Office of the President

TO THE REGENTS OF THE UNIVERSITY OF CALIFORNIA:

<u>**DISCUSSION ITEM**</u>

For Meeting of January 20, 2022

ANNUAL REPORT ON SUSTAINABLE PRACTICES

EXECUTIVE SUMMARY

This 18th Annual Report on Sustainable Practices highlights the achievements of the University of California's comprehensive sustainability program in 2021. It includes progress in sustainable operations required by UC's Sustainable Practices Policy as well as sustainability accomplishments in education, research, investments, and public service. The 2021 report also explores the issue of climate justice in recognition of how the impacts of climate change are falling disproportionately on vulnerable communities.

The University's sustainability commitment began in 2003 with a Regental action that led to the adoption of a Presidential Policy on Green Building Design and Clean Energy Standards in 2004. Since adopting that policy, UC has expanded the scope to include climate protection, transportation, sustainable building operations, zero waste, procurement, food, water, health and well-being, and healthcare facilities. The Sustainable Practices Policy includes all ten campuses, six academic health centers, UC Agriculture and Natural Resources, Lawrence Berkeley National Laboratory, and the UC Office of the President.

This discussion will highlight the status of these operational goals, as well as how COVID-19 has affected them.

BACKGROUND

The 2021 Annual Report on Sustainable Practices documents progress in each sustainability policy area and includes profiles on each UC location. Some of the highlights are summarized below. Additional details about UC's progress toward its sustainability goals, including progress specific to UC Locations, can be found in the 2021 Annual Report on Sustainable Practices, which is available in an interactive format online: https://sustainabilityreport.ucop.edu. Annual Sustainability Reports from previous years can be accessed online: https://www.ucop.edu/sustainability/policy-areas/annual-reports.html.

COVID-19 IMPACTS

COVID-19 impacted sustainability in operations in the following ways in the past reporting year:

- Systemwide greenhouse gas emissions decreased by roughly 24 percent in 2020 compared to 2019. This included a decrease of approximately 56 percent in Scope 3 emissions.[1] Reductions in Scope 3 emissions reflect the significant decrease in air travel and commuting due to the pandemic.
- Systemwide energy use decreased by seven percent in 2020, as campuses shifted to remote learning.
- Similarly, systemwide water use decreased in fiscal year 2020–21 by close to 394 million gallons compared to the year before. However, for most UC campuses, water use did not decrease proportionally to the decline in the number of individuals who were on site. This data demonstrates that there are many drivers for water use in UC that are independent of population, including cogeneration plants, building cooling, laboratory processes, and irrigation, many of which had to remain active to support the research and essential operational activities of the University.
- Likewise, many waste generating processes (such as landscaping, laboratory experiments, and building maintenance) continued regardless of the number of people on campus. As a result, per capita waste generation doubled from the previous fiscal year to 1.9 pounds per person per day.
- While the total amount spent on food by UC locations decreased from the previous year due to limited food service operations and supply chain interruptions, the campuses and health systems directed three percent more of their total spending to sustainable food compared to the previous fiscal year. In total, $10.9 million of UC's food spend went to sustainable food suppliers.
- Operational changes due to COVID-19 interfered with normal transportation data collection. However, most campuses reported significant drops in single-occupancy commute rates in fiscal year 2020–21 as students, faculty, and staff participated in remote work and learning. The shift was less pronounced in the health systems, whose essential workers continued to provide in-person services throughout the pandemic.
- Many programs and projects throughout the University were paused due to their in-person nature and because of the impact of the coronavirus on operations, from green laboratory programs to the Clean Energy Optimization Pilot program with the utility Southern California Edison and five UC locations, which prioritizes ongoing carbon reductions through metered performance in energy efficiency and other on-site actions.

CLIMATE CHANGE

All campuses (including their health systems) achieved the University's climate policy goal of reducing greenhouse gas emissions to 1990 levels by 2020. In aggregate, their net greenhouse gas emissions decreased by roughly 24 percent in 2020 compared to 2019. This included an

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[1] Scope 1 emissions are direct emissions from onsite combustion of fossil fuels in power plants, buildings and University-owned vehicles. Scope 2 emissions are the indirect emissions related to purchased electricity. Scope 3 emissions include University-funded air travel and commuting to and from campus by students, faculty and other academic appointees and staff.

approximate seven percent decrease in Scope 1 emissions, a 33 percent decrease in Scope 2 emissions, and a 56 percent decrease in Scope 3 emissions. Campuses purchased compliance and voluntary offsets that contribute to their emissions reductions. The magnitude of emissions reductions in 2020, especially for Scope 3 air travel and commute emissions, reflect the impact of COVID-19.

In an effort to both reduce grid energy needs and obtain local clean energy, UC has brought over 100 renewable energy projects online across the system. On-site renewable generation capacity is more than 52 megawatts systemwide, with individual projects ranging in size from two kilowatts to 16.3 megawatts. In addition to UC-sited projects, campuses and health systems are also obtaining renewable energy from a variety of off-site sources, such as utility and municipal retail tariff options, and/or participation in UC's clean power program (UC Clean Power). UC Clean Power currently supplies approximately 30 percent of the University's purchased electricity. Overall, 55 percent of UC's electricity use comes from renewable or carbon-free sources. According to the U.S. Environmental Protection Agency, UC uses more green power than any other college or university in the country and ranks seventh in on-site green power generation compared to all corporations and governments, trailing only entities like Apple and Walmart.

Additionally, in 2021, two of the projects supplying the University with carbon-neutral biomethane began production, moving UC closer to the goal of supplying 40 percent of UC's natural gas consumption with carbon neutral biomethane to reduce its scope 1 emissions.

To achieve the carbon neutrality goal by 2025, UC locations need to continue on the path to 100 percent carbon-free electricity, at least 40 percent biomethane, all-electric new buildings and increased energy efficiency, while also advancing plans for decarbonizing all campus energy systems in the long run and purchasing high-quality carbon offsets in the near term.

ENERGY EFFICIENCY

As UC continues to grow, energy efficiency will continue to play a critical role in helping the University reach its climate and other sustainability goals.

UC policy requires each location to implement energy efficiency actions to reduce energy use intensity (EUI), or energy use per square foot, by an average of least two percent annually. This energy efficiency goal follows the spirit of the U.S. Department of Energy's Better Building Challenge. For the 2020 reporting year, systemwide EUI decreased significantly as a result of the coronavirus pandemic driving decreases in campus occupancy and energy use, allowing UC to achieve the two percent goal. As campuses reopen, decisions made around building ventilation may challenge UC's ability to meet this goal in the coming years. On the other hand, some campuses have been able to fast-track some energy efficiency projects, like the Big Shift at UC Davis, offering hope that sustained progress will continue.

Since UC formalized its Energy Efficiency Partnership with the California utilities in 2004, more than 1,100 energy efficiency and new construction projects have been completed under the program. These projects will have received an estimated $100 million in incentive payments and

avoided more than $30 million in annual energy costs, net of debt service. At the time of this report, an additional 46 energy efficiency projects are expected to be completed in 2021. These projects will earn $5.4 million in incentives and are projected to avoid $2.2 million annually in energy costs, net of debt service.

Additionally, UC now has 384 LEED certifications for green buildings, totaling over 33 million square feet.

TRANSPORTATION

UC's fleet continues to move toward zero-emission vehicles. Systemwide, 50 percent of all new light-duty fleet vehicles purchased in fiscal year 2020–21 were battery-electric, plug-in hybrid or electric hybrid vehicles. The University has installed over 1,400 electric vehicle charging stations to support the conversion of fleet and commute vehicles to electric options. Although operational changes due to COVID-19 interfered with normal data collection, most campuses reported significant drops in single-occupancy commute rates in fiscal year 2020–21 as students, faculty, and staff participated in remote work and learning. The shift was less pronounced in the health systems, whose essential workers continued to provide in-person services throughout the pandemic.

FOOD

In fiscal year 2020–21, approximately 19 percent of the University's food purchases met one or more sustainability criteria. This represents over $10.9 million going to sustainable food suppliers. While the total amount spent on food (and therefore sustainable food items) by UC locations decreased from the previous year due to limited food service operations and supply chain interruptions, the amount that the campuses and health systems spent on sustainable food increased by approximately three percentage points compared to the previous year.

PROCUREMENT

The University kept up its commitment to sustainability in sourcing and supply chains in many ways. For example, UC reasserted the importance of worker health and well-being during the pandemic by issuing a letter, signed by UC's chief financial officer and chief operating officer, to over 300 major suppliers to the University. The persistent global impacts of the COVID-19 pandemic on the individuals, communities, and businesses that comprise the global marketplace for university-licensed products remained the primary focus of the University of California Code of Conduct for Trademark Licensees Steering Committee in fiscal year 2020–21.

Many campus and systemwide bids also incorporated sustainability requirements, questions and criteria into their solicitations. Notably, questions pertaining to economic, social or environmental sustainability made up at least 15 percent of the total evaluation in the Dormitory and Mattresses and General Lab Supplies bids. At the time of this report, sustainable procurement data was not yet available for fiscal year 2020–21. Fiscal year 2019–20 data is available in the 2020 Annual Sustainability Report.

WASTE

In fiscal year 2020–21, campuses diverted about 70 percent of municipal solid waste and construction and demolition waste from landfills and generated significantly less total waste. However, with relatively few people on campus, per capita waste generation doubled from the previous year to 1.9 pounds per person per day. This likely reflects how many waste-generating processes (such as landscaping, lab experiments, building maintenance, etc.) continue regardless of the number of people on campus.

In 2021, the University also added new waste reduction goals for hospitals and synced how the health systems are reporting on waste systemwide for the first time. In fiscal year 2020–21, the health systems produced, on average, about 30 pounds of waste per adjusted patient day, which they aim to bring down to 20 pounds by 2030.

WATER

Data from fiscal year 2020–21 shows that the University reduced its water usage overall by close to 394 million gallons compared to the year before. However, for most of UC's campuses, water use did not decrease proportionally to the decline in the number of individuals who were on site. This data demonstrates that there are many drivers for water use in UC that are independent of population, including cogeneration plants, building cooling, laboratory processes, and irrigation, many of which had to remain active to support the research and essential operational activities of the University.

SUSTAINABLE BUILDING OPERATIONS AND LABORATORIES

All campuses have completed at least three assessments through their green laboratory assessment programs. By the end of fiscal year 2020–21, the cumulative number of laboratories certified by campuses as "green laboratories" totaled 346. Systemwide, Green Lab Certifications slowed down because of staff density restrictions in research laboratories as a result of the COVID-19 pandemic, and some campuses paused their Green Labs programs.

GENERAL SUSTAINABILITY PERFORMANCE ASSESSMENT

UC campuses and health systems received numerous awards and recognitions for sustainability in 2021. All undergraduate UC campuses participate in the Association for the Advancement of Sustainability in Higher Education Sustainability Tracking, Assessment and Rating System (AASHE STARS), and all have achieved a STARS Gold rating at least once. UC Berkeley and UC Irvine now both have a Platinum rating. Additionally, all five health systems received sustainability awards from Practice Greenhealth, the industry body for sustainability in health care.

HEALTH AND WELL-BEING

The University's newest addition to its Sustainable Practices Policy is a section dedicated to health and well-being, and is a collaboration with the UC Healthy Campus Network (HCN).

HCN is committed to making UC and California healthy places to work, learn, and live for students, faculty, and staff, and is diving deeper into sustainability work. The new health and well-being policy section will first prioritize campus vending machine guidelines focused on healthy food and beverage options and address the procurement of chemicals of concern as defined in the UC Sustainable Procurement Guidelines.

RESEARCH, EDUCATION AND STUDENTS

Finally, faculty, and student leadership continues to be fundamental in achieving these operational goals while also continuing and expanding UC's position at the forefront of sustainability research, education, and public service. UC's research and innovation in climate-related science and solutions extend across basic and applied research, education, training, and service, as indicated by a subset of over 1,000 project awards with project title keywords "climate" and "energy" totaling nearly $440 million in estimated award dollars over five years. The University also offers for licensing an estimated 330 energy and climate-related technologies and products across UC campuses and affiliated National Laboratories.

UC's environmental sustainability goals have roots in student activism, beginning almost 20 years ago when students encouraged the Regents to approve UC's first green building and clean energy policy in 2003. A selection of students' systemwide work and awards in environmental sustainability are also featured throughout this year's report. As one example, the Bonnie Reiss Carbon Neutrality Student Fellowship Program funds student-generated projects that support the UC system's goal to produce zero-net greenhouse gas emissions by 2025. The cohort of 44 student fellows from 2021 are part of a growing network of 279 student fellows who have been funded by this program since its launch in 2015.

Key to Acronyms

AASHE	Association for the Advancement of Sustainability in Higher Education
STARS	Sustainability Tracking, Assessment and Rating System
EUI	energy use intensity
UC	University of California