



UC Merced Office of Sustainability: Report #2 on Decarbonization - 2024 Campus-Wide Survey

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KEY FINDINGS AND RECOMMENDATIONS

- The decarbonization survey reached nearly one in three members of campus
- UC Merced maintains curricular resources to overcome the dense jargon of climate action terminology
- There is widespread support for UCM to engage in equitable climate planning in the region prioritizing working families and disinvested communities
- There is broad campus backing for UCM to seek greater external investments to fund climate action planning and decarbonization efforts in the San Joaquin Valley
- Nearly one out of every three members of the campus community is willing to participate in climate meetings off campus providing a vast human resource pool for climate action
- A permanent campus climate action commission should be immediately established to continue the implementation of the preferences in this survey

I. INTRODUCTION

This brief is part of a larger report on decarbonization in the University of California System, with a focus on the UC Merced campus.² The larger study is under the guidance of the UC President’s Global Climate Leadership Council and its Pathways to a Fossil Free UC Task Force, which seeks equitable solutions to move away from a carbon-based economy. The focus here is on the final three of five UCOP-mandated deliverables:

1. Identify climate justice and equity considerations related to the transition of campus energy systems to fossil fuel free and propose solutions or next steps to identify solutions. These considerations reference the UC Framework for Incorporating Environmental and Climate Justice into Climate Action and should:
 - a. Assess vulnerability of labor and the surrounding community to transition to fossil free
 - b. Develop and evaluate equity indicators on transition impacts and opportunities

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- c. Incorporate four major climate and environmental justice concepts:
 - i. Procedural: fairness of the decision-making process
 - ii. Recognition: respecting different values, cultures, opinions and structures within communities
 - iii. Distributive: just allocation of resources, benefits, and burdens
 - iv. Restorative: responsive to those impacted by the transition
2. Document knowledge gaps, and subsequent studies and analyses needed to conduct Net-Zero planning (including climate and environmental justice)
3. Document knowledge gaps, and subsequent analyses and engagement activities needed to conduct climate action and resiliency planning for an academic setting, including:
 - a. Living laboratory opportunities for research demonstrations, courses, or student projects, or other involvement
 - b. Service activities and scalable, replicable knowledge sharing
 - c. Resiliency within a community context and framed within a climate and environmental justice lens
 - d. University of California Framework for Incorporating Environmental & Climate Justice into Climate Action
 - e. Biodiversity and habitat protection

To partially achieve these goals, the UCM Office of Sustainability sponsored an online survey implemented with the entire campus community. An online census survey was conducted between February 20 and March 8, 2024, to address the three deliverables stated above and gather views on a just transition in decarbonization for the campus and surrounding community.³ The survey reached nearly one in three Bobcats (30% of the entire campus and over 3,200 respondents), with relatively equal representation from undergraduate and graduate students, faculty, and staff (see Table 11 in the Appendix).⁴ By identifying and amplifying campus support for inclusive community initiatives, the survey paves the way for progress towards equitable decarbonization.

As the nation's first public research university (and first UC campus) to achieve carbon neutrality, UC Merced has become a recognized leader in decarbonization.⁵ Sustainability is a valued aspect of the UC Merced campus, with all buildings achieving LEED certification⁶, enhancing campus energy efficiency, and bringing down emissions.⁷

With UCOP's mandate for all UC campuses to attain carbon neutrality by 2025⁸ and in the state by 2045, prioritizing equity and energy justice research on campus and community collaboration in the larger region is essential.

³ The survey authors consulted environmental justice advocates, the UCM Decarbonization committee, and The UCM Faculty Advisory Committee on Sustainability (FACS) for instrument design and feedback.

⁴ With this high of a response rate, it is likely UC Merced reached a higher percentage of the campus community than any other UC in terms of decarbonization engagement.

⁵ <https://sustainability.ucmerced.edu/carbon-neutrality>

⁶ <https://www.usgbc.org/articles/leed-lab-university-california-merced>

⁷ <https://www.usgbc.org/articles/university-california-merced-achieves-carbon-neutrality-campus>

⁸ Rebich-Hespanha, S., & Bales, R. C. (2023). Can universities catalyze social innovation to support their own rapid decarbonization? Assessment of community and governance readiness at the University of California. *Frontiers in Sustainability*, 4, 1115982.

II. CONTEXT OF THE SAN JOAQUIN VALLEY

The eight counties constituting the San Joaquin Valley (SJV) mark one of the most climate vulnerable areas in the United States. The region consistently ranks highest in the United States for air pollution, maintains large pockets of outdoor workers in agriculture and construction, and suffers from extreme heat waves and low wages for working families. 55 percent of the population resides in disinvested communities burdened by both low household income and multiple environmental hazards.⁹ The SJV also lacks municipal level climate action planning and community choice renewable energy programs relative to other parts of the state. Some of the largest cities in the region do not have a city level Climate Action Plan (CAP), including the cities of Bakersfield, Fresno, and Modesto. CAPs offer a strategic roadmap where multiple decarbonization initiatives can be implemented under a single program incorporating equity priorities.¹⁰ Moreover, as of early 2023, 71 cities and 5 counties in California had adopted gas-free building commitments or electrification building codes.¹¹ None of these cities or counties are located in the SJV.

Given the dearth of climate action planning and decarbonization initiatives in the region, UC Merced is well-positioned to engage with local communities in a just transition away from fossil fuels.¹² Recognizing that disinvested communities are disproportionately impacted by climate change,¹³ it is urgent to ensure the inclusion of socially vulnerable populations and prioritize their needs throughout the decarbonization process.

Table 1. Public Opinion on Climate Change in San Joaquin Valley Counties, 2023¹⁴

County	Worried About Global Warming	Local officials should do more to address global warming	Citizens should do more to address global warming
San Joaquin	66%	58%	61%
Stanislaus	66%	55%	60%
Merced	67%	57%	62%
Madera	67%	56%	61%
Fresno	70%	57%	59%
Tulare	64%	55%	59%
Kings	61%	53%	57%
Kern	62%	55%	58%

⁹With this high of a response rate, it is likely UC Merced reached a higher percentage of the campus community than any other UC in terms of decarbonization engagement.

¹⁰Angelo, H., MacFarlane, K., Sirigotis, J., & Millard-Ball, A. (2022). Missing the Housing for the Trees: Equity in Urban Climate Planning. *Journal of Planning Education and Research*. https://doi.org/10.1177/0739456X211072527/ASSET/IMAGES/LARGE/10.1177_0739456X211072527-FIG3.JPEG

¹¹<https://www.sierraclub.org/articles/2021/07/californias-cities-lead-way-pollution-free-homes-and-buildings>

¹²This report acknowledges several major initiatives led by UCM affiliated researchers to transition away from fossil fuels in the San Joaquin Valley such as installing solar panels over the region's canals and policy proposals for highroad jobs in the move away from petroleum extraction in Kern county.

¹³<https://www.epa.gov/newsreleases/epa-report-shows-disproportionate-impacts-climate-change-socially-vulnerable>

¹⁴Yale Climate Opinion Maps, 2023, +/- 8 points <https://climatecommunication.yale.edu/visualizations-data/ycom-us/>

Despite the lack of climate planning and decarbonization initiatives, there appears to be public support to engage in more climate action in the SJV. Table 1 presents representative public opinion data across the eight county region. Roughly two thirds of the adult population is concerned about climate change, and majorities would like to see more local government action and civic engagement.

This broad support for climate action in the SJV offers UC Merced a unique opportunity to serve as a hub to accelerate equitable forms of climate action in multiple arenas¹⁵ (renewable energy, resilience and adaptation planning, green and high road workforce development,¹⁶ community solar programs, and implementation of nature-based climate solutions).

III. CONCERN FOR CLIMATE CHANGE AND AWARENESS OF CLIMATE ACTION

This section addresses issues of both concern about climate change and familiarity with various initiatives and concepts related to climate action. Table 2 demonstrates that the majority of the campus community is concerned with multiple environmental and climate issues in the SJV, from the quality of drinking water to air pollution and pesticide drift. Concern about climate change (moderately and very concerned) on campus matches the level for the general population in Merced county in Table 1 (67%). Campus respondents expressed the highest levels of concern for extreme heat days (50.4% very concerned) and the impacts of extreme heat on outdoor workers (52.6% very concerned). Large majorities on campus showed concern for air pollution and extreme heat on outdoor workers as well as the impacts of climate change on low income communities and the need for more public transportation. These findings provide a mass base of support for UC Merced to continue outreach to labor organizations and disinvested communities on climate related issues as well as to immediately launch new initiatives on accelerating labor-based just transition programs.

At the same time, the campus should evaluate current partnerships in the SJV that could potentially reproduce or exacerbate current climate vulnerabilities for disinvested communities and working families.

¹⁵Almeida, Paul D, Luis Ruben Gonzalez Marquez, and Eliana Fonsah. 2024. "[The Forms of Climate Action.](https://doi.org/10.1111/soc4.13177)" *Sociology Compass*. doi: <https://doi.org/10.1111/soc4.13177>

¹⁶Brostrom, Ingrid et al. 2024. H RTP: [Kern Strategic Workforce Development Report](#). UC Merced Community and Labor Center.

Table 2. Concern for Environment in the San Joaquin Valley

Issue of concern	Not at all concerned	A little concerned	Moderately concerned	Very concerned	Total
Overall quality of the environment	10.28% (407)	31.45% (1245)	37.43% (1482)	20.84% (825)	3959
Overall quality of drinking water	12.22% (483)	26.68% (1055)	32.32% (1278)	28.78% (1138)	3954
Climate change	9.40% (371)	23.61% (932)	38.07% (1503)	28.92% (1142)	3948
Environmental Sustainability	10.14% (399)	27.62% (1087)	36.93% (1453)	25.31% (996)	3935
Availability of public transportation	14.70% (580)	23.12% (912)	29.43% (1162)	32.75% (1292)	3946
Air Pollution	7.63% (301)	21.30% (840)	32.73% (1291)	38.34% (1512)	3944
Wildfire smoke	8.44% (333)	20.63% (814)	33.07% (1305)	37.86% (1494)	3946
Flooding	8.89% (350)	24.47% (963)	35.36% (1392)	31.28% (1231)	3936
Extreme heat days	6.39% (252)	14.71% (580)	28.46% (1122)	50.44% (1989)	3943
Drought	6.55% (258)	18.47% (727)	31.67% (1247)	43.31% (1705)	3937
Impact of climate change on low-income communities	7.66% (302)	19.24% (759)	30.60% (1207)	42.50% (1677)	3945
Impact of high temperatures on outdoor workers	4.85% (191)	14.77% (582)	27.80% (1096)	52.58% (2072)	3941
Impact of air pollution on outdoor workers	6.02% (237)	16.59% (653)	29.94% (1179)	47.45% (1868)	3937
Pesticide drift	8.24% (323)	23.30% (913)	32.11% (1258)	36.35% (1424)	3918

Table 3 examines the level of campus familiarity with several climate action strategies and concepts. The strategies and concepts range from technological and economic solutions such as carbon sequestration and carbon offsets and carbon markets, to climate planning and mitigation strategies. The processes and approaches to climate action were also listed in this set of familiarity questions, including just transitions and environmental justice. The table confirms one major gap or barrier in the climate communication literature. The science and policy arenas of climate action tend to be expressed in jargon that is not easily comprehensible to the general public.¹⁷ Over half of respondents reported they were “not at all informed” or “a little informed” for all 16 concepts/practices in Table 3, including the core concept of “decarbonization.”¹⁸ These same results held up when we separate responses by faculty, staff, and students for the core concepts of Climate Action Plans, Decarbonization, and Environmental Justice (see Tables 12a-12c in the Appendix), with the exception of faculty knowledge of environmental justice principles reaching over 50 percent. These findings on lack of familiarity with decarbonization strategies are consistent with other UC-wide campus surveys.¹⁹ This is one major gap where UC Merced can immediately provide resources into improving campus climate literacy and communication. Table 13 in the Appendix lists over two dozen courses at UC Merced where many of the concepts in Table 3 are covered. Instructors of these courses could be incentivized to produce and disseminate summaries of these concepts for campus and SJV communities, both in English and Spanish. In addition, climate science and environmental justice staff and faculty lines/positions should be replaced immediately in units experiencing departures.

¹⁷ Bruine de Bruin, W., Rabinovich, L., Weber, K., Babboni, M., Dean, M., & Ignon, L. (2021). Public understanding of climate change terminology. *Climatic Change*, 167(3), 37.

¹⁸ In the Potential Energy Coalition’s “8 Principles of Climate Communication,” the top word recommended not to use is “decarbonization” in terms of how to reach the general public for climate awareness. Potential Energy Coalition. 2024. “Talk like a human: Lessons on how to communicate climate change.” <https://potentialenergycoalition.org/wp-content/uploads/2024/01/Talk-Like-a-Human.pdf>

¹⁹ Rebich-Hespanha, S., & Bales, R. C. (2023). Can universities catalyze social innovation to support their own rapid decarbonization? Assessment of community and governance readiness at the University of California. *Frontiers in Sustainability*, 4, 1115982.

Table 3. How informed are you about the following general climate action strategies and goals?

Environmental Issue	Not at all informed	A little informed	Moderately informed	Very informed	Total
Carbon Offsets	37.85% (1442)	37.12% (1414)	19.93% (759)	5.10% (191)	3806
Nature based Solutions to Climate Change	29.33% (1115)	37.13% (1411)	25.66% (975)	7.88% (299)	3800
Soil Carbon Sequestration	51.98% (1974)	28.55% (1084)	14.91% (566)	4.56% (173)	3797
Greenhouse Gas Inventories	35.5% (1346)	33.33% (1264)	23.28% (883)	7.89% (299)	3792
Carbon Dioxide Removal (CDR)	45.92% (1740)	31.49% (1193)	17.34% (657)	5.25% (199)	3789
Just Transitions	63.35% (2403)	21.99% (834)	11.02% (418)	3.64% (138)	3793
Green New Deals	43.2% (1641)	30.67% (1165)	19.24% (731)	6.89% (262)	3799
Carbon Taxes	43.19% (1639)	29.17% (1107)	20.37% (773)	7.27% (276)	3795
Carbon Markets/Cap and Trade	52.46% (1990)	25.18% (955)	15.82% (600)	6.54% (248)	3793
Carbon Neutrality	42.46% (1613)	28.32% (1076)	20.45% (777)	8.77% (333)	3799
Climate Action Plan (CAP)	45.99% (1745)	30.95% (1174)	16.58% (629)	6.48% (246)	3794
Decarbonization	48.36% (1831)	29.53% (1118)	15.77% (597)	6.34% (240)	3786
Climate Reparations	49.96% (1893)	28.93% (1096)	15.81% (599)	5.30% (201)	3789
Zero emission/Electrical Transportation	25.93% (983)	25.77% (977)	31.84% (1207)	16.46% (624)	3791
Principles of Environmental Justice	41.60% (1575)	28.76% (1089)	20.16% (763)	9.48% (359)	3786
United Nations Sustainable Development Goal 13 (SDG 13)	61.40% (2322)	21.97% (831)	11.84% (448)	4.79% (181)	3782

IV. CLIMATE ACTION PLANNING

Climate action planning involves a range of practices and tools to address climate change with a focus on mitigation, decarbonization, resiliency, and adaptation.²⁰ UCOP also requires that campus practitioners of climate action planning incorporate principles of just transition and climate justice. In the case of UC Merced, this would involve working in the hundreds of disinvested communities in the wider eight-county SJV region.²¹ Table 4 provides information on the level of campus interest in UCM engaging in equitable climate planning and decarbonization in the SJV. Large majorities give moderate to strong support (70 to 78%) for most of the climate action initiatives enumerated in Table 4. These efforts include using UCM resources (technical, educational, financial, human) to partner with low income communities and local governments in climate action planning throughout the region. The starting point may be to develop an inventory of climate change assets maintained by UCM that would assist with regional climate action planning. Such an inventory would include a list of students, staff, and faculty working on climate-related projects or who maintain relevant skill sets, curriculum and publications, knowledge of the implementation of low carbon energy systems, and experience in climate mitigation, resiliency, and adaptation.

The results of this section indicate a considerable amount of support for transitioning away from fossil fuels and implementing climate action plans within the San Joaquin Valley, particularly with regards to assisting local communities and prioritizing support for low-income communities. A significant number of respondents stated moderate to strong support for these initiatives across all statements. This highlights a collective recognition of the importance of addressing climate change impacts and planning, especially for vulnerable communities. Because climate change disproportionately impacts disinvested communities,²² support for that statement suggests a willingness among the UC Merced community to allocate resources and efforts towards equity-driven climate action within the surrounding region. Initiatives in this direction will specifically address UCOP Decarbonization Study deliverable #3, and address the four environmental justice concepts outlined (procedural, recognition, distributive, and restorative)²³ by ensuring community engagement and prioritization during transitions in climate action and planning efforts.²⁴

²⁰Boswell, Michael & Greve, Adrienne & Seale, Tammy. (2019). Climate Action Planning: A Guide to Creating Low-Carbon, Resilient Communities. 10.5822/978-1-61091-964-7.

²¹Building Energy, Equity, and Power (BEEP) Coalition. Preliminary Report: Community Priorities for Equitable Building Decarbonization, March 1, 2022.

²²https://www.ucop.edu/leading-on-climate/_files/quick-guide-uc-framework-for-jedi-centered-climate-resilience-planning.pdf

²³University of California, developed by Shalina Sinha, Inclusiv, and JLL. (2024) Equity Indicators for Climate Action Planning, V3.

²⁴https://www.ucop.edu/leading-on-climate/_files/clean-state-funded-decarbonization-study-scoping-guidance-1-february-24.pdf

Table 4. How much do you support the following statements to transition away from fossil fuels?

Statement	No support	A little support	Moderate support	Strong support	Total
UC Merced should use its resources to assist local communities in the San Joaquin Valley in formulating climate action plans	5.21% (175)	20.45% (687)	40.19% (1350)	34.15% (1147)	3359
UC Merced should prioritize assisting low-income communities in the San Joaquin Valley in formulating climate action plans	5.80% (194)	20.15% (675)	35.01% (1173)	39.04% (1308)	3350
UC Merced should use its resources to assist local governments in the San Joaquin Valley in formulating climate action plans	5.97% (200)	23.04% (771)	39.44% (1320)	31.55% (1056)	3347
Climate Action Plans in the San Joaquin Valley should emphasize equity considerations for low-income populations (e.g., access to low-cost alternative energy)	5.20% (174)	16.49% (551)	34.17% (1142)	44.14% (1475)	3342
UC Merced should work with the city of Merced to revise the city's 2009 climate action plan with a focus on equity and protecting low-income residents from climate change	5.47% (183)	18.31% (612)	35.81% (1197)	40.41% (1351)	3343
Low-income communities in the San Joaquin Valley are the most impacted by climate change	5.71% (190)	19.17% (638)	33.62% (1119)	41.50% (1381)	3328

V. CLIMATE JUSTICE AND JUST TRANSITIONS

Table 5. How much do you support the following statements about funding UC Merced to participate in the transition away from fossil fuels in the San Joaquin Valley?

Statement	No support	A little support	Moderate support	Strong support	Total
The University of California System should invest in UC Merced to facilitate the economic transition away from fossil fuels	4.03% (130)	18.43% (596)	34.74% (1123)	42.80% (1384)	3233
The State of California should invest in UC Merced to facilitate the economic transition away from fossil fuels	4.59% (148)	16.96% (547)	33.38% (1077)	45.07% (1454)	3226
The Federal Government should invest in UC Merced to facilitate the economic transition away from fossil fuels	5.10% (164)	17.19% (554)	32.46% (1046)	45.25% (1458)	3222
Philanthropic Organizations should invest in UC Merced to facilitate the economic transition away from fossil fuels	5.50% (177)	19.63% (631)	35.55% (1143)	39.32% (1264)	3215
UC Merced should work with community colleges, labor organizations, and community groups in training programs to provide San Joaquin Valley residents opportunities to work in the green energy jobs sector	3.23% (104)	15.05% (484)	32.23% (1037)	49.49% (1592)	3217

Table 5 shows high levels of endorsement for external investments coming into UC Merced to facilitate a low carbon economic transition within the San Joaquin Valley. Three out of every four UCM respondents (between 75 and 78 percent) support such funding. This includes funding from UCOP, federal and state government, and philanthropic foundations.

Through effective advocacy by campus leadership, UCM received \$18 million for climate research via California Assembly Bill 179.²⁵ Preferences for continued and expanded external funding for climate action exist on campus.

²⁵ <https://research.ucmerced.edu/state-climate-funds>

Future funding should be closely tied to UCOP’s just transition goals with accountability mechanisms and benchmarks to avoid falling into noncompliance. The statement receiving the highest level of support from the campus community in Table 5 shows that collaboration with the local community in direct training for green jobs is highly desired. This suggests a recognition of the importance of inclusive economic transition strategies that prioritize workforce development through direct community engagement and drives the early stages for UC Merced collaboration and facilitation of workforce agreements, coordination with training programs to ensure local and underrepresented populations are included in the energy workforce transition on campus and throughout the SJV.²⁶

Table 6. Another major strategy in California to “decarbonize” the economy and the physical infrastructure involves developing green energy technologies, buildings, and industries, how much do you support the following statements relating to the transition away from fossil fuels?

Statement	No support	A little support	Moderate support	Strong support	Total
Renewable energy used to power the UC Merced campus should only come from firms and utilities with high labor standards	6.01% (195)	23.40% (758)	39.26% (1272)	31.33% (1015)	3240
New green energy plants and facilities should only be constructed in the San Joaquin Valley if they meet high labor standards	6.11% (198)	23.10% (749)	38.65% (1253)	32.14% (1042)	3242
New green energy plants and carbon management facilities should only be constructed in the San Joaquin Valley if they economically benefit the local community	5.87% (190)	23.25% (752)	38.05% (1231)	32.83% (1062)	3235

The survey also queried the campus community about best practices to implement renewable energy and carbon management technologies on campus and in the wider SJV. In Table 6, 70 percent of respondents back just labor transitions for both the generation of clean energy at UCM and in the Central Valley.

²⁶ http://www.psr-la.org/s/BEEP_Preliminary-Report_312022.pdf

This campus endorsement for high-quality jobs in the transition to a low-carbon economy is consistent with the state of California’s Workforce Development Board (CWDB), which “emphasizes strategies to ensure disadvantaged communities and workers are involved in creating, and benefitting from, the economic gains generated by the work required to stabilize the climate.”²⁷ UCM-based collaborations and contracts in developing and receiving renewable energy (as well carbon management and storage initiatives) should be in compliance with California state mandates as well as the preferences of the campus community for high labor standards and generalizable benefits for disinvested local populations in the SJV.

In Table 7, we find strong support for increased Living Laboratory experiences and course offerings centered on climate change. Additionally, the clear emphasis on ensuring accessibility of these educational opportunities for surrounding disadvantaged communities indicates a commitment to educational and outreach efforts. These findings align with a UC-wide survey that found faculty support for increased educational and research efforts around climate change and decarbonization.²⁸ Current curriculum addressing climate change is found in Table 13 in the Appendix. Support for additional hands-on, applied learning opportunities within climate curriculum also directly addresses UCOP Decarbonization Study deliverable #5, to identify methods in which collaborative engagement from students, faculty, and staff can work to progress campus sustainability. UC Merced also has the opportunity to bring campus involvement, through courses, trainings, and Living Laboratory experiences, to the broader region to directly learn from and support community-led efforts (e.g. environmental justice front-line communities). Indeed, Table 7 provides majority backing for UCM to extend climate education and training to staff and the hundreds of disinvested communities within a 150 mile radius of campus.

Table 8 shows interest in the multiple benefits of achieving carbon neutrality. Of special interest for the climate justice and just transition goals of the UCOP-mandated decarbonization campus plans, large majorities are in favor of combining carbon neutral goals with environmental justice principles. 63 percent believe in carbon neutrality combined with environmental justice. Another 60 percent of UCM respondents agreed that carbon neutrality needs to be accompanied by ecologically sustainable practices with high labor standards in the region.

²⁷ Zabin, C. (2020). Putting California on the high road: A jobs and Climate Action Plan for 2030. p.II. Sacramento: California Workforce Development Board.

²⁸ Rebich-Hespanha, S., & Bales, R. C. (2023). Can universities catalyze social innovation to support their own rapid decarbonization? Assessment of community and governance readiness at the University of California. *Frontiers in Sustainability*, 4, 1115982.

Table 7. In terms of climate education offered by UC Merced, how much do you support the following proposed initiatives?

Statement	No support	a little support	moderate support	Strong support	Total
UC Merced should offer more Climate Change Living Laboratory Experiences for students (Living Laboratories are an integration of real-life research opportunities for students that provide them with applied learning and employable skills. The students can work on sustainability-centered projects, with most engaging with on-campus solutions and programs).	3.33% (105)	18.15% (574)	36.84% (1165)	41.68% (1318)	3162
UC Merced should offer more Climate Change Living Laboratory Experiences and trainings for UCM Staff	4.28% (135)	19.56% (616)	37.78% (1190)	38.38% (1209)	3150
UC Merced should offer more Climate Change Living Laboratory Experiences and trainings for Disadvantaged Communities in the Region	5.18% (163)	19.36% (609)	35.73% (1124)	39.73% (1250)	3146
UC Merced should offer more courses on Climate Change	5.02% (158)	19.64% (618)	35.56% (1119)	39.78% (1252)	3147
UC Merced should offer more courses and trainings on Climate Action Planning	5.09% (160)	19.40% (610)	35.10% (1104)	40.41% (1271)	3145
UC Merced should offer more courses on Environmental Justice	5.87% (184)	19.39% (609)	34.20% (1074)	40.54% (1273)	3140
UC Merced courses on the Environment and Climate Change should be accessible to Disadvantaged Communities in the Region	5.28% (166)	18.52% (582)	32.42% (1019)	43.78% (1376)	3143

Table 8. Carbon neutrality mean having a balance between emitting carbon and absorbing carbon from the atmosphere. How well do these reasons about carbon neutrality correspond to your beliefs?

Reason	Don't Know/ Unsure	Strongly Dislike	Dislike	Neutral	Like	Strongly Like	Total
It helps address climate change	6.54% (207)	2.75% (87)	3.88% (123)	22.50% (712)	31.79% (1006)	32.54% (1030)	3165
It can provide local health benefits (e.g. clean air)	4.02% (127)	1.80% (57)	2.12% (67)	17.16% (543)	30.75% (973)	44.15% (1397)	3164
It can save my campus money	5.48% (173)	2.03% (64)	3.52% (111)	28.16% (889)	28.41% (897)	32.40% (1023)	3157
We have a moral obligation to do so	4.24% (134)	2.73% (86)	3.43% (108)	25.43% (801)	29.20% (920)	34.97% (1102)	3151
It will provide a sense of campus pride	4.73% (149)	2.80% (88)	4.42% (139)	30.84% (971)	29.83% (939)	27.38% (862)	3148

VI. CLIMATE ACTION AND CIVIC ENGAGEMENT

Table 9. To make policy changes addressing climate change which of the following activities would you be willing do to? (mark all that apply)

Climate Change Activity	Willingness to do	Total
Attend a campus meeting about addressing climate change	58.20% (1604)	2756
Attend a community meeting about addressing climate change in the San Joaquin Valley	31.31% (863)	
Attend a community meeting about climate change that focuses on equity issues	29.20% (805)	
Organize a meeting about addressing climate change in a San Joaquin Valley town or city	13.28% (366)	

Tables 9 and 10 move from awareness about decarbonization efforts to willingness to participate in civic engagement to begin large-scale climate action planning efforts. UCM may serve as a hub for climate action initiatives in the region while individual students, staff, and faculty can act as nodes in accelerating the decarbonization process on multiple fronts (e.g., CAPs, community solar initiatives, green workforce development, public climate education, and nature-based climate solutions). In Table 9, respondents were more likely to state they would attend a meeting on campus (58%) more than other forms of participation. Consistent with representative surveys in the City of Fresno in terms of participation rates in climate meetings, about 30 percent of campus respondents expressed willingness to attend a community meeting about climate change in the SJV.²⁹ A nearly equal amount (29%) were willing to participate in a local off-campus climate meeting with an equity focus. Hence, UCM maintains a vast sympathy pool for climate action with nearly one in three campus members ready to engage in community dialogue to initiate climate planning, while over half of respondents are willing to participate in climate action on campus. Over one in ten respondents are even willing to organize such a climate meeting off campus.

Table 10 summarizes the major motivations for respondents to participate in a local climate meeting to address decarbonization-type issues. Consistent with the social science literature that predicts experiencing climate shocks and risks increases willingness to engage in climate collective action,³⁰ the top mentions in the table include recent climate threats in the SJV. These include heat waves, wildfires, extreme weather, and flooding. Only 12 percent of respondents explicitly indicated they would not attend a local climate meeting.

Table 10. What aspects about climate change would be the most important in motivating you to become involved in participating in local meetings to address climate change in the San Joaquin Valley? (mark all that apply)

Climate Change Aspects	Willingness to be involved	Total
Extreme heat days in the region	65.29% (1973)	3022
Extreme weather events in the region	64.79% (1958)	
The recent rise in global temperatures	62.77% (1897)	
Wildfires in the region	59.07% (1785)	
Flooding in the region	55.86% (1688)	
Drought in the region	54.57% (1649)	
Impact of climate change on low-income communities and workers	51.56% (1558)	
Sea level rise	35.77% (1081)	
I would not attend a local meeting addressing climate change in the San Joaquin Valley	12.14% (367)	

²⁹ Almeida, P., González, L. R., Flores, E. O., Curry, V., & Padilla, A. (2023). The building blocks of community participation in local climate meetings. *Npj Climate Action*, 2(1), 37.

³⁰ Fisher, D. R. (2024). *Saving Ourselves: From Climate Shocks to Climate Action*. Columbia University Press.

VII. CONCLUSION AND FINAL RECOMMENDATIONS

The UCM campus sits in the center of hundreds of disinvested communities characterized by low wages, multiple environmental hazards, and extreme vulnerability to climate change. The results from this survey, reaching nearly one in three members of the UCM community, show strong backing for climate education and climate action engagement with just transition principles throughout the San Joaquin Valley. Broad preferences also included expanding external funding to finance the infrastructure necessary to carry out multiple decarbonization initiatives where working families and marginalized populations are prioritized. Students, faculty, and staff expressed a willingness to directly participate in these initiatives on and off campus, providing a large pool of climate change agents to launch coordinated efforts.

UC Merced is well-positioned to be a state and national leader in climate action planning and decarbonization initiatives based on its location, campus carbon neutrality achievements, and preparedness of the campus community to actively participate in a regional just energy transition to a low carbon economy. **A permanent campus climate action commission should be immediately established** to continue the implementation of the preferences in this survey and the larger campus decarbonization plan and report mandated by the University of California's Office of the President.

VIII. APPENDIX

Table 11. Response Rates of Survey

Respondent Group	Percent of campus population answering at least one question	Percent of campus population answering at least 50% of questions
Total University Community	36.82% (3967)	29.9% (3224)
Undergraduate Students	36.41% (3049)	29.9% (2502)
Graduate Students	39.35% (305)	33.2% (257)
Faculty	36.72% (159)	31.9% (138)
Staff	38.06% (454)	27.4% (327)

Table 12a. How informed are you about the following general climate action strategies and goals (Climate Action Plan)

Climate Action Plan (CAP) (N=3787)					
Campus Group	Not at all informed	A little informed	Moderately informed	Very informed	Total
Faculty	28.39% (44)	37.42% (58)	23.23% (36)	10.97% (17)	155
Staff	47.64% (202)	31.13% (132)	17.45% (74)	3.77% (16)	424
Graduate Students	40.82% (120)	31.29% (92)	19.39% (57)	8.50% (25)	294
Undergraduate Students	47.25% (1377)	30.58% (891)	15.75% (459)	6.42% (187)	2914

Table 12b. How informed are you about the following general climate action strategies and goals? (Decarbonization)

Decarbonization (N=3777)					
Category	Not at all informed	A little informed	Moderately informed	Very informed	Total
Faculty	34.19% (53)	34.19% (53)	21.29% (33)	10.32% (16)	155
Staff	53.66% (227)	27.42% (116)	13.24% (56)	5.67% (24)	423
Graduate Students	41.64% (122)	25.26% (74)	24.23% (71)	8.87% (26)	293
Undergraduate Students	49.07% (1426)	30.04% (873)	14.93% (434)	5.95% (173)	2906

Table 12c. How informed are you about the following general climate action strategies and goals? (Principals of Environmental Justice)

Principles of Environmental Justice (N=3779)					
Category	Not at all informed	A little informed	Moderately informed	Very informed	Total
Faculty	22.44% (35)	25.64% (40)	32.69% (51)	19.23% (30)	156
Staff	42.83% (182)	27.29% (116)	21.41% (91)	8.47% (36)	425
Graduate Students	36.73% (108)	23.47% (69)	21.77% (64)	18.03% (53)	294
Undergraduate Students	43.01% (1249)	29.65% (861)	19.14% (556)	8.20% (238)	2904

Table 13. Current undergraduate course offerings at UC Merced related to climate change. (2024-25 Catalog)

Course Number	Course Title
Biological Sciences 113	Sustainability in the Anthropocene
Environmental Systems Science 001	Introduction to Earth Systems Science
Environmental Systems Science 010	Earth Resources and Society
Environmental Systems Science 011 /Management of Innovation, Sustainability, and Technology 011	Climate Justice
Environmental Systems Science 015	Weather, Climate, and the Environment
Environmental Systems Science 060	Global Environmental Change
Environmental Systems Science 132 / Environmental Engineering 116	Applied Climatology
Environmental Systems Science 118/ Management of Innovation, Sustainability, and Technology 118/ Environmental Engineering 118	Climate Change: Science and Solutions
Environmental Humanities 001	Introduction to Environmental Communications
Environmental Humanities 059/ English 059	Apocalyptic Literature
Environmental Humanities 060/English 060	Science Fiction and Climate Disaster
Environmental Humanities 067/English 067	Environmental Justice in Beast Fables
Environmental Humanities 122/English 122	Nature Writing and the Environment
Environmental Humanities 125/English 125	Ecology and Indigenous Religious Traditions
Environmental Humanities 130/English 130	Writing to Save the Planet
Environmental Humanities 167/English 167 / Global Arts Studies Program 103Q	Theatre and Environmental Justice
Engineering 141/ Geography 141/ Environmental Systems Science 141	Environmental Science and Policy
Environmental Engineering 010	Environment in Crisis
Environmental Engineering 030	Evaluating Sustainable Spaces: Leadership in Energy, Environment, & Design (LEED)
Environmental Engineering 160	Sustainable Energy
Environmental Engineering 164/ Management of Innovation, Sustainability, and Technology 164	Energy Policy
Philosophy 126	Environmental Philosophy and Politics
Public Health 110	Environmental Health
Sociology 111	Environmental Sociology
Sociology 112	Climate Change and Society
Sociology 191	Climate Justice Capstone