN SEEDS!!) Better bike lanes surrounding campus

Mind how much energy the University consumes and how that energy is generated.

Work on integrating sustainability into every student's education or onboarding

Increase number of recycling bins on campus; increase awareness of the wrigley institute's existence and sustainability initiatives, increase appealing vegan options at dining halls

-Composting -Expand sustainability dept -Ensure all majors know what role sustainability plays in their career

renewable energy (solar panels) to power USC composting in dining halls and residential halls

Decrease energy usage by having more LEED certified buildings (since power contracts are unlikely to be renegotiated to allow for the installation of wide-spread solar). Benchmark waste streams. have more sustainably purchasing options.

Find more engaging ways to teach students how they can make changes in their lives as individuals to be more sustainable, and show them that it's not difficult to do. Students need to be educated and aware about how they can be environmental stewards, and feel like those options are accessible to them.

-improve temperature control in classrooms; right after spring break, it seems that every single classroom is blasting cold air, and I find myself bringing jackets for class; this is a huge waste of energy -strengthen current environmental/sustainability degree programs with application-based courses rather than just knowledge-based courses -incorporate sustainability courses into its existing degree programs (e.g. sustainable supply chain management or sustainability in business for Marshall; sustainable film sets for the film school, etc.) -do a better job of making sustainability visible - recycling bins and compost bins with appropriate signage/instructions need to be CO-LOCATED with trash bins everywhere; otherwise students get into the habit of putting everything in the trash and will carry that behavior with them elsewhere -new buildings should be constructed with sustainability in mind: solar panels, green architecture, etc.

What are the most important things USC should do to be more sustainable? (o...
USC should try to implement more sustainable development (ex. Solar panels) to become net-zero in carbon emissions
Get a STARS certification and give more support to environmental science students
spread more word about sustainability events, less use of plastic for on campus dining, more vegan options in dining halls, more water fountains around campus (not just in buildings)
solar panels! divest from fossil fuels! wastewater regeneration and substitution! ban on single use plastics! educate students on how to properly recycle (but reducing is more important)! implement sustainability into more curriculums- climate change is the biggest threat the earth is facing right now!!!!
Not waste so much water. Many of the athletic fields are watered in the middle of the day and many of the gardeners clean the sidewalks, streets and other areas using water.
Decrease the use of plastic on campus, and increase awareness among students about zero waste and recycling
I think USC should care more about making the building and the environment more sustainable (eg. more native plants, new equipment, alternative energy sources, less single use plastic) and in encouraging students to change their daily habits for the better
As a staff member, I see a lot of paper being printed. Let's cut that waste down and send electronic agendas and files. Invest in biodegradable utensils, plates, bowls, reusable straws, etc since eating food is something we do often. Invest in more sortable garbage cans.
Make sure to include HSC campus in sustainability concerns. Need visible battery recycling program with multiple drop off locations in all buildings
Look into solar power potential of campus. Work on shutting out more lights and machinery when not in use.
More education in regards to recycling, and more recycling bins on campus. Create a mandatory class, GE, that students have to take to be more aware of sustainability
Install more recycle bins, especially on the health science campus. There are currently no recycling options outside the buildings. This would be an easy fix! Get recycling bins onto patios and places where people eat.
Decrease waste/meat consumption in dining halls, better waste education for students + more recycling bins everywhere, responsible sourcing of products (food and otherwise), plastic ban, better managing lights and A/C in buildings (way excessive and lights stay on at night in empty buildings EVERYWHERE), hire more sustainability-oriented staff in EVERY department (there should be a sustainability point person for each department), creating incentives + funding for development of sustainability-oriented "living laboratories" on campus, composting bins in residential halls, increased funding for maintenance + improvement of Parkside Garden and Native Plants plots, DIVESTING from shitty industries ESPECIALLY fossil fuels.
Create action plans and execute the goals within the near future. Currently, the HSC campus has limited resources for sustainability and very few recycling bins. Also, increasing awareness and incentives for members of the community to prioritize the initiative and work together to move toward a sustainable future.
Ban single use plastics Meatless Monday's Purple line
Spread the word/implement more policies that make composting/recycling mandatory
The university should make sure that the students know where to find the recycling bin and what building was the water machines to avoid using plastic bottles.
Incentives for public transportation Have more recycling and composting areas Ban straws on campus
Reduce carbon emissions by using electric transportation vehicles, reduce waste as much as possible. Grow awareness in all campuses.

What are the most important things USC should do to be more sustainable? (o...

STOP putting one big trash bin for the the trash shoots that students actively try to recycle with! Implement more solar panels throughout campus!

Solar panels!

Less waste and more trees.

Increase food waste awareness and single use plastic usage rates

usc should encourage knowledge and every student independently being responsible for their sustainability and actually caring about it

Ban plastic

We should be building a culture of sustainability and stewardship for our community and environment. This involves marketing and communication and giving the USC community reasons to be proud and engaged. We need this culture shift more than any individual improvement. Once sustainability becomes an everyday word, and not a point of contention, the programs will flow from there with less resistance and more funding.

-More recycling bins! (maybe have them next to the trash cans, so they're clearly visible and accessible to everyone) -More initiatives at HSC (currently very limited options for sustainabiliy; including dining, housing, recycling, more water bottle refill stations, etc.) -Bathrooms with automatic flushing and sinks often run water much longer than is needed, wasting a lot of water; these should be re-calibrated so they use less water -Education should be offered, but not made mandatory (mandatory education typically turns people off of the goal) -Make sustainability fun and easy to do; otherwise, people will continue to ignore it

Probably increasing overall student/staff/faculty awareness would be a good starting point and that means more than recycling! Keep up the good work!

reduce single-use and environmental waste!!!!

Ban single-use items. Give a small tuition discount for actively participating in sustainable lifestyle choices. I'm in the PA Program on the Alhambra campus and it's very isolating, we don't get the benefits on being at HSC so I hope they don't forget about us here when developing sustainable plans. For example the current shuttle bus from Alhambra has a unrealistic schedule and none of my classmates have been able to utilize it because our class schedules conflict.

More recycling options

SOLAR PANELS ON THE BUILDINGS

Update the buildings to be more efficient and increase the motivation for utilizing public transit and ride-sharing. Offer flex parking options for faculty/staff so that they can buy passes and park in a lot 2 or 3 times a week at a discount and take public transit/ride share the other days.

I think USC should provide transportation incentives to staff and faculty, including bringing back monthly support towards public transportation for staff and faculty who want to take advantage of that. I think that USC should provide staff and faculty and students incentives for having EVs on campus, such as free charging stations. I think that USC should eliminate plastic university wide. These to start I believe is reasonable and can have an impact on behaviors to be more sustainable. I think also that all residential dinning halls and housing facilities should start small with sustainable projects, such as pilot some with voice from students, this includes collecting data to identify outcomes and benefits. If proven to be effective to grow every year in efforts. Finally, I think that if USC moves to have more degrees on sustainability, that it is important to grow research on this topic at USC, including having more staff and faculty information sessions and or conferences and or continuing education on this topic given it relates to all of us and pertains to all of our behaviors as staff and faculty.

Provide more Vegan options and increase areas to compost as a community on UPC and HSC.

more awareness about recycling around campus, and making changes to both UPC AND HSC (everything goes to UPC first). I was told once that USC goes thru all trash to find and remove recyclables, is this true? Introduce composting in all dining halls, and food donation programs. Recycle ALL types of plastic, and spend the money to recycle even the more difficult types of plastics (we know USC has the money to do so). Encourage and incentivize ride sharing among staff and faculty. Have sustainability liaisons in all departments and offices who work together with the central office.

What are the most important things USC should do to be more sustainable? (o...

Utilize renewable energy in most, if not all, buildings on campus. Provide better insulation for older buildings to ensure less energy loss for temperature mitigation.

Teach its students how they can be more sustainable on a daily basis, inform them of the resources available to them

Be aware of how many students they have and accommodate for the appropriate amount of water bottle refill stations, recycling bins, etc.

The pollution to our air

Greater use of solar power, reducing single-use plastics when catering on-campus events, more recycling bins, divesting from oil & gas

Energy

walk and throw trash away, dont waste food and buy less things

Being aware of the amount of garbage and waste we produce. Not buying plastic water bottles/using reusable coffee mugs at starbucks.

spread more awareness, create clubs

Make sure students know how to recycle and compost

Campus wide ban on plastic

Expanding this program to the HSC campus, especially water bottle filling stations and better dining options that are sustainable and healthy. Adding in a compost bin to the HSC campus- there's so little going on over there and it's the face of the health field for USC, yet there's a link missing in the communication between the environment and sustainable food/housing and one's physical and mental health. This is a huge issue and small steps can easily begin to close this gap.

encourage students through sustainability initiatives. with a large student body acting on those initiatives, we'll make way more impact than one office

Expand current recycling and sustainability efforts Work in classrooms throughout the University to promote sustainability Work in the neighborhoods to Increase these efforts Work in high schools and middle schools to increase these efforts and create community shared programs

Limit single use paper and plastic materials.

Increase vegan options and implement the use of biodegradable food packaging (no plastic)

More recycling bins and maybe offering a GE course on the practices of sustainability

more water fountain/ filters around campus,, ban on water bottles

Stop printing flyers for things that aren't used. Put food compost bins all over campus. Allow people to take food home from dining halls to reduce waste. Donate leftover food to homeless shelters/provide funding for donations in USC budget

Manage garbage and waste from residential dining halla

USC needs to make sure that faculty, staff, and students are aware of existing sustainability opportunities on campus. As a staff member located on HSC, I was not aware of many of these initiatives and by being unaware, I missed out on participating. It's important to get this buy in before expanding.

Clarify whether recycling bins can take all recyclables or just paper

Make sure recycling is happening. There is a lack of recycle bins at least in CHP on the Health Science campus. The Keck cafeteria also does not seem to recycle even though they give out plastic containers for food. These basics should at least be covered.

Los Angeles county has a population of a little over 10 million people and has an area 4,084 square miles; this being said, the vast majority of the population commutes via car to and from work. As one of the largest private employers in Los Angeles county, I believe USC should look into a "park and ride" program (see Dodger Stadium and Hollywood Bowl) throughout the county to promote ride sharing, perhaps even offering some kind of incentive to employees that participate. As someone who lives in the South Bay, I do not know others who I can carpool with and public transportation is not viable. I would much rather park at safe and local area and take a safe/clean bus/shuttle to work.

FMS is replacing the sensor light switches with toggle switches when the sensors go bad. I think USC should stay with the sensor switches.

Ensure sustainability efforts are applicable/open to students, staff, and faculty to participate. Don't be afraid to make things mandatory for everyone (i.e. single-use plastic ban), but also make sure there are incentives for "opt-in" programs. Thank you for making this a university priority!!

Increase visibility and availability of recycling bins throughout campus, both outside and inside of buildings. Review catering services to minimize food waste from over preparing for events in combination with exploring opportunities for appropriate distribution of left-over food if it is not able to be donated (e.g., providing eco-conscious carry-out containers to event hosts/guests). Create grand challenges that require partnership among interdepartmental students, faculty, and staff to develop ideas/programs for promoting sustainability. Increase recognition, inclusion and visibility of sustainability efforts on HSC - this campus has always been somewhat of an afterthought or oversight in planning and conversation.

Improve transportation. Work with the city to improve bicycling infrastructure especially near campuses.

Educate in-vivo to change behavior; there are compost/recycle/landfill bins in EVK, but I often hear students saying they don't know what goes into what bin. I've also heard people (students, faculty, staff) get confused about what products can be recycled, which ones USC actually recycles, how you are supposed to rinse/clean recyclables prior to dumping them, and what happens to the recycling once it gets taken from our offices. For example, a colleague of mine said the lady who collects the trash and recycling just dumps everything into one trash bin when she collects, which disincentivizes everyone in the office from actually recycling.

Go green, paper-wise. These is a LOT of printing going on when plenty of these files can be electronic. Digitizing systems and processes that involve physical/printed documents will take a while, yes, but it is possible (e.g. the LA County's various departments are currently undergoing these transitions and they predict that for a single department, this could only take 1 - 3 years with a small dedicated team). This is all specifically referring to staff and faculty. It starts with us; worrying about the waste students produce can be tackled simultaneously, but we need to set examples.

USC should have fewer meat options in dining halls, and it REALLY must start dealing with ALL food waste appropriately. EVERY building should be equipped with solar panels. Native plants should be introduced throughout campus, and lawns should be replaced wherever possible. Watering should only happen at night.

Impact analysis (i.e. how much could a sustainability proposal lower USC carbon emissions). I suspect most projects (trash reduction, electric scooters, plastic bans, etc.) won't have much impact on the targets that matter most. For students living on campus, diet, energy use, and transportation currently contribute most to our footprints. Within diet, local-source/organic is such a distractor from the real source of food emissions--meat. Dining halls ought not highlight both local/organic and vegan lifestyle changes as similarly effective, because it dangerously misleads people and makes them falsely believe they can just buy farmers market produce to lower their footprint. More veg options are important, but they should be made in a way to appeal to meat eaters (i.e. run a study on students and see what's effective). Transportation emissions around LA seems less important (compared to diet and energy use) for most non-commuter students. I'd suspect on-campus students produce more emissions from flying to and from US + vacations than taking ubers/public transit/biking around LA. Any transport solutions should be evidence-based and pragmatically designed. Energy is just a silly issue at USC. Telling students to turn off the lights and not sourcing clean renewable energy is at worst dishonest and at worst highly misleading to students, who may start believing they can accomplish significant energy reductions without making real changes. Clean energy reduces overall emissions to 0 (100%); could conservation efforts reduce emissions by 20%? I doubt it? But if they could, these conservation efforts would come from radical changes to building infrastructure, and energy usage around campus, across many different schools and administrative departments. How high would these costs be compared to just throwing a few damn solar panels on top of the Galen Center??? if USC can't manage clean energy... all other efforts are really trivial -- better for USC to build solar projects elsewhere in the world to offset it's footprint than pursue low-impact, highly-inconvenient tokeny changes on campus

As a general point, focus on upgrades/policies that will reduce waste -- waste of food, electricity, water, you name it. More specific ideas? Develop a well-defined sustainable product procurement policy. Distance the university from fossil fuels, in terms of actual energy usage (more renewables) and DIVESTMENT. Make landscaping choices all throughout campus to plant California native species.

To be more truthful of what sustainable projects are in place currently, and not just listing stuff that USC is supposedly doing so that it looks good on paper and to stick with sustainable efforts and individuals who can check up and are knowledgable in these efforts (example-- in Cardinal and Gold which on paper is advertised as sustainable, especially with composting units, but in which composting was removed within the first month and with an RA and staff who was not willing to provide aid or who overall did not have sustainability knowledge).

Make it prioritized and visible throughout campus and campus culture.

Prioritize sustainability. Do not accept being woefully behind the UCs.

USC needs to increase its institutional support for sustainability initiatives by increasing funding and resources for the Office of Sustainability, placing key workers in various departments across the school focused primarily on sustainability concerns in order to advance projects and initiatives for transforming the school. In addition to this, increased funding for research and education efforts to create "living laboratories" incubators for student involvement in sustainability initiatives would also increase the engagement of USC's civic actors in promoting environmentalism. Finally, USC should expand its outreach into the community and work with stakeholders from the LA Cleantech Incubator and the Mayor's Office of Sustainability to provide to the community in the form of native plant plots throughout Los Angeles, renewable energy fed into the power grid, and many more community-minded initiatives.

-Become a leader in regional sustainability. LA is becoming a national leader in sustainability by adopting very ambitious goals. Why doesn't USC strive to be a leader in the private/educational sphere? The future is sustainable, and we're really missing a marketing opportunity if we don't become a leader. (Greenwashing doesn't cut it; results speak more than PR.) As a private institution, we have the agility and ability to do this. It may require hiring more sustainability staff, and/or designing a more permanent, accountable sustainability committee. -The new recycling system roll-out has been terrible! There's been zero communication to students, so many think we still have single stream. The new multi-bin cans are placed in bizarre locations where people don't often have garbage (and hence most of the garbage is nearly empty garbage bags). Was there any analysis done to place the cans? It seems random. Also, why are there no recycling bins in classrooms or offices? There should always be a recycle can next to any garbage can. The whole system is confusing, and doesn't seem comprehensively planned. -The compost program is similarly poorly planned. Students in dining halls don't know what to compost! Put up some signs, and hire a few work-study students to be educators. It's not rocket science. The system is not failing by design, it's failing because there's been no communication. Work with the Annenberg School if the communication challenge is too great. -Transportation is difficult because critical issues extend beyond the campus area. Commuting by metro can be too time-consuming for some neighborhoods. How feasible would it be to have small buses or vanpools that pick up / drop off in some neighborhoods a couple times during commute hours (e.g., Hollywood, Highland Park, etc.)? If they made stops similar to the train but had a more direct route, it would be much faster than the the bus or train. Maybe it's not feasible, just a thought. -Make sustainability-related staff accountable for meeting or failing to meet sustainability goals.

Education of students, faculty, and staff!

The most important action USC can take is exercising their political power, as the largest employer in our area and a massive source of income and innovation for LA (among other traits), to influence LA City Council, US Congressional Representatives, LADWP and other political organizations to take urgent actions in cooperation with USC to combat climate change, conserve resources, and preserve our environment.

Increasing use of renewable energy and decreasing overall energy use would be great. There should also be recycling bins around campus.

I think in a lot of the "ranking" questions before this, USC should be doing all of those things, and I found it difficult to rank from 1-5. USC has not had any sort of history with sustainability and we fall so far drastically behind as compared to our peer institutions. I believe we should first tackle waste on our campus such as food waste in dining halls, single-use plastic waste, recycling, etc. I think the only way to make progress on these issues is educating and incentivizing students because students today don't think or talk about sustainability.

Increase budgeting and ESPECIALLY communication at all levels for sustainable projects. There needs to be far more coordination on sustainability between staff, faculty, and students across all schools and campuses. Work with ECore to pay for and make their Native Plants plot conversions easier.

USC needs to increase its sustainability staffing into an office of at least 5 or 6 full time experts who can actually evaluate and manage the human, administrative and operations infrastructures necessary to reach goals that would truly move us towards leadership in sustainability; and then it needs to make the funds available to implement what the sustainability office arrives at. Examples: a full staff position for integrating teaching and research with facilities and operations to make Living Lab work possible without; a full position on energy management that can analyze not only how to make campus systems more efficient, but also evaluate partnerships in renewable energy etc. to find the fastest and most efficient and affordable way to arrive at carbon neutrality in, say, 10 years or less. etc.; a full position evaluating procurement practices, contracts and licensing to bring us closer to zero waste and effective diversion; etc.
Put up signs that tell students how to compost (which foods can be compostable) in the dining halls. Educate students about the importance of water/food/energy sustainability. Redirect extra food to homeless shelters.
Remove nonnative plants and add native plant landscaping so the sprinklers do not need to go on every night
Integrate our academic, research, and operations programs so that we are truly using the USC campuses and LA as a living lab for research and educational purposes.
Water conservation - I've seen sprinklers running on days when it rains, and the plants on campus aren't suited to a desert climate. Renewable energy infrastructure - ridiculous that we don't have solar panels yet live in Southern California. Increase green space on campus - green walls, maintaining lawns whenever possible. Increase collaboration with environmental justice movements near campus
Invest in changing user habits through widespread education and mandates. Emphasis on renewable energy resources
Use the endowments and donations solely towards sustainable initiatives. There's no need to continuously gentrify the neighborhood.
There is a lot of work for USC to do in terms of sustainability. I personally believe the educational aspect of sustainability is lacking at USC. I personally did not receive any sustainability training and despite the signs, always felt confused about proper practices. I think education through USC Housing is crucial and I really appreciate the incorporation of a sustainability-related GE!
have every student required to take a course in sustainability
Anything more than the bare minimum that we are doing. Engage in partnerships with well established businesses already focused on sustainability.
Quadruple the size of Office of Sustainability, and have an outpost on HSC
increase focus on health science campus!

End of Report