

Appendix 1-1
Scoping Report

SCOPING REPORT

BERKELEY SPACE CENTER AT NASA RESEARCH PARK

PREPARED FOR:

University of California, Berkeley
Physical & Environmental Planning, 200 A&E Building
Berkeley, CA 94720-1382
Contact: Shraddha Navalli Patil, Ph.D., Senior Planner
shraddha@berkeley.edu

PREPARED FOR:

NASA Ames Research Center
M/S 204-15
Moffett Field, CA 94035-0001
Contact: Andrés Estrada, NEPA Program Manager | Natural Resources Manager
andres.v.estrada@nasa.gov

PREPARED BY:

ICF
201 Mission Street, Suite 1500
San Francisco, CA 94105
Contact: Jessica Viramontes
(415) 677-7108

MARCH 2025



ICF. 2025. *Scoping Report, Berkeley Space Center at NASA Research Park*. March.
(ICF 104894.0.001) San Francisco, CA. Prepared for University of California,
Berkeley and NASA.

Contents

	Page
Overview	1
Background.....	1
Scoping Process	1
Scoping Requirements.....	2
NEPA Scoping Requirements.....	2
Other NEPA Scoping-Related Requirements	3
CEQA Scoping Requirements	4
Purpose of Scoping Report.....	5
Scoping Notification.....	6
NEPA NOI Scoping	6
Filing Requirements	6
Newspaper Notices.....	6
Email Notifications	6
Website Updates.....	6
CEQA NOP Scoping	6
Filing Requirements	6
Newspaper Notices.....	6
NOP Mailing	7
Email Notifications	7
Website Updates.....	7
Public Meetings	8
Summary of Key Issues Raised	9

ATTACHMENTS

Attachment A: Notice of Preparation (NOP)

Attachment B: Notice of Intent (NOI)

Attachment C: *Federal Register* Posting

Attachment D: Newspaper Notices

Attachment E: NOI Email Notification

Attachment F: County Clerk NOP Posting

Attachment G: NOP Postcard

Attachment H: NOP Email Notification

Attachment I: NOP/NOI Scoping Comments

Acronyms and Abbreviations

ADA	Americans with Disabilities Act
Caltrans	California Department of Transportation
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
EIR	environmental impact report
EIS	environmental impact statement
GHG	greenhouse gas
NASA	National Aeronautics and Space Administration
NEPA	National Environmental Policy Act
NOI	Notice of Intent
NOP	Notice of Preparation
VTA	Santa Clara Valley Transportation Authority
TIA	traffic impact analysis
USPS	United States Postal Service
UC Berkeley	University of California, Berkeley

Background

Moffett Partners, LLC, a joint venture of the University of California, Berkeley (UC Berkeley) and SKSP NRP, LLC, is proposing a master-planned, mixed-use academic and research project, referred to as the Berkeley Space Center at NASA Research Park (NRP) (proposed project/proposed action), on an approximately 36-acre site at the National Aeronautics and Space Administration's Ames Research Center (NASA ARC).

The proposed project would include academic and research facilities, consisting of offices, laboratories, research-and-development (R&D) uses, and related amenities (collectively, "Research and Office Uses"); a conference center and related amenities ("Conference Uses"); ground-floor retail, food and beverage, and maker spaces, as well as other complementary accessory uses, that would be publicly accessible (collectively, "Active Uses"); student/faculty housing, including associated amenities ("Student/Faculty Housing"); short-term lodging, including associated amenities ("Short-Term Lodging"); transportation networks; and open spaces, as well as landscaped spaces, to create a state-of-the-art research and education hub that shapes the future of technology and innovation to advance the Regents of the University of California's (UC Regents) educational, scientific research, charitable, and other exempt purposes (within the meaning of Section 501[c][3] of the United States Internal Revenue Code). Implementation of the proposed project would include demolition of all existing buildings on the project site. The proposed project would facilitate the development and long-term operation of a collaborative research environment at NASA ARC that supports NASA's position at the forefront of technological innovation and as a catalyst for space and aeronautical research.

UC Regents is the California Environmental Quality Act (CEQA) Lead Agency for the proposed project, and NASA is the National Environmental Policy Act (NEPA) Lead Agency for the proposed action. Because the proposed project is located on federal property managed by NASA, NASA is the agency that would issue entitlements for the project. Moffett Partners, LLC, is the Project Proponent under CEQA and NEPA.

The Berkeley Space Center at NASA Research Park will be analyzed in a joint federal environmental impact statement (EIS) and California state environmental impact report (EIR).

Scoping Process

As one of the first steps in either the NEPA or CEQA environmental review process, scoping is generally defined as early public/agency consultation. The purpose of scoping is to involve the public; stakeholders; Native American tribes; federal, state, and local agencies; and other interested parties early in the environmental review process to help define the range of potential alternatives to be evaluated, methodologies for analysis, probable environmental effects, and possible mitigation measures to be considered in the environmental document. The lead agencies are ultimately responsible for determining the scope of the joint EIR/EIS.

As the lead agency under NEPA, NASA published a Notice of Intent (NOI) in the *Federal Register* for the joint EIR/EIS and initiated the NEPA scoping period of June 25, 2024, to July 26, 2024. As the lead agency under CEQA, UC Berkeley issued a Notice of Preparation (NOP) for the joint EIR/EIS and initiated the CEQA scoping period of June 21, 2024, to July 22, 2024. A copy of the NOP is included as Attachment A, and a copy of the NOI is included as Attachment B.

Scoping Requirements

NEPA Scoping Requirements

The Council on Environmental Quality NEPA Implementing Regulations require public engagement to determine the scope of the issues to be addressed in the environmental review and identify significant issues (40 Code of Federal Regulations [CFR] Section 1501.9). According to NEPA regulations, this process should occur early on in the environmental review process and include participation from the affected parties. As part of the NEPA scoping process, the lead agency is required to conduct the following regarding outreach and notification as well as public meetings and hearings:

Outreach and Notification [CFR 1501.9(c)]

Agencies shall:

- Invite the participation of any likely affected federal, state, tribal, and local agencies and governments as early as practicable, including, as appropriate, as cooperating agencies.
- Conduct, as appropriate, early engagement with likely affected or interested members of the public (including those who might not be in accord with the action), unless there is a limited exception (see 40 CFR 1507.3[d][3]).
- Consider what methods of outreach and notification are necessary and appropriate, based on the likely affected entities and persons; the scope, scale, and complexity of the proposed action and alternatives; the degree of public interest; and other relevant factors. When selecting appropriate methods for providing public notification, agencies shall consider the ability of affected persons and agencies to access electronic media and the primary languages of affected persons.
- Publish notification of proposed actions they are analyzing through an environmental impact statement, including through a notice of intent.
- Provide public notification of NEPA-related hearings, public meetings, and other opportunities for public engagement and the availability of environmental documents to inform those persons and agencies who may be interested or affected by their proposed actions.
 - The agency shall notify those entities and persons who have requested notification on a particular action and those who have requested regular notification from the agency on its actions.
 - In the case of an action with effects of national concern, notification shall also include publication of a notice in the *Federal Register*.
 - In the case of an action with effects primarily of local concern, the notification may include distribution to or through:
 - State, tribal, and local governments and agencies that may be interested or affected by the proposed action.
 - Following the affected state or tribe's public notification procedures for comparable actions.
 - Publication in local newspapers having general circulation.

- Other local media.
 - Potentially interested community organizations, including small business associations.
 - Publication in newsletters that may be expected to reach potentially interested persons.
 - Direct mailing to owners and occupants of nearby or affected property.
 - Posting of notification on- and off-site in the area where the action is to be located.
 - Electronic media (e.g., a project or agency website, dashboard, email list, or social media). Agencies should establish email notification lists or similar methods for the public to easily request electronic notifications for a proposed action.
- Make environmental impact statements, the comments received, and any underlying documents available to the public pursuant to the provisions of the Freedom of Information Act and without charge to the extent practicable.

Public Meetings and Hearings [CFR 1501.9(d)]

- Agencies shall hold or sponsor public hearings, public meetings, or other opportunities for public engagement whenever appropriate or in accordance with statutory or regulatory requirements or applicable agency NEPA procedures. Agencies may conduct public hearings and public meetings by means of electronic communication except where another format is required by law. When determining the format for a public hearing or public meeting, such as whether an in-person or virtual meeting or formal hearing or listening session is most appropriate, agencies shall consider the needs of affected communities. When accepting comments for electronic or virtual public hearings or meetings, agencies shall allow the public to submit comments electronically, by regular mail, or by other appropriate methods. Agencies should make a draft environmental document available to the public at least 15 days in advance when it is the subject of a public hearing or meeting unless the purpose of such hearing or meeting is to provide information for the development of the document.

Other NEPA Scoping-Related Requirements

As part of initial outreach and scoping for the proposed project, NASA sent out letters to several agencies and jurisdictions with special expertise or jurisdiction by law as invitations to serve as a cooperating agency in the development of the EIS. In response to these letters, the California Department of Transportation (Caltrans), the City of Mountain View, and the Santa Clara Valley Transportation Authority (VTA) agreed to be cooperating agencies for the proposed project, as outlined in the CFR 1501.8 requirements below.

Cooperating Agencies [CFR 1501.8]

- The purpose of this section is to emphasize agency cooperation early in the NEPA process. Upon request of the lead agency, any federal agency with jurisdiction by law shall be a cooperating agency. In addition, upon request of the lead agency, any other federal agency with special expertise with respect to any environmental issue may be a cooperating agency. A state, tribal, or local agency of similar qualifications may become a cooperating agency by agreement with the lead agency. Relevant special expertise may include indigenous knowledge. An agency may request that the lead agency designate it a cooperating agency, and a federal agency may appeal a denial of its request to the council.

- Each cooperating agency shall:
 - Participate in the NEPA process at the earliest practicable time.
 - Participate in the scoping process (described in Section 1502.4).
 - On request of the lead agency, assume responsibility for developing information and preparing environmental analyses, including portions of the environmental impact statement or environmental assessment concerning which cooperating agency has special expertise.
 - On request of the lead agency, make available staff support to enhance the lead agency's interdisciplinary capability.
 - Normally use its own funds. To the extent available funds permit, the lead agency shall fund those major activities or analyses it requests from cooperating agencies. Potential lead agencies shall include such funding requirements in their budget requests.
 - Consult with the lead agency in developing and updating the schedule (Section 1501.10), meet the schedule, and elevate, as soon as practicable, to the senior agency official of the lead agency any issues related to purpose and need, alternatives, or other issues that may affect any agencies' ability to meet the schedule.
 - Meet the lead agency's schedule for providing comments.
 - To the maximum extent practicable, jointly issue environmental documents with the lead agency.
- In response to a lead agency's request for assistance in preparing the environmental documents (described in paragraph [b][3], [4], or [5] of this section), a cooperating agency may reply that other program commitments preclude any involvement or the degree of involvement requested in the action that is the subject of the environmental impact statement or environmental assessment. The cooperating agency shall submit a copy of this reply to the council and the senior agency official of the lead agency.

CEQA Scoping Requirements

Under the CEQA Guidelines, scoping is required to examine a proposed project early in the environmental review process. It is intended to identify the range of issues pertinent to the proposed project and feasible alternatives or mitigation measures to avoid potentially significant environmental effects. As part of the CEQA scoping process, the lead agency is required to do the following:

- For projects of statewide, regional, or areawide significance, pursuant to CEQA Guidelines Section 15206, the lead agency shall conduct at least one scoping meeting. A scoping meeting held pursuant to NEPA, 42 United States Code 4321 et seq., in the city or county within which the project is located satisfies this requirement if the lead agency meets the notice requirements of Subsection 15082(c)(2).
- The lead agency shall provide notice of the scoping meeting to all of the following:

- Any county or city that borders on a county or city within which the project is located, unless otherwise designated annually by agreement between the lead agency and the county or city.
- Any responsible agency.
- Any public agency that has jurisdiction by law with respect to the project.
- Any organization or individual who has filed a written request for the notice.
- A lead agency shall call at least one scoping meeting for a proposed project that may affect highways or other facilities under the jurisdiction of the Department of Transportation if the meeting is requested by the department. The lead agency shall call the scoping meeting as soon as possible but not later than 30 days after receiving the request from the Department of Transportation.
- The Office of Planning and Research will ensure that the state responsible and trustee agencies reply to the lead agency within 30 days of receipt of the notice of preparation by the state responsible and trustee agencies.
- When the notice of preparation is submitted to the State Clearinghouse, the state identification number issued by the clearinghouse shall be the identification number for all subsequent environmental documents on the project. The identification number should be referenced on all subsequent correspondence regarding the project—specifically, on the title page of the draft and final EIR and on the notice of determination.

Purpose of Scoping Report

The purpose of this scoping report is to document and consolidate the comments received during the public scoping phases for both NEPA and CEQA on the scope of the project, the alternatives to be considered, and the environmental issues to address in the joint EIR/EIS. Comments obtained during the scoping process are included for NASA and UC Berkeley consideration to help guide environmental review of the project.

NEPA NOI Scoping

Filing Requirements

In accordance with 40 CFR 1506.6(b)(2), the NOI was published in the *Federal Register* on June 26, 2024, under Docket Number NASA-24-039. A copy of the NOI is included as Attachment B, and a copy of the *Federal Register* posting is included as Attachment C.

Newspaper Notices

A newspaper announcement was prepared and posted for the joint EIR/EIS in *The Mercury News* on June 21, 2024, and in *The Sunnyvale Sun* on June 21, 2024. Both newspapers are distributed in Santa Clara and San Mateo Counties, in compliance with 40 CFR 1506.6(b)(3). Copies of the newspaper notices are included in Attachment D.

Email Notifications

On June 26, 2024, an email with the NOI was distributed to 63 inboxes, including individuals, stakeholders, cooperating agencies, government representatives, and other agencies, along with organizations that were identified by NASA and the consulting team. Attachment E includes a copy of the email notification.

Website Updates

Information on the project was published on the NASA Ames Environmental Management Division NEPA webpage at <https://environment.arc.nasa.gov/NEPA.html>. The webpage includes the NOI posting in the *Federal Register*, public meeting details, and the project's anticipated schedule for the joint EIR/EIS.

CEQA NOP Scoping

Filing Requirements

In accordance with CEQA Guidelines Section 15082, the NOP was filed with the State Clearinghouse on June 21, 2024, to distribute the NOP to state agencies. In addition, the NOP was filed with the Santa Clara County Clerk on June 21, 2024. A copy of the county clerk posting is included as Attachment F.

Newspaper Notices

A newspaper announcement was prepared and posted for the joint EIR/EIS in *The Mercury News* on June 21, 2024, and in *The Sunnyvale Sun* on June 21, 2024. Both newspapers are distributed in Santa Clara and San Mateo Counties, in compliance with CEQA Guidelines Section 21092(b)(3)(A). Copies of the newspaper notices are included in Attachment D.

NOP Mailing

A postcard notification regarding the NOP was sent by United States Postal Service (USPS) first-class mail to approximately 650 landowners, residents, occupants, and other interested parties within an approximate 0.5-mile radius of the project site, in compliance with CEQA Guidelines Section 21092(b)(3)(C). The image below shows the boundaries of the project site in black and the 0.5-mile radius around the project site is shaded purple. The postcard notification was also sent to other interested parties, identified by UC Berkeley, included on the project mailing list. The postcard notifications were mailed on June 21, 2024, and June 24, 2024, approximately two weeks before the first scoping meeting. Attachment G includes a copy of the postcard notification used for the NOP mailing.

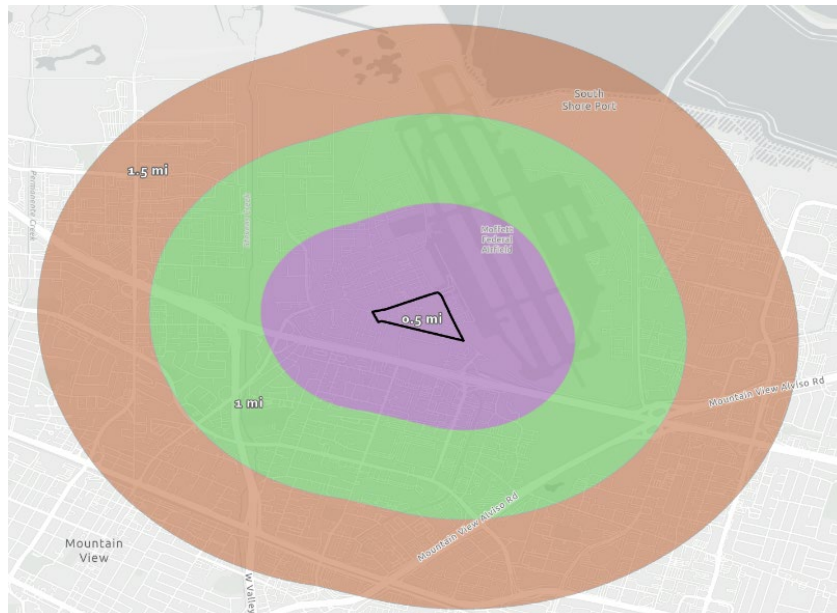


Figure 1. Map of 0.5-mile Radius Around Project Site for NOP Mailing

Email Notifications

On June 21, 2024, UC Berkeley Capital Strategies sent an email to the 2,617 individuals and stakeholders who subscribe to their email distribution list for public notices. Attachment H includes a copy of that email notification.

Website Updates

Information on the project was published on UC Berkeley's Capital Strategies webpage at <https://capitalstrategies.berkeley.edu/environmental-review>. The webpage includes the NOP, public meeting details, and a link to the Berkeley Space Center at NASA Research Park website (<https://berkeley.spacecenter.com/>). During the scoping period, the webpage provided details on how to submit comments and where and when to attend the scoping meeting. The webpage also provided an email address (capitalstrategies@berkeley.edu) and phone number (510 495-5786) so individuals could reach out with questions or request help if they were unable to find certain information.

Public Meetings

UC Berkeley and NASA held two joint online public scoping meetings in accordance with both the requirements of CEQA and NEPA to inform interested parties about the project and its location as well as provide agencies and the public with an opportunity to submit oral and written comments on the scope and content of the joint EIR/EIS.

The dates for the CEQA NOP scoping period and public meetings were published on UC Berkeley's Capital Strategies Public Meetings website on June 21, 2024. The dates of the NEPA NOI scoping period and public meetings were published on the NASA Ames Environmental Division NEPA website on June 27, 2024. Two public meetings were held virtually using Zoom. The first virtual public meeting was held on Wednesday, July 10, 2024, at 6:00 p.m. using Zoom. There were approximately 20 participants, and two comments were received. The recording of the virtual public meeting was posted on UC Berkeley's Capital Strategies YouTube channel (<https://www.youtube.com/@ucberkeleycapitalstrategies>), and the link to the channel was posted on UC Berkeley's Capital Strategies Public Meetings webpage.

The second virtual public meeting was held on Monday, July 15, 2024, at 6:00 p.m. using Zoom. There were approximately 12 participants, and one comment was received. The recording of the virtual public meeting was posted on UC Berkeley's Capital Strategies YouTube Channel, and the link to the channel was posted on UC Berkeley's Capital Strategies Public Meetings webpage.

For both public scoping meetings, a PowerPoint presentation was prepared in compliance with the Americans with Disabilities Act (ADA).

Summary of Key Issues Raised

The CEQA public scoping period in response to the NOP was from June 21, 2024, to July 22, 2024. Seven comment letters were received from public agencies and local organizations. The NEPA public scoping period in response to the NOI was from June 25, 2024, to July 26, 2024. Four comment letters were received from public agencies, local organizations, and individuals. In addition, comments for both the NOP and NOI were received during the two joint CEQA and NEPA scoping meetings held on July 10, 2024, and July 15, 2024. Two comments were received during the July 10 scoping meeting, and one comment was received during the July 15 scoping meeting.

A summary of all comments received during both the CEQA and NEPA scoping periods is included in the table below. The table is not intended to be exhaustive; rather, it highlights key issues raised in the comments about the scope and content of the joint EIR/EIS. It should be noted that during the public scoping process for both CEQA and NEPA, no other alternatives were suggested. Attachment I includes copies of all written comments received through USPS mail, email, or the online comment forms, along with comments received during the scoping meetings.

Summary of Berkeley Space Center at NASA Research Park NOP and NOI Scoping Comments

NOP, NOI, or Scoping Meeting	Date	Commentor Name	Commenting Entity	Topics	Summary of Comments
Scoping Meeting	July 10, 2024	Jamie Vasquez	Nor Cal Carpenters Union, Local 405	Unrelated to the environmental analysis.	<ul style="list-style-type: none"> Project should incorporate labor standards and use a general contractor
		Elizabeth Merritt, Deputy General Counsel	The National Trust for Historic Preservation	Section 106, Cultural Resources	<ul style="list-style-type: none"> Section 106 to be completed for the project Potential historic impacts and cumulative impacts should be evaluated within NEPA scope
Scoping Meeting	July 15, 2024	Elizabeth Merritt, Deputy General Counsel	The National Trust for Historic Preservation	Section 106, Cultural Resources	<ul style="list-style-type: none"> Section 106 process needs to be completed prior to NEPA process Emphasized importance of evaluating impacts on historic properties as well as other cultural resources, which could include archaeological and resources of significance to tribes and indigenous people
NOI	June 26, 2024	Richard Spotts	N/A	Biological Resources, Energy, Greenhouse Gas (GHG) Emissions	<ul style="list-style-type: none"> Approved action should maximize use of renewable energy and protect biological resources while minimizing the use of fossil fuels and degradation of wildlife habitats
NOI/NOP	July 22, 2024	Kate Spear	American Federation of State, County, and Municipal Employees, Local 3299	Population and Housing	<ul style="list-style-type: none"> Project will add significant pressure to already-imbalanced housing market while proposing little housing to offset it (i.e., jobs-housing imbalance)
				Socioeconomics/ Environmental Justice	<ul style="list-style-type: none"> Joint Climate Action Plan prepared for Santa Clara and San Benito Counties identified low-income and disadvantaged communities within Mountain View and Sunnyvale Project could result in displacement of jobs, forcing workers to live farther away from workplaces, and environmental

NOP, NOI, or Scoping Meeting	Date	Commentor Name	Commenting Entity	Topics	Summary of Comments
					<p>impacts from longer commutes related to traffic, GHG emissions, and socioeconomic/environmental justice</p> <ul style="list-style-type: none"> • Project should provide high-quality service jobs that offer a living wage and job security as a mitigation measure
NOI	July 23, 2024	George Schroeder, Principal Planner	City of Sunnyvale	Project Description	<ul style="list-style-type: none"> • Need clarity on number of proposed housing units for both Alternative 1 and 2 • Evaluate all alternatives at an equal level of detail
				Utilities and Service Systems	<ul style="list-style-type: none"> • Provided city contacts for water- and sewer-related questions • Water pollution control plant does not have adequate capacity to serve the project • Conduct sanitary sewer analysis for both alternatives • Provide clarity on proposed sewer connections • Provide flow estimates for both alternatives to evaluate sewer impacts • Provide clarity on proposed recycled water connections and use • Noted that Sunnyvale does not provide water or stormwater service to the project site
				Transportation and Traffic	<ul style="list-style-type: none"> • Provided city contact for transportation-related questions • Request to review the scope of the traffic impact analysis (TIA) and a draft of the TIA

NOP, NOI, or Scoping Meeting	Date	Commentor Name	Commenting Entity	Topics	Summary of Comments
					<ul style="list-style-type: none"> • Request to review draft EIR/EIS, particularly any analysis related to vehicle miles traveled (VMT) and proposed mitigation • Request level of service (LOS) be evaluated for the intersections located in Sunnyvale using VTA TIA guidelines and incorporate full-/pro-rata share financial contributions toward any identified improvements • Need to consider approved and pending development projects in Sunnyvale as part of baseline and cumulative traffic analyses • Need to consider the Valley Transportation Plan, Sunnyvale’s Capital Improvement Program, and/or Sunnyvale’s Traffic Impact Feed Study as part of cumulative analysis • Evaluate alternative modes of transportation in accordance with VTA Congestion Management Program guidelines • List potential transportation demand management measures • Evaluate construction-related impacts on local and regional corridors
NOI	July 26, 2024	Martin Nguyen	U.S. Environmental Protection Agency (EPA), Region 9	Hazards and Hazardous Materials	<ul style="list-style-type: none"> • Draft EIR/EIS needs to include overview and discussions consistent with NEPA requirements, describing how construction workers, project employees/visitors/residents, and ecological systems would not be adversely affected by potential hazards from Middlefield-Ellis-Whisman (MEW) Superfund site

NOP, NOI, or Scoping Meeting	Date	Commentor Name	Commenting Entity	Topics	Summary of Comments
					<ul style="list-style-type: none"> • Project construction and operation activities need to be discussed in relation to ongoing cleanup activities • Discuss potential contamination/hazmat materials that may be encountered during project construction • Detail any cleanup activities that the project would implement during construction or on-going cleanup activities during operation • Provide EPA contact for coordination regarding MEW site
				Project Description	<ul style="list-style-type: none"> • Identify all measures to reduce impacts related to project construction/ demolition, including recycling, salvaging, and re-use
				Air Quality	<ul style="list-style-type: none"> • Identify health/air quality impacts from construction and demolition activities, including the potential for encountering asbestos, with application of mitigation if necessary • Disclose National Ambient Air Quality Standards and nonattainment status of the project site and analyze project-related emissions of particulate matter, carbon dioxide, nitrogen oxides, sulfur oxides, and fugitive dust • Incorporate mitigation for construction-related emissions • Incorporate mitigation for operational emissions

NOP, NOI, or Scoping Meeting	Date	Commentor Name	Commenting Entity	Topics	Summary of Comments
					<ul style="list-style-type: none"> Analyze spatial distribution of sensitive receptors around the project site and the engagement of such receptors throughout project process Disclose strategy to reduce construction-related impacts on sensitive receptors
				Climate Change	<ul style="list-style-type: none"> Discuss context of climate change impacts on the setting of the project Discuss impacts related to extreme precipitation/storm events, temperature, and sea-level rise and the project design features or mitigation measures that would be incorporated to address such impacts Identify project design features and transportation improvements to reduce GHG emissions and increase energy efficiency as well as reliance on renewable energy Require zero-emission alternatives to backup when feasible (or require Tier 4 final generators) Require compliance with Leadership in Energy and Environmental Design (LEED) Version 4 checklist and California Green Building Standards Code (CALGreen) mandatory measures; commit to LEED platinum or equivalent third-party green building certification Identify and quantify sources of carbon dioxide emissions during project construction and operation Add low embodied carbon materials

NOP, NOI, or Scoping Meeting	Date	Commentor Name	Commenting Entity	Topics	Summary of Comments
				Environmental Justice	<ul style="list-style-type: none"> • Detail any environmental justice consideration incorporated as part of project design, construction, and development • Use the EJScreen Tool and the Federal Interagency Working Group on Environmental Justice’s Promising Analysis for EJ Methodologies in NEPA Review to inform the analysis • Disclose outreach and engagement efforts • Disclose if the project would result in disproportionately high and adverse impacts on any communities that may not experience environmental justice
				Hydrology and Water Quality	<ul style="list-style-type: none"> • Analyze change in stormwater volume and potential changes in contaminants and/or pollutants • Provide calculations for impervious/pervious surfaces on the project site
NOP	June 21, 2024	Lucy Gill, Cultural Resource Manager II	Confederated Villages of Lisjan Nation	Tribal Cultural Resources	<ul style="list-style-type: none"> • Stated that the project does not fall within their traditional territory • Provided contact for Tamien Nation
NOP	June 21, 2024	Cody Campagne, Cultural Resources Analyst	Native American Heritage Commission	Cultural Resources, Tribal Cultural Resources	<ul style="list-style-type: none"> • Summary of requirements for Assembly Bill 52, Senate Bill 18, tribal consultation, and cultural resources assessments

NOP, NOI, or Scoping Meeting	Date	Commentor Name	Commenting Entity	Topics	Summary of Comments
NOP	July 2, 2024	Tamara Purvis, Associate Environmental Planner	Department of Toxic Substances Control	Hazards/Hazardous Materials	<ul style="list-style-type: none"> • The San Francisco Bay Regional Water Quality Control Board (SFBRWQCB) maintains oversight regarding hazmat sites; recommended coordinating with SFBRWQCB and identifying areas where SFBRWQCB would provide oversight • Conduct surveys for lead-based paint, mercury, asbestos-containing materials, and polychlorinated biphenyl caulk for structures or buildings to be demolished • Recommend testing imported soil or fill for contaminants of concern
NOP	July 19, 2024	Tony Lopresti, County Counsel	County of Santa Clara	Project Description	<ul style="list-style-type: none"> • Clarify the County of Santa Clara’s (County’s) jurisdiction (if any) over the project site • Explain if the County would be a responsible agency
				Public Services	<ul style="list-style-type: none"> • Need clarity as to whether the project would request law enforcement services to be provided by the County sheriff • Identify any proposed public facilities (i.e., parks) and which providers would service those facilities
				Utilities/Service Systems	<ul style="list-style-type: none"> • County does not have the capacity to serve the project; EIR/EIS should identify which providers would serve the project site
				Land Use	<ul style="list-style-type: none"> • EIR/EIS should describe local land use jurisdictional issues and identify which federal, state, and/or local plans/regulations would apply to the project

NOP, NOI, or Scoping Meeting	Date	Commentor Name	Commenting Entity	Topics	Summary of Comments
				Transportation	<ul style="list-style-type: none"> EIR/EIS should identify and incorporate traffic-reducing measures for project-generated VMT
NOP	July 19, 2024	Erin Chappell, Regional Manager, Bay Delta Region	California Department of Fish and Wildlife	Project Description	<ul style="list-style-type: none"> Providing comments as a trustee agency and responsible agency
				Biological Resources	<ul style="list-style-type: none"> Within environmental setting, recommend including a full list or table that notes species common name, scientific name, state/federal listing status, habitat type preference, and determination on presence for all special-status species with potential to occur Recommend baseline habitat assessments Use California Natural Diversity Database (CNDDDB) and previous studies performed in the area Project site contains special-status species and has the potential to support other special-status species; Incidental Take Permit (ITP) consultation may be required Provide recommended mitigation for nesting birds Provide recommended mitigation for roosting bats Provided recommended mitigation measure for Crotch's bumble bee Provided recommended mitigation measure for western burrowing owl

NOP, NOI, or Scoping Meeting	Date	Commentor Name	Commenting Entity	Topics	Summary of Comments
NOP	July 22, 2024	Doug Chesshire	Carpenters Union, Local 405	Request to be notified	<ul style="list-style-type: none"> Request to be included on list of interested parties to receive notices for environmental documents and hearings
				Air Quality/Greenhouse Gas	<ul style="list-style-type: none"> Evaluate and mitigate (as necessary) the impact of construction workers commuting to the project site
				Hazards/Hazardous Materials	<ul style="list-style-type: none"> Evaluate the direct impact on construction workers as well as the indirect costs associated with the exposure to hazards and hazardous materials

Attachment A: Notice of Preparation (NOP)



PHYSICAL & ENVIRONMENTAL PLANNING
A & E BUILDING, # 1382

BERKELEY, CALIFORNIA 94720-1382

June 21, 2024

State of California
Office of Planning and Research
1400 Tenth Street
Sacramento, CA 95814

**NOTICE OF PREPARATION OF A JOINT
ENVIRONMENTAL IMPACT REPORT/ENVIRONMENTAL IMPACT STATEMENT**

Project Title: Berkeley Space Center at NASA Research Park

CEQA Lead Agency: The Regents of the University of California

Project Location: The project site is on federal land located in the National Aeronautics and Space Administration Ames Research Center (NASA ARC) adjacent to the Cities of Mountain View and Sunnyvale in Santa Clara County. The project site is within Assessor Parcel Number 116-18-012.

County: Santa Clara County

The University of California, Berkeley (UC Berkeley) and NASA have determined that a joint Environmental Impact Report/Environmental Impact Statement (EIR/EIS) will be prepared for the Berkeley Space Center at NASA Research Park (project or proposed project) (State CEQA Guidelines Section 15222). The Regents of the University of California, acting as the Lead Agency under the California Environmental Quality Act (CEQA), has determined that the proposed project could result in potentially significant environmental impacts and that an EIR is required. NASA, acting as the Lead Agency under the National Environmental Policy Act (NEPA), has determined that an Environmental Impact Statement (EIS) will be prepared for the project. NASA is the entitlement agency for the project.

When the decision to prepare an EIR has already been made, CEQA states that an initial study is not required (State CEQA Guidelines Section 15063(a)). Accordingly, an initial study has not been prepared. This notice of preparation (NOP) has been prepared pursuant to State CEQA Guidelines Sections 15082 and 15083.

UC Berkeley has prepared this NOP to provide responsible and trustee agencies, state, federal agencies involved in approving or funding the project, and other interested parties with a description of the proposed project and information on potential environmental effects of the proposed project, pursuant to State CEQA Guidelines Section 15082(a). The NOP is available for public review on UC Berkeley's Capital Strategies website: <https://capitalstrategies.berkeley.edu/environmental-review>.

Project Location

The project site within the NASA ARC, which is located on approximately 2,000 acres between U.S. 101 and the southwestern edge of San Francisco Bay (refer to the attached Project Location map). The city of Mountain View borders the NASA ARC to the south and west; the city of Sunnyvale borders the NASA ARC to the south and east. The NASA ARC is approximately 33 miles south of the city of San Francisco and 8 miles north of the

city of San José. As part of the NASA Ames Development Plan (NADP), which is NASA's vision for development of the NASA ARC, development was considered in four areas commonly referred to as the NASA Research Park (NRP), Eastside / Airfield, Bay View, and Ames Campus. The project site is within the NRP.

The approximately 36-acre triangular project site is currently developed with approximately 16 one- or two-story buildings that total approximately 112,000 square feet, along with surface parking lots, roadways, and utility infrastructure. The existing buildings are mostly vacant and many were formerly used as ancillary buildings that supported Navy operations (e.g., office buildings, food service, gas station).

The project site is bounded by Wescoat Road to the north and Cody Road to the east. The southern boundary of the project site is between Edquiba Road and Girard Road. Northwest of the project site, across Wescoat Road, is Shenandoah Plaza, a linear open space surrounded by buildings. Approximately 0.3 mile northeast of the project site, across from the intersection of Wescoat Road and Cody Road, is Hangar One, one of the largest freestanding structures in the world. Hangar One and many of the buildings, landscapes, and objects north of the project site are part of the Shenandoah Plaza Historic District. East of the project site, across Cody Road, is Moffett Federal Airfield. South of the project site is a planned residential development that would include approximately 2,000 residential units; the planned residential development would be located within the NRP, but is not part of the proposed project.

With respect to hazardous materials, ongoing remediation activities in the vicinity of the project site continue to be implemented under the jurisdictions of the United States Environmental Protection Agency and California Regional Water Quality Control Board.

Background

The project site is within the NRP, which was incorporated into the NASA ARC in 1994 following the closure of the former Naval Air Station Moffett Field. In 2002, a programmatic EIS (PEIS) was prepared pursuant to NEPA and was completed with a Record of Decision that provided environmental review for the implementation of the NADP. Since 2002, NASA (or other authorized parties) has redeveloped portions of the NASA ARC with entitled uses under the terms of several ground leases. The project site is one of the parcels considered for redevelopment in the 2002 PEIS. In 2019, NASA invited UC Berkeley, on behalf of the University of California system and its constituent campuses, to explore the feasibility of developing the project site for public and private sector research, professional education, and housing. In May 2021, the Regents authorized UC Berkeley to enter into a joint venture with SKSP NRP, LLC to create Moffett Partners, LLC for the proposed project.

Description of the Project

Moffett Partners, LLC is proposing the project. The proposed project would redevelop the project site with academic and research facilities, including office, laboratories, and research and development (collectively, "research and office uses"); conference and amenity facilities, including a gym, lobbies, and other amenities (collectively, "active uses"); student/faculty housing; short-term lodging; transportation networks; and public open spaces as well as landscaped spaces, to create a state-of-the-art research and education hub that shapes the future of technology and innovation and to advance UC Regents' educational, scientific research, charitable, and other exempt purposes (within the meaning of Section 501(c)(3) of the United States Internal Revenue Code).

The following project alternatives will be analyzed in the joint EIR/EIS:

- **Build Alternative 1:** Build Alternative 1 would create approximately 2.3 million square feet of research uses, a conference center, active uses, student/faculty housing, and short-term lodging for visitors and conference attendees. Build Alternative 1 would include approximately 1.99 million square feet (87 percent) research and office uses; 22,000 square feet (1 percent) conference center uses; 89,000 square feet (4 percent) active uses; 126,000 square feet (5 percent) student/faculty housing; and 73,000 square feet (3 percent) short-term lodging uses. Build Alternative 1 is considered the proposed project under CEQA and the Proposed Action under NEPA.

- **Build Alternative 2:** Build Alternative 2 would create approximately 1.4 million square feet of research uses, a conference center, active uses, student/faculty housing, and short-term lodging for visitors and conference attendees. Compared to Build Alternative 1, Build Alternative 2 would provide the same types of uses and the same square footage for most uses, with the exception that Build Alternative 2 would provide less space for research and office uses. Build Alternative 2 would include approximately 1.09 million square feet (78 percent) research and office uses; 22,000 square feet (2 percent) conference center uses; 89,000 square feet (6 percent) active uses; 126,000 square feet (9 percent) student/faculty housing; and 73,000 square feet (5 percent) short-term lodging uses. Build Alternative 2 is considered one of the alternatives to the proposed project under CEQA; it is also one of the alternatives under NEPA. Build Alternative 2 will be evaluated at the same level of detail as Build Alternative 1 in the joint EIR/EIS.
- **No Project/No Action Alternative:**
 - No Project Alternative: For the purposes of CEQA, under the No Project Alternative, Moffett Partners, LLC would not construct and operate the proposed project at the project site.
 - No Action Alternative: For the purposes of NEPA, under the No Action Alternative, the project would not be approved by NASA, and would not be constructed and operated at the project site.

As discussed below, Build Alternative 1 and Build Alternative 2 would have the same general site layout; the same maximum building heights; the same conference center, active uses, student/faculty housing, short-term lodging, and open space; the same amount of student/faculty housing; the same amount of short-term lodging; the same utility infrastructure and roadways; and the same ratio of parking spaces.

- **Site Layout:** Both build alternatives would include buildings that would be oriented around a large open space in the center of the project site, the Central Green. This area would include retail and amenity uses. The proposed research uses would be located along the perimeter of the project site. The proposed student/faculty housing, short-term lodging uses, and conference center would be located in the southwestern corner of the project site. The proposed parking garages would be located in the southwestern and southeastern corners of the project site. Vehicular access would be provided along Wescoat Road, the realigned Cody Road, and the realigned Girard Road (refer to the discussion of Utility Infrastructure and Roadways for more details on roadway realignments).
- **Maximum Building Heights:** Under both build alternatives, maximum structure heights would be 80 feet, with an exceedance allowed of up to 25 feet for mechanical screens and equipment.
- **Conference Center, Active Uses, Student/Faculty Housing, Short-term Lodging Uses, and Open Space:** Both build alternatives would include an approximately 20,000-square-foot conference center, approximately 92,000 square feet of active uses, and approximately 199,000 square feet of student/faculty housing and short-term lodging. In addition, both build alternatives would include approximately 10.9 acres of open space, including pathways, active uses (e.g., occupied areas that pedestrians could access via sidewalks or pathways), and passive uses (e.g., open lawns, patios). Landscaping would include a mix of native, climate-adaptive, and drought-resistant plant materials.
- **Student/Faculty Housing:** Both build alternatives would include approximately 141 student/faculty housing units, which would house approximately 352 residents. The proposed student/faculty housing would be used by students or faculty on a short-term basis (i.e., academic calendar year, semester, summer).
- **Short-term Lodging:** Both build alternatives would include approximately 99 short-term lodging units, which would accommodate approximately 197 guests. The proposed short-term lodging would be used as temporary lodging for staff, researchers, academics, tenants, and their families visiting the project site for conferences, meetings, research projects, and other short-term events affiliated with or at NASA ARC.
- **Utility Infrastructure and Roadways:** Both build alternatives would include building-level air source heat pumps for all heating, package air conditioning units for cooling at buildings without office or lab space, and water-cooled chillers for cooling at buildings with office and/ or lab spaces. In addition, both build alternatives would have the same infrastructure for utilities (i.e., wet and dry utilities) installed offsite

and the same utility connection points to those utilities. Existing NASA critical infrastructure would remain within the project site. Both build alternatives would realign Girard Road north to form the southern boundary of the project site and construct a new connector road between the realigned Girard Road and Wescoat Road along the southwestern corner of the project site. Both build alternatives would also realign Cody Road east to align with centerline of Hanger One, incorporating the design intent from the NADP, which was evaluated in the 2002 PEIS.

- **Ratio of Parking Spaces:** Parking would be located off the realigned Girard Road within parking structures and/or podium parking at designated areas. While Build Alternative 1 would have more parking spaces than Build Alternative 2 because it would include more space for research and office uses, both build alternatives would have the same parking ratios for each land use, establishing a blended parking ratio of approximately 1.43 parking spots per 1,000 square feet.

As discussed below, the primary differences between Build Alternative 1 and Build Alternative 2 would be the square footage of the research uses, the number of employees, the number of students, and the number of parking spaces.

- **Research and Office Uses:** Build Alternative 1 would include approximately 1.99 million square feet for research and office uses, whereas Build Alternative 2 would include approximately 1.09 million square feet for research and office uses.
- **Employees:** Build Alternative 1 would result in approximately 5,789 employees, whereas Build Alternative 2 would result in approximately 3,260 employees. Build Alternative 1 would result in more employees because it would include more space for research and office uses.
- **Students:** Build Alternative 1 would accommodate up to approximately 177 students at a time, whereas Build Alternative 2 would accommodate up to approximately 96 students at a time. Build Alternative 1 would accommodate more students because it would include more space for research and office uses.
- **Parking Spaces:** Build Alternative 1 would include approximately 3,290 parking spaces, whereas Build Alternative 2 would include approximately 2,009 parking spaces.

The future sub-tenant users for the proposed research space are not yet known and because the project would be constructed over a period of years, the exact configuration of certain project elements has not yet been determined. Thus, the joint EIR/EIS will evaluate the potential environmental impacts of the project based on conservative, worst case assumptions regarding certain aspects of the project design within specific areas of the project site (referred to as subareas). Specifically, it is anticipated that variations to the following project design elements could occur within seven subareas in the project site: the number and configuration of buildings, the design of the buildings, the allocation of permitted uses among or within the buildings, and the specific locations of mechanical equipment. On the other hand, it is anticipated that the following project elements would be known at the time the joint EIR/EIS is prepared: types of permitted uses, maximum square footage by use and in total, maximum building heights, parking ratios by use, locations of access roads, types and general locations of mechanical equipment, and other project parameters. This approach to the analysis will ensure that the joint EIR/EIS will evaluate the proposed project's maximum potential impact based on potential future building design and configuration to accommodate specific future sub-tenants of the proposed research and office space.

Prior to construction of the proposed project, all of the existing buildings and utilities infrastructure within the project site would be demolished except for the existing NASA critical infrastructure that would remain.

Probable Environmental Effects

UC Berkeley has determined that Public Resources Code Section 21080.09 requires an EIR be prepared for the proposed project. Therefore, as allowed under State CEQA Guidelines Section 15060 (Title 14 Cal. Code Regs.), UC Berkeley has not prepared an initial study and will instead begin work directly on the joint EIR/EIS process.

As required, the joint EIR/EIS will focus on the significant effects of the proposed project and will document the reasons for concluding that other effects will be less-than-significant. Where significant or potentially significant environmental impacts are identified, the joint EIR/EIS will also discuss feasible mitigation measures

to avoid or reduce these impacts, and a reasonable range of potentially feasible alternatives.

The joint EIR/EIS will evaluate the probable environmental effects, including cumulative effects, of the proposed project, in the following environmental issue areas:

- **Aesthetics and Visual Resources:** The joint EIR/EIS will evaluate temporary and long-term impacts to scenic vistas and scenic resources, conflicts with applicable regulations governing scenic quality, and whether implementation of the project would result in a source of substantial light or glare impacting nighttime views.
- **Air Quality:** The joint EIR/EIS will evaluate the project's consistency with applicable air quality plans and potential impacts associated with temporary increases in criteria pollutant emissions from construction and long-term increases in criteria pollutant emissions from project operations and associated vehicular trips, and potential exposure impacts associated with exposure of sensitive receptors to air pollutants during construction or project operations. In addition, a health risk analysis will be prepared for the project.
- **Biological Resources:** The joint EIR/EIS will evaluate the potential for implementation of the project to result in substantial adverse effects on biological resources, including sensitive habitats and species, wetlands, and waters, as well as potential conflicts with applicable policies or ordinances protecting biological resources, or with applicable conservation plans.
- **Cultural Resources:** The joint EIR/EIS will evaluate the potential for implementation of the project to result in a substantial adverse change in the significance of known or unknown archaeological or historical resources, or disturbance of human remains.
- **Energy:** The joint EIR/EIS will evaluate potential impacts related to energy use for construction and operation of the project or conflicts with applicable plans for renewable energy or energy efficiency.
- **Geology, Soils, and Paleontological Resources:** The joint EIR/EIS will evaluate the potential for implementation of the project to result in substantial adverse effects associated with seismic risks, soil erosion, geologic hazards, or to destroy a unique paleontological resource or site or unique geologic feature.
- **Greenhouse Gas Emissions:** The joint EIR/EIS will evaluate potential impacts from temporary increases in greenhouse gas (GHG) emissions associated with mobile-source exhaust from construction worker commute trips, truck haul trips, and equipment (e.g., excavators, graders); and long-term increases in GHG emissions associated with project operations, including stationary and mobile sources. The joint EIR/EIS will also evaluate the project's potential to conflict with applicable plans, policies, or regulations for reducing GHG emissions.
- **Hazards and Hazardous Materials:** The joint EIR/EIS will evaluate the potential for construction and operational activities associated with the project create a significant hazard to the public or the environment associated with routine transport, use or disposal, or the accidental release of, of hazardous materials. The joint EIR/EIS will evaluate the potential for the project to result in a safety hazard or excessive noise for people residing or working in the project area due to the proximity to the Moffett Federal Airfield. The joint EIR/EIS will also evaluate the potential for implementation of the project to physically interfere with or impair implementation of an adopted emergency response or evacuation plans, or the potential for the project to expose people or structures to significant risks associated with wildland fires.
- **Hydrology and Water Quality:** The joint EIR/EIS will evaluate the potential for implementation of the project to violate any water quality standards or waste discharge requirements, substantially degrade surface or ground water quality, decrease groundwater supplies, substantially alter existing drainage patterns, or result in any flood or inundation hazards. during construction and operation. The joint EIR/EIS will also evaluate the potential for the project to conflict with applicable water quality control plans.
- **Land Use and Planning:** The joint EIR/EIS will evaluate the potential for implementation of the project to physically divide an established community or cause a significant environmental effect due to

a conflict with applicable land use plans and policies adopted for the purpose of reducing or avoiding environmental impacts.

- **Noise:** The joint EIR/EIS will evaluate potential impacts from temporary increases in noise (including off-site, vehicle traffic noise) and vibration levels during construction; and long-term increases in noise and vibration from project operation, including stationary and mobile sources.
- **Population and Housing:** The joint EIR/EIS will evaluate the potential for implementation of the project to induce (directly or indirectly) unplanned substantial population growth or displace substantial housing or residents.
- **Public Services:** The joint EIR/EIS will evaluate potential impacts on public services.
- **Recreation:** The joint EIR/EIS will evaluate potential impacts on recreation facilities.
- **Transportation and Traffic:** The joint EIR/EIS will evaluate the potential for implementation of the project to increase vehicle miles traveled (VMT) locally and in the region and whether such increases would conflict with applicable plans, policies, or regulations related to the effectiveness of the local/regional circulation system. The joint EIR/EIS will also include a discussion of emergency access adequacy, and potential transportation hazards from implementation of the project.
- **Tribal Cultural Resources:** The joint EIR/EIS will evaluate the potential for implementation of the project to result in a substantial adverse change in the significance of known or unknown tribal cultural resources.
- **Utilities and Service Systems:** The joint EIR/EIS will evaluate the potential for implementation of the project to increase demand for water, transmission, and treatment; demand for wastewater transmission and treatment; use of recycled water; demand for electricity and natural gas; and the potential need to increase the capacity of existing infrastructure.

No significant impacts with respect to agriculture and forestry resources or mineral resources or wildfire are anticipated, and these issue areas will not be evaluated in detail as part of the joint EIR/EIS.

Cortese List Notice

Pursuant to Public Resources Code 21092.6(a), the project site is located on a site included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 (California Department of Toxic Substances Control list of various hazardous sites). The proposed project would be required to follow existing soil and groundwater remediation protocols. Details regarding the required remediation would be coordinated with the United States Environmental Protection Agency and Responsible Parties in charge of ongoing remediation efforts.

Public Review and Comment Period

UC Berkeley invites comments on the scope and content of the joint Draft EIR/EIS and appreciates your prompt review of this NOP. Written comments should focus on the scope and content of the environmental information to be included in the joint Draft EIR/EIS for the Berkeley Space Center at NASA Research Park, germane to agencies having statutory responsibilities associated with the proposed project, as well as public interest in the proposed project. All comments on environmental issues received during the public comment period will be considered in the joint Draft EIR/EIS. Due to the time limits mandated by State law, this NOP will be circulated for a 30-day review period, which will extend from June 21, 2024, to July 22, 2024. **Responses to this NOP must be received by 5:00 p.m. on July 22, 2024.** Please send your written or electronic responses, with appropriate contact information, to the following address:

Shraddha Navalli Patil, Ph.D., Senior Planner
Physical & Environmental Planning
University of California, Berkeley
200 A&E Building, Berkeley, CA 94720-1382
Email: planning@berkeley.edu

Please include a subject line indicating Scoping Comments: Berkeley Space Center at NASA Research Park.

Public Scoping Meetings

UC Berkeley and NASA will hold two joint online public scoping meetings to inform interested parties about the project, and to provide agencies and the public with an opportunity to provide oral and written comments on the scope and content of the joint EIR/EIS. The scoping meetings will be held exclusively through Zoom videoconference. The information for the meetings is as follows:

Scoping Meeting No. 1

Wednesday, July 10, 2024

Time: 6:00 – 7:30 p.m.

Meeting Link: <https://capitalstrategies.berkeley.edu/public-meetings>

Scoping Meeting No. 2

Monday, July 15, 2024

Time: 6:00 – 7:30 p.m.

Meeting Link: <https://capitalstrategies.berkeley.edu/public-meetings>

For instructions to access and participate in the Zoom meetings by telephone or from a PC, Mac, iPad, iPhone, or Android device, please visit: <https://capitalstrategies.berkeley.edu/public-meetings>.

To request a paper copy of this notice or if you have questions concerning this NOP, scoping session, or associated environmental review for the project, please contact Physical & Environmental Planning, at (510) 495-5786 or planning@berkeley.edu.

Sincerely,



Wendy Hills
Campus Architect, Assistant Vice Chancellor
University of California, Berkeley

Attachments:

Location Map



Project Location
Berkeley Space Center at NASA Research Park

Attachment B: Notice of Intent (NOI)

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION**[NASA Document No: NASA-24-039; NASA Docket No: NASA-24-0002]****National Environmental Policy Act; Berkeley Space Center at NASA Research Park****AGENCY:** National Aeronautics and Space Administration.**ACTION:** Notice of intent; notice of meetings; request for comments.

SUMMARY: Pursuant to the National Environmental Policy Act of 1969 (NEPA), as amended, the Council on Environmental Quality Regulations for Implementing the Procedural Provisions of NEPA, and the National Aeronautics and Space Administration's (NASA's) procedures for implementing NEPA, NASA, in cooperation with the University of California, Berkeley (UC Berkeley), will prepare an Environmental Impact Statement (EIS) for the proposed development of the Berkeley Space Center at NASA Research Park. The EIS will be a joint EIS/environmental impact report (EIR) that fulfills the requirements of both NEPA and the California Environmental Quality Act (CEQA). This notice opens a 30-day public scoping period during which the public and other interested parties are encouraged to submit comments as provided for under **ADDRESSES** to inform the scope of environmental issues which should be considered in the EIS/EIR, including alternatives to the proposed action. The public scoping period is for a period of 30 days from publication of this notice.

DATES: Comments are due by [INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE **FEDERAL REGISTER**].

UC Berkeley and NASA will hold two joint online public scoping meetings to inform interested parties about the project, and to provide agencies and the public with an opportunity to provide oral and written comments on the scope and content of the joint EIR/EIS. The first scoping meeting will be held on Wednesday, July 10, 2024 and the second scoping meeting will be held on Monday, July 15, 2024. Information regarding public scoping meetings and the location of project materials is found under

SUPPLEMENTARY INFORMATION section of this notice.

ADDRESSES: Advance registration to attend or provide a comment at the virtual public meetings described under **SUPPLEMENTARY INFORMATION** is not required. Public meeting attendees may submit comments during the public meeting, or by other means described below throughout the 30-day comment period. You may submit written comments and materials by one of the following methods:

- *U.S. mail:* NASA Ames Research Center, Attn: Berkeley Space Center at NASA Research Park, M/S 204-15, Moffett Field, CA 94035-0001.
- *Federal E-Rulemaking Portal:* Written comments and recommendations for this information collection should be sent within 30 days of publication of this notice to ensure consideration in the Draft EIS/EIR. You may send comments, identified by NASA Docket Number NASA-24-0002 to the Federal e-Rulemaking Portal:
<http://www.regulations.gov>. Follow the online instructions for submitting comments.

We encourage you to submit comments electronically through the Federal eRulemaking Portal at <http://www.regulations.gov>. If submitting your comments electronically, it is not necessary to also submit a hard copy. All comments received will be posted without change to <http://www.regulations.gov>. Before including your address, phone number, email address, or other personal identifying information in your comment, be advised that your entire comment – including any personal identifying information you provide – may be publicly available at any time. While you may request, in your comment, to withhold from public review your personal identifying information, we cannot guarantee that your request will be granted.

FOR FURTHER INFORMATION CONTACT: Andrés Estrada, NEPA Program Manager, Natural Resources Manager. NASA Ames Research Center, M/S 204-15, Moffett Field, CA 94035-0001, email andres.v.estrada@nasa.gov, or phone 650-224-8532. Individuals who use telecommunication devices for the deaf (TDD) may call the Federal Relay Service at 1-800-877-8339 between 8 am and 8 pm, eastern time, Monday through Friday.

SUPPLEMENTARY INFORMATION:

Purpose and Need for the Proposed Action

The joint EIS/EIR will evaluate the environmental impacts of the proposed action related to the proposed construction and occupancy of the Berkeley Space Center at NASA Research Park, which would redevelop the project site with academic and research facilities, including office, laboratories, and research and development (collectively, “research and office uses”); conference and amenity facilities, including a gym, lobbies, and other amenities (collectively, “active uses”); student/faculty housing; short-term lodging; transportation networks; and public open spaces as well as landscaped spaces, to create a state-of-the-art research and education hub that shapes the future of technology and innovation and to advance UC Regents' educational, scientific research, charitable, and other exempt purposes (within the meaning of section 501(c)(3) of the United States Internal Revenue Code). The Berkeley Space Center at NASA Research Park would be located at the NASA owned and operated Ames Research Center (NASA ARC) in Santa Clara County, California.

The purpose of the proposed project is to:

- Facilitate the development and long-term operation of a collaborative research environment at NASA ARC as contemplated in the NASA Ames Development Plan (NADP).
- Create a research development that combines UC Berkeley’s mission to accelerate scientific discovery, create innovative technologies, and advance knowledge for the benefit of humanity with NASA’s mission to enable exploration, innovative technologies and interdisciplinary scientific discovery through the integration of public and private research and development efforts.
- Strengthen and expand the NASA ARC's global profile, attracting and retaining new research talent as well as generating innovative ideas for use throughout the world and the cosmos.

- Promote collaborative research and development activities among NASA ARC, UC Berkeley, private industry, and non-profit organizations.
- Provide convenient short-term housing and lodging options to primarily support faculty, students, and guests at the NASA ARC.
- Enable more efficient use of land at NASA ARC by demolishing older underutilized buildings and constructing new facilities involved in the creation of the new research space.

The need for the proposed project is as follows:

- To maintain NASA's position at the forefront of technological innovation and as catalyst for space and aeronautical research and technology transfer.
- To strengthen our nation's ability to address the research problems of tomorrow by combining NASA's unique ability to focus on high-risk long-term research; industry's ability to react quickly with applied technology; and the University of California's expertise in educating and providing a vibrant workforce for the future.

Project Location

The project site is on Federal land within the National Aeronautics and Space Administration Ames Research Center (NASA ARC) in Santa Clara County, California (refer to the attached Project Location map). The NASA ARC is located on approximately 2,000 acres between U.S. 101 and the southwestern edge of San Francisco Bay. The city of Mountain View borders the NASA ARC to the south and west; the city of Sunnyvale borders the NASA ARC to the south and east. The NASA ARC is approximately 33 miles south of the city of San Francisco and 8 miles north of the city of San José. As part of the NADP, which is NASA's vision for development of the NASA ARC, development was considered in four areas commonly referred to as the NASA Research Park (NRP), Eastside / Airfield, Bay View, and Ames Campus. The project site is within the NRP.

The approximately 36-acre triangular project site is currently developed with approximately 16 one- or two-story buildings that total approximately 112,000 square feet, along with surface parking lots, roadways, and utility infrastructure. The existing buildings are mostly vacant and many were formerly used as ancillary buildings that supported Navy operations (e.g., office buildings, food service, gas station).

The project site is bounded by Wescoat Road to the north and Cody Road to the east. The southern boundary of the project site is between Edquiba Road and Girard Road. Northwest of the project site, across Wescoat Road, is Shenandoah Plaza, a linear open space surrounded by buildings. Approximately 0.3 mile northeast of the project site, across from the intersection of Wescoat Road and Cody Road, is Hangar One, one of the largest freestanding structures in the world. Hangar One and many of the buildings, landscapes, and objects north of the project site are part of the Shenandoah Plaza Historic District. East of the project site, across Cody Road, is Moffett Federal Airfield. South of the project site is a planned residential development that would include approximately 2,000 residential units; the planned residential development would be located within the NRP, but is not part of the proposed project.

With respect to hazardous materials, ongoing remediation activities in the vicinity of the project site continue to be implemented under the jurisdictions of the United States Environmental Protection Agency and California Regional Water Quality Control Board.

Background

The project site is within the NRP, which was incorporated into the NASA ARC in 1994 following the closure of the former Naval Air Station Moffett Field. In 2002, a programmatic EIS (PEIS) was prepared pursuant to NEPA and was completed with a Record of Decision that provided environmental review for the implementation of the NADP. Since 2002, NASA (or other authorized parties) has redeveloped portions of the NASA ARC with entitled uses under the terms of several ground leases. The project site is one of the parcels considered for redevelopment in the 2002 PEIS. In 2019, NASA invited UC Berkeley, on

behalf of the University of California system and its constituent campuses, to explore the feasibility of developing the project site for public and private sector research, professional education, and housing. In May 2021, the Regents authorized UC Berkeley to enter into a joint venture with SKSP NRP, LLC to create Moffett Partners, LLC for the proposed project.

Proposed Action and Alternative

The following two build alternatives (Build Alternative 1 and Build Alternative 2) and the No Action Alternative will be evaluated in the Draft EIS/EIR.

- **Build Alternative 1:** Build Alternative 1 would create approximately 2.3 million square feet of research uses, a conference center, active uses, student/faculty housing, and short-term lodging for visitors and conference attendees. Build Alternative 1 would include approximately 1.99 million square feet (87 percent) research and office uses; 22,000 square feet (1 percent) conference center uses; 89,000 square feet (4 percent) active uses; 126,000 square feet (5 percent) student/faculty housing; and 73,000 square feet (3 percent) short-term lodging uses. Build Alternative 1 is considered the proposed project under CEQA and the Proposed Action under NEPA.
- **Build Alternative 2:** Build Alternative 2 would create approximately 1.4 million square feet of research uses, a conference center, active uses, student/faculty housing, and short-term lodging for visitors and conference attendees. Compared to Build Alternative 1, Build Alternative 2 would provide the same types of uses and the same square footage for most uses, with the exception that Build Alternative 2 would provide less space for research and office uses. Build Alternative 2 would include approximately 1.09 million square feet (78 percent) research and office uses; 22,000 square feet (2 percent) conference center uses; 89,000 square feet (6 percent) active uses; 126,000 square feet (9 percent) student/faculty housing; and 73,000 square feet (5 percent) short-term lodging uses. Build Alternative 2 is considered one of the alternatives to the proposed project under CEQA; it is also one of the alternatives

under NEPA. Build Alternative 2 will be evaluated at the same level of detail as Build Alternative 1 in the joint EIR/EIS.

- No Action Alternative: For the purposes of NEPA, under the No Action Alternative, the project would not be approved by NASA, and would not be constructed and operated at the project site.

As discussed below, Build Alternative 1 and Build Alternative 2 would have the same general site layout; the same maximum building heights; the same conference center, active uses, student/faculty housing, short-term lodging, and open space; the same amount of student/faculty housing; the same amount of short-term lodging; the same utility infrastructure and roadways; and the same ratio of parking spaces.

- Site Layout: Both build alternatives would include buildings that would be oriented around a large open space in the center of the project site, the Central Green. This area would include retail and amenity uses. The proposed research uses would be located along the perimeter of the project site. The proposed student/faculty housing, short-term lodging uses, and conference center would be located in the southwestern corner of the project site. The proposed parking garages would be located in the southwestern and southeastern corners of the project site. Vehicular access would be provided along Wescoat Road, the realigned Cody Road, and the realigned Girard Road (refer to the discussion of Utility Infrastructure and Roadways for more details on roadway realignments).
- Maximum Building Heights: Under both build alternatives, maximum structure heights would be 80 feet, with an exceedance allowed of up to 25 feet for mechanical screens and equipment.
- Conference Center, Active Uses, Student/Faculty Housing, Short-term Lodging Uses, and Open Space: Both build alternatives would include an approximately 20,000-square-foot conference center, approximately 92,000 square feet of active uses, and

approximately 199,000 square feet of student/faculty housing and short-term lodging. In addition, both build alternatives would include approximately 10.9 acres of open space, including pathways, active uses (e.g., occupied areas that pedestrians could access via sidewalks or pathways), and passive uses (e.g., open lawns, patios). Landscaping would include a mix of native, climate-adaptive, and drought-resistant plant materials.

- **Student/Faculty Housing:** Both build alternatives would include approximately 141 student/faculty housing units, which would house approximately 352 residents. The proposed student/faculty housing would be used by students or faculty on a short-term basis (i.e., academic calendar year, semester, summer).
- **Short-term Lodging:** Both build alternatives would include approximately 99 short-term lodging units, which would accommodate approximately 197 guests. The proposed short-term lodging would be used as temporary lodging for staff, researchers, academics, tenants, and their families visiting the project site for conferences, meetings, research projects, and other short-term events affiliated with or at NASA ARC.
- **Utility Infrastructure and Roadways:** Both build alternatives would include building-level air source heat pumps for all heating, package air conditioning units for cooling at buildings without office or lab space, and water-cooled chillers for cooling at buildings with office and/ or lab spaces. In addition, both build alternatives would have the same infrastructure for utilities (i.e., wet and dry utilities) installed offsite and the same utility connection points to those utilities. Existing NASA critical infrastructure would remain within the project site. Both build alternatives would realign Girard Road north to form the southern boundary of the project site and construct a new connector road between the realigned Girard Road and Wescoat Road along the southwestern corner of the project site. Both build alternatives would also

realign Cody Road east to align with centerline of Hanger One, incorporating the design intent from the NADP, which was evaluated in the 2002 PEIS.

- Ratio of Parking Spaces: Parking would be located off the realigned Girard Road within parking structures and/or podium parking at designated areas. While Build Alternative 1 would have more parking spaces than Build Alternative 2 because it would include more space for research and office uses, both build alternatives would have the same parking ratios for each land use, establishing a blended parking ratio of approximately 1.43 parking spots per 1,000 square feet.

As discussed below, the primary differences between Build Alternative 1 and Build Alternative 2 would be the square footage of the research uses, the number of employees, the number of students, and the number of parking spaces.

- Research and Office Uses: Build Alternative 1 would include approximately 1.99 million square feet for research and office uses, whereas Build Alternative 2 would include approximately 1.09 million square feet for research and office uses.
- Employees: Build Alternative 1 would result in approximately 5,789 employees, whereas Build Alternative 2 would result in approximately 3,260 employees. Build Alternative 1 would result in more employees because it would include more space for research and office uses.
- Students: Build Alternative 1 would accommodate up to approximately 177 students at a time, whereas Build Alternative 2 would accommodate up to approximately 96 students at a time. Build Alternative 1 would accommodate more students because it would include more space for research and office uses.
- Parking Spaces: Build Alternative 1 would include approximately 3,290 parking spaces, whereas Build Alternative 2 would include approximately 2,009 parking spaces.

The future sub-tenant users for the proposed research space are not yet known and because the

project would be constructed over a period of years, the exact configuration of certain project elements has not yet been determined. Thus, the joint EIR/EIS will evaluate the potential environmental impacts of the project based on conservative, worst case assumptions regarding certain aspects of the project design within specific areas of the project site (referred to as subareas). Specifically, it is anticipated that variations to the following project design elements could occur within seven subareas in the project site: the number and configuration of buildings, the design of the buildings, the allocation of permitted uses among or within the buildings, and the specific locations of mechanical equipment. On the other hand, it is anticipated that the following project elements would be known at the time the joint EIR/EIS is prepared: types of permitted uses, maximum square footage by use and in total, maximum building heights, parking ratios by use, locations of access roads, types and general locations of mechanical equipment, and other project parameters. This approach to the analysis will ensure that the joint EIR/EIS will evaluate the proposed project's maximum potential impact based on potential future building design and configuration to accommodate specific future sub-tenants of the proposed research and office space.

Prior to construction of the proposed project, all of the existing buildings and utilities infrastructure within the project site would be demolished except for the existing NASA critical infrastructure that would remain.

Summary of Expected Impacts

Based on the initial evaluation of the build alternatives, the following impacts would be expected: temporary increases in dust and other air pollutants during construction; temporary increases in noise and vibration during construction; temporary increases in construction traffic on roadways; temporary changes to existing public access; short-term disturbance to and changes in habitat conditions for listed and sensitive species; air quality and greenhouse gas emissions during operation; increases in traffic due to employees, residents, and visitors during operation; increases in building density and height, which could affect

visual resources and historic resources in the vicinity of the site; and remediation of soil and groundwater issues known to be present related to historical uses at and near the project site. The proposed action would be required to follow existing soil and groundwater remediation protocols. Details regarding the required remediation would be coordinated with the U.S. Environmental Protection Agency and Responsible Parties in charge of ongoing remediation efforts.

Anticipated Permits and Authorizations

The permits and other authorizations anticipated to be required for the proposed project include but are not limited to the list below:

- Bay Area Air Quality Management District permit for stationary sources,
- San Francisco Bay Regional Water Quality Control Board Clean Water Act Section 401 water quality certification,
- Consultation pursuant to section 7 of the Federal Endangered Species Act with the U.S. Fish and Wildlife Service and National Marine Fisheries Service,
- Consultation with tribes and the State Historic Preservation Officer pursuant to Section 106 of the National Historic Preservation Act and CEQA,
- Encroachment permit or similar permit for any roadway in the city of Mountain View, city of Sunnyvale, Santa Clara Valley Transportation Authority, and California Department of Transportation (Caltrans) rights-of-way, and
- Completion of a Bona fide Prospective Lessee agreement with the U.S. Environmental Protection Agency.

Schedule for the Decision-Making Process

The EIS/EIR process is expected to take approximately 1.5 years and end with a record of decision signed by NASA. Subsequent Federal actions would include review and approval of project plans through the NASA Ames Design Review Process, NASA construction permitting,

and securing of permits, approvals, and/or authorizations from external Federal or State agencies as required by applicable laws.

Environmental Impact Statement Public Scoping Process

This notice of intent initiates the 30-day scoping process, which guides the development of the Draft EIS. The scoping process is designed to elicit comments from the public, public agencies, Tribal governments, and other interested parties on the scope of the Draft EIS. UC Berkeley and NASA will hold two joint online public scoping meetings to inform interested parties about the project and its location as well as to provide agencies and the public with an opportunity to provide oral and written comments on the scope and content of the joint EIR/EIS. The scoping meetings will be held exclusively through Zoom videoconference. Members of the public will be able to provide written comments during the meetings in the chat or verbally during an open mic session. The information for the two scoping meetings is as follows:

- Scoping Meeting No. 1

Wednesday, July 10, 2024

Time: 6:00 to 7:30 pm

Meeting Link: <https://capitalstrategies.berkeley.edu/public-meetings>

- Scoping Meeting No. 2

Monday, July 15, 2024

Time: 6:00 to 7:30 pm

Meeting Link: <https://capitalstrategies.berkeley.edu/public-meetings>

Request for Identification of Potential Alternatives, Information, and Analyses Relevant to the Proposed Action

NASA requests comments concerning the scope of the analysis and identification of relevant information and studies. All interested parties are invited to provide input related to the identification of potential alternatives, information, and analyses relevant to the Proposed

Action Alternatives in writing. All written comments should be submitted via any of the methods provided under **ADDRESSES**.

Lead and Cooperating Agencies

NASA is the lead agency for the EIS. The Regents of the University of California will serve as the lead State agency for the EIR. Cooperating agencies have not been identified at this time; however, NASA continues to coordinate with external agencies and may identify one or multiple cooperating agencies during the scoping period.

Joel Carney,

**Denise
Thaller**

Digitally signed by Denise
Thaller
Date: 2024.06.20
13:14:11 -04'00'

*Assistant Administrator of the Office of Strategic Infrastructure, Mission Support Directorate,
National Aeronautics and Space Administration.*

Attachment C: *Federal Register* Posting

and burden costs supporting this information collection request from the previous information collection request.

Type of Review: Revision of a currently approved information collection.

Agency: Mine Safety and Health Administration.

OMB Number: 1219-0048.

Affected Public: Business or other for-profit.

Number of Annual Respondents: 2,305.

Frequency: Annual.

Number of Annual Responses: 43,795.

Annual Time Burden: 23,626 hours.

Annual Other Burden Costs: \$140,000.

Comments submitted in response to this notice will be summarized and included in the request for Office of Management and Budget approval of the proposed information collection request; they will become a matter of public record and be available at <https://www.reginfo.gov>.

Song-ae Aromie Noe,

Certifying Officer, Mine Safety and Health Administration.

[FR Doc. 2024-13935 Filed 6-25-24; 8:45 am]

BILLING CODE 4510-43-P

DEPARTMENT OF LABOR

Occupational Safety and Health Administration

Susan Harwood Training Grant Program, FY 2024; Availability of Funds and Funding Opportunity Announcements

AGENCY: Occupational Safety and Health Administration (OSHA), Labor.

ACTION: Notice of availability of funds and funding opportunity announcements.

SUMMARY: This notice announces available funding for Susan Harwood Training Grant Program grants. Three separate funding opportunity announcements are available for Targeted Topic Training grants, Training and Educational Materials Development grants, and new Capacity Building grants.

DATES: Grant applications for Susan Harwood Training Program grants must be received electronically by the *Grants.gov* system no later than 11:59 p.m., ET, on July 26, 2024.

ADDRESSES: The complete Susan Harwood Training Grant Program funding opportunity announcements and all information needed to apply are available at the *Grants.gov* website, www.grants.gov.

FOR FURTHER INFORMATION CONTACT:

Questions regarding the funding opportunity announcement should be emailed to Donna Robertson at HarwoodGrants@dol.gov or directed to OSHA via telephone at 847-725-7805. Personnel will not be available to answer questions after 5:00 p.m. ET. To obtain further information on the Susan Harwood Training Grant Program, visit the OSHA website at www.osha.gov/harwoodgrants. Questions regarding *Grants.gov* should be emailed to Support@grants.gov or directed to Applicant Support toll free at 1-800-518-4726. Applicant Support is available 24 hours a day, 7 days a week except Federal holidays.

SUPPLEMENTARY INFORMATION: The complete Susan Harwood Training Grant Program funding opportunity announcements instructions and information needed to apply are available at the *Grants.gov* website, www.grants.gov. On the *grants.gov* website, please reference the following Funding Opportunity Numbers and Catalog of Federal Domestic Assistance Number below to find the relevant announcements and information:

Funding Opportunity Number: SHTG-FY-24-01 (Targeted Topic Training).

Funding Opportunity Number: SHTG-FY-24-02 (Training and Educational Materials Development).

Funding Opportunity Number: SHTG-FY-24-03 (Capacity Building).

Catalog of Federal Domestic Assistance Number: 17.502.

Authority and Signature

Douglas L. Parker, Assistant Secretary of Labor for Occupational Safety and Health, directed the preparation of this notice. The authority for this notice is Section 21 of the Occupational Safety and Health Act of 1970, (29 U.S.C. 670), Public Law 118-47, and Secretary of Labor's Order No. 8-2020 (85 FR 58393, September 18, 2020).

Signed at Washington, DC, on June 20, 2024.

Douglas L. Parker,

Assistant Secretary of Labor for Occupational Safety and Health.

[FR Doc. 2024-13934 Filed 6-25-24; 8:45 am]

BILLING CODE 4510-26-P

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

[NASA Document No: NASA-24-039; NASA Docket No: NASA-24-0002]

National Environmental Policy Act; Berkeley Space Center at NASA Research Park

AGENCY: National Aeronautics and Space Administration.

ACTION: Notice of intent; notice of meetings; request for comments.

SUMMARY: Pursuant to the National Environmental Policy Act of 1969 (NEPA), as amended, the Council on Environmental Quality Regulations for Implementing the Procedural Provisions of NEPA, and the National Aeronautics and Space Administration's (NASA's) procedures for implementing NEPA, NASA, in cooperation with the University of California, Berkeley (UC Berkeley), will prepare an Environmental Impact Statement (EIS) for the proposed development of the Berkeley Space Center at NASA Research Park. The EIS will be a joint EIS/environmental impact report (EIR) that fulfills the requirements of both NEPA and the California Environmental Quality Act (CEQA). This notice opens a 30-day public scoping period during which the public and other interested parties are encouraged to submit comments as provided for under **ADDRESSES** to inform the scope of environmental issues which should be considered in the EIS/EIR, including alternatives to the proposed action. The public scoping period is for a period of 30 days from publication of this notice.

DATES: Comments are due by July 26, 2024.

UC Berkeley and NASA will hold two joint online public scoping meetings to inform interested parties about the project, and to provide agencies and the public with an opportunity to provide oral and written comments on the scope and content of the joint EIR/EIS. The first scoping meeting will be held on Wednesday, July 10, 2024 and the second scoping meeting will be held on Monday, July 15, 2024. Information regarding public scoping meetings and the location of project materials is found under **SUPPLEMENTARY INFORMATION** section of this notice.

ADDRESSES: Advance registration to attend or provide a comment at the virtual public meetings described under **SUPPLEMENTARY INFORMATION** is not required. Public meeting attendees may submit comments during the public meeting, or by other means described below throughout the 30-day comment

period. You may submit written comments and materials by one of the following methods:

- *U.S. mail:* NASA Ames Research Center, Attn: Berkeley Space Center at NASA Research Park, M/S 204–15, Moffett Field, CA 94035–0001.

- *Federal E-Rulemaking Portal:* Written comments and recommendations for this information collection should be sent within 30 days of publication of this notice to ensure consideration in the Draft EIS/EIR. You may send comments, identified by NASA Docket Number NASA–24–0002 to the Federal e-Rulemaking Portal: <http://www.regulations.gov>. Follow the online instructions for submitting comments.

We encourage you to submit comments electronically through the Federal eRulemaking Portal at <http://www.regulations.gov>. If submitting your comments electronically, it is not necessary to also submit a hard copy. All comments received will be posted without change to <http://www.regulations.gov>. Before including your address, phone number, email address, or other personal identifying information in your comment, be advised that your entire comment—including any personal identifying information you provide—may be publicly available at any time. While you may request, in your comment, to withhold from public review your personal identifying information, we cannot guarantee that your request will be granted.

FOR FURTHER INFORMATION CONTACT: Andrés Estrada, NEPA Program Manager, Natural Resources Manager, NASA Ames Research Center, M/S 204–15, Moffett Field, CA 94035–0001, email andres.v.estrada@nasa.gov, or phone 650–224–8532. Individuals who use telecommunication devices for the deaf (TDD) may call the Federal Relay Service at 1–800–877–8339 between 8 a.m. and 8 p.m., eastern time, Monday through Friday.

SUPPLEMENTARY INFORMATION:

Purpose and Need for the Proposed Action

The joint EIS/EIR will evaluate the environmental impacts of the proposed action related to the proposed construction and occupancy of the Berkeley Space Center at NASA Research Park, which would redevelop the project site with academic and research facilities, including office, laboratories, and research and development (collectively, “research and office uses”); conference and amenity facilities, including a gym,

lobbies, and other amenities (collectively, “active uses”); student/faculty housing; short-term lodging; transportation networks; and public open spaces as well as landscaped spaces, to create a state-of-the-art research and education hub that shapes the future of technology and innovation and to advance UC Regents’ educational, scientific research, charitable, and other exempt purposes (within the meaning of section 501(c)(3) of the United States Internal Revenue Code). The Berkeley Space Center at NASA Research Park would be located at the NASA owned and operated Ames Research Center (NASA ARC) in Santa Clara County, California.

The purpose of the proposed project is to:

- Facilitate the development and long-term operation of a collaborative research environment at NASA ARC as contemplated in the NASA Ames Development Plan (NADP).

- Create a research development that combines UC Berkeley’s mission to accelerate scientific discovery, create innovative technologies, and advance knowledge for the benefit of humanity with NASA’s mission to enable exploration, innovative technologies and interdisciplinary scientific discovery through the integration of public and private research and development efforts.

- Strengthen and expand the NASA ARC’s global profile, attracting and retaining new research talent as well as generating innovative ideas for use throughout the world and the cosmos.

- Promote collaborative research and development activities among NASA ARC, UC Berkeley, private industry, and non-profit organizations.

- Provide convenient short-term housing and lodging options to primarily support faculty, students, and guests at the NASA ARC.

- Enable more efficient use of land at NASA ARC by demolishing older underutilized buildings and constructing new facilities involved in the creation of the new research space.

The need for the proposed project is as follows:

- To maintain NASA’s position at the forefront of technological innovation and as catalyst for space and aeronautical research and technology transfer.

- To strengthen our nation’s ability to address the research problems of tomorrow by combining NASA’s unique ability to focus on high-risk long-term research; industry’s ability to react quickly with applied technology; and the University of California’s expertise

in educating and providing a vibrant workforce for the future.

Project Location

The project site is on Federal land within the National Aeronautics and Space Administration Ames Research Center (NASA ARC) in Santa Clara County, California (refer to the attached Project Location map). The NASA ARC is located on approximately 2,000 acres between U.S. 101 and the southwestern edge of San Francisco Bay. The city of Mountain View borders the NASA ARC to the south and west; the city of Sunnyvale borders the NASA ARC to the south and east. The NASA ARC is approximately 33 miles south of the city of San Francisco and 8 miles north of the city of San José. As part of the NADP, which is NASA’s vision for development of the NASA ARC, development was considered in four areas commonly referred to as the NASA Research Park (NRP), Eastside/Airfield, Bay View, and Ames Campus. The project site is within the NRP.

The approximately 36-acre triangular project site is currently developed with approximately 16 one- or two-story buildings that total approximately 112,000 square feet, along with surface parking lots, roadways, and utility infrastructure. The existing buildings are mostly vacant and many were formerly used as ancillary buildings that supported Navy operations (e.g., office buildings, food service, gas station).

The project site is bounded by Wescoat Road to the north and Cody Road to the east. The southern boundary of the project site is between Edquiba Road and Girard Road. Northwest of the project site, across Wescoat Road, is Shenandoah Plaza, a linear open space surrounded by buildings.

Approximately 0.3 mile northeast of the project site, across from the intersection of Wescoat Road and Cody Road, is Hangar One, one of the largest freestanding structures in the world. Hangar One and many of the buildings, landscapes, and objects north of the project site are part of the Shenandoah Plaza Historic District. East of the project site, across Cody Road, is Moffett Federal Airfield. South of the project site is a planned residential development that would include approximately 2,000 residential units; the planned residential development would be located within the NRP, but is not part of the proposed project.

With respect to hazardous materials, ongoing remediation activities in the vicinity of the project site continue to be implemented under the jurisdictions of the United States Environmental

Protection Agency and California Regional Water Quality Control Board.

Background

The project site is within the NRP, which was incorporated into the NASA ARC in 1994 following the closure of the former Naval Air Station Moffett Field. In 2002, a programmatic EIS (PEIS) was prepared pursuant to NEPA and was completed with a Record of Decision that provided environmental review for the implementation of the NADP. Since 2002, NASA (or other authorized parties) has redeveloped portions of the NASA ARC with entitled uses under the terms of several ground leases. The project site is one of the parcels considered for redevelopment in the 2002 PEIS. In 2019, NASA invited UC Berkeley, on behalf of the University of California system and its constituent campuses, to explore the feasibility of developing the project site for public and private sector research, professional education, and housing. In May 2021, the Regents authorized UC Berkeley to enter into a joint venture with SKSP NRP, LLC to create Moffett Partners, LLC for the proposed project.

Proposed Action and Alternative

The following two build alternatives (Build Alternative 1 and Build Alternative 2) and the No Action Alternative will be evaluated in the Draft EIS/EIR.

- **Build Alternative 1:** Build Alternative 1 would create approximately 2.3 million square feet of research uses, a conference center, active uses, student/faculty housing, and short-term lodging for visitors and conference attendees. Build Alternative 1 would include approximately 1.99 million square feet (87 percent) research and office uses; 22,000 square feet (1 percent) conference center uses; 89,000 square feet (4 percent) active uses; 126,000 square feet (5 percent) student/faculty housing; and 73,000 square feet (3 percent) short-term lodging uses. Build Alternative 1 is considered the proposed project under CEQA and the Proposed Action under NEPA.

- **Build Alternative 2:** Build Alternative 2 would create approximately 1.4 million square feet of research uses, a conference center, active uses, student/faculty housing, and short-term lodging for visitors and conference attendees. Compared to Build Alternative 1, Build Alternative 2 would provide the same types of uses and the same square footage for most uses, with the exception that Build Alternative 2 would provide less space for research and office uses. Build

Alternative 2 would include approximately 1.09 million square feet (78 percent) research and office uses; 22,000 square feet (2 percent) conference center uses; 89,000 square feet (6 percent) active uses; 126,000 square feet (9 percent) student/faculty housing; and 73,000 square feet (5 percent) short-term lodging uses. Build Alternative 2 is considered one of the alternatives to the proposed project under CEQA; it is also one of the alternatives under NEPA. Build Alternative 2 will be evaluated at the same level of detail as Build Alternative 1 in the joint EIR/EIS.

- **No Action Alternative:** For the purposes of NEPA, under the No Action Alternative, the project would not be approved by NASA, and would not be constructed and operated at the project site.

As discussed below, Build Alternative 1 and Build Alternative 2 would have the same general site layout; the same maximum building heights; the same conference center, active uses, student/faculty housing, short-term lodging, and open space; the same amount of student/faculty housing; the same amount of short-term lodging; the same utility infrastructure and roadways; and the same ratio of parking spaces.

- **Site Layout:** Both build alternatives would include buildings that would be oriented around a large open space in the center of the project site, the Central Green. This area would include retail and amenity uses. The proposed research uses would be located along the perimeter of the project site. The proposed student/faculty housing, short-term lodging uses, and conference center would be located in the southwestern corner of the project site. The proposed parking garages would be located in the southwestern and southeastern corners of the project site. Vehicular access would be provided along Wescoat Road, the realigned Cody Road, and the realigned Girard Road (refer to the discussion of Utility Infrastructure and Roadways for more details on roadway realignments).

- **Maximum Building Heights:** Under both build alternatives, maximum structure heights would be 80 feet, with an exceedance allowed of up to 25 feet for mechanical screens and equipment.

- **Conference Center, Active Uses, Student/Faculty Housing, Short-term Lodging Uses, and Open Space:** Both build alternatives would include an approximately 20,000-square-foot conference center, approximately 92,000 square feet of active uses, and approximately 199,000 square feet of student/faculty housing and short-term lodging. In addition, both build

alternatives would include approximately 10.9 acres of open space, including pathways, active uses (e.g., occupied areas that pedestrians could access via sidewalks or pathways), and passive uses (e.g., open lawns, patios). Landscaping would include a mix of native, climate-adaptive, and drought-resistant plant materials.

- **Student/Faculty Housing:** Both build alternatives would include approximately 141 student/faculty housing units, which would house approximately 352 residents. The proposed student/faculty housing would be used by students or faculty on a short-term basis (i.e., academic calendar year, semester, summer).

- **Short-term Lodging:** Both build alternatives would include approximately 99 short-term lodging units, which would accommodate approximately 197 guests. The proposed short-term lodging would be used as temporary lodging for staff, researchers, academics, tenants, and their families visiting the project site for conferences, meetings, research projects, and other short-term events affiliated with or at NASA ARC.

- **Utility Infrastructure and Roadways:** Both build alternatives would include building-level air source heat pumps for all heating, package air conditioning units for cooling at buildings without office or lab space, and water-cooled chillers for cooling at buildings with office and/or lab spaces. In addition, both build alternatives would have the same infrastructure for utilities (i.e., wet and dry utilities) installed offsite and the same utility connection points to those utilities. Existing NASA critical infrastructure would remain within the project site. Both build alternatives would realign Girard Road north to form the southern boundary of the project site and construct a new connector road between the realigned Girard Road and Wescoat Road along the southwestern corner of the project site. Both build alternatives would also realign Cody Road east to align with centerline of Hanger One, incorporating the design intent from the NADP, which was evaluated in the 2002 PEIS.

- **Ratio of Parking Spaces:** Parking would be located off the realigned Girard Road within parking structures and/or podium parking at designated areas. While Build Alternative 1 would have more parking spaces than Build Alternative 2 because it would include more space for research and office uses, both build alternatives would have the same parking ratios for each land use, establishing a blended parking ratio of

approximately 1.43 parking spots per 1,000 square feet.

As discussed below, the primary differences between Build Alternative 1 and Build Alternative 2 would be the square footage of the research uses, the number of employees, the number of students, and the number of parking spaces.

- **Research and Office Uses:** Build Alternative 1 would include approximately 1.99 million square feet for research and office uses, whereas Build Alternative 2 would include approximately 1.09 million square feet for research and office uses.

- **Employees:** Build Alternative 1 would result in approximately 5,789 employees, whereas Build Alternative 2 would result in approximately 3,260 employees. Build Alternative 1 would result in more employees because it would include more space for research and office uses.

- **Students:** Build Alternative 1 would accommodate up to approximately 177 students at a time, whereas Build Alternative 2 would accommodate up to approximately 96 students at a time. Build Alternative 1 would accommodate more students because it would include more space for research and office uses.

- **Parking Spaces:** Build Alternative 1 would include approximately 3,290 parking spaces, whereas Build Alternative 2 would include approximately 2,009 parking spaces.

The future sub-tenant users for the proposed research space are not yet known and because the project would be constructed over a period of years, the exact configuration of certain project elements has not yet been determined. Thus, the joint EIR/EIS will evaluate the potential environmental impacts of the project based on conservative, worst case assumptions regarding certain aspects of the project design within specific areas of the project site (referred to as subareas). Specifically, it is anticipated that variations to the following project design elements could occur within seven subareas in the project site: the number and configuration of buildings, the design of the buildings, the allocation of permitted uses among or within the buildings, and the specific locations of mechanical equipment. On the other hand, it is anticipated that the following project elements would be known at the time the joint EIR/EIS is prepared: types of permitted uses, maximum square footage by use and in total, maximum building heights, parking ratios by use, locations of access roads, types and general locations of mechanical equipment, and other project parameters. This approach to the

analysis will ensure that the joint EIR/EIS will evaluate the proposed project's maximum potential impact based on potential future building design and configuration to accommodate specific future sub-tenants of the proposed research and office space.

Prior to construction of the proposed project, all of the existing buildings and utilities infrastructure within the project site would be demolished except for the existing NASA critical infrastructure that would remain.

Summary of Expected Impacts

Based on the initial evaluation of the build alternatives, the following impacts would be expected: temporary increases in dust and other air pollutants during construction; temporary increases in noise and vibration during construction; temporary increases in construction traffic on roadways; temporary changes to existing public access; short-term disturbance to and changes in habitat conditions for listed and sensitive species; air quality and greenhouse gas emissions during operation; increases in traffic due to employees, residents, and visitors during operation; increases in building density and height, which could affect visual resources and historic resources in the vicinity of the site; and remediation of soil and groundwater issues known to be present related to historical uses at and near the project site. The proposed action would be required to follow existing soil and groundwater remediation protocols. Details regarding the required remediation would be coordinated with the U.S. Environmental Protection Agency and Responsible Parties in charge of ongoing remediation efforts.

Anticipated Permits and Authorizations

The permits and other authorizations anticipated to be required for the proposed project include but are not limited to the list below:

- Bay Area Air Quality Management District permit for stationary sources,
- San Francisco Bay Regional Water Quality Control Board Clean Water Act Section 401 water quality certification,
- Consultation pursuant to section 7 of the Federal Endangered Species Act with the U.S. Fish and Wildlife Service and National Marine Fisheries Service,
- Consultation with tribes and the State Historic Preservation Officer pursuant to Section 106 of the National Historic Preservation Act and CEQA,
- Encroachment permit or similar permit for any roadway in the city of Mountain View, city of Sunnyvale, Santa Clara Valley Transportation Authority, and California Department of

Transportation (Caltrans) rights-of-way, and

- Completion of a Bona fide Prospective Lessee agreement with the U.S. Environmental Protection Agency.

Schedule for the Decision-Making Process

The EIS/EIR process is expected to take approximately 1.5 years and end with a record of decision signed by NASA. Subsequent Federal actions would include review and approval of project plans through the NASA Ames Design Review Process, NASA construction permitting, and securing of permits, approvals, and/or authorizations from external Federal or State agencies as required by applicable laws.

Environmental Impact Statement Public Scoping Process

This notice of intent initiates the 30-day scoping process, which guides the development of the Draft EIS. The scoping process is designed to elicit comments from the public, public agencies, Tribal governments, and other interested parties on the scope of the Draft EIS. UC Berkeley and NASA will hold two joint online public scoping meetings to inform interested parties about the project and its location as well as to provide agencies and the public with an opportunity to provide oral and written comments on the scope and content of the joint EIR/EIS. The scoping meetings will be held exclusively through Zoom videoconference. Members of the public will be able to provide written comments during the meetings in the chat or verbally during an open mic session. The information for the two scoping meetings is as follows:

- Scoping Meeting No. 1, Wednesday, July 10, 2024, Time: 6:00 to 7:30 p.m., Meeting Link: <https://capitalstrategies.berkeley.edu/public-meetings>
- Scoping Meeting No. 2, Monday, July 15, 2024, Time: 6:00 to 7:30 p.m., Meeting Link: <https://capitalstrategies.berkeley.edu/public-meetings>

Request for Identification of Potential Alternatives, Information, and Analyses Relevant to the Proposed Action

NASA requests comments concerning the scope of the analysis and identification of relevant information and studies. All interested parties are invited to provide input related to the identification of potential alternatives, information, and analyses relevant to the Proposed Action Alternatives in

writing. All written comments should be submitted via any of the methods provided under **ADDRESSES**.

Lead and Cooperating Agencies

NASA is the lead agency for the EIS. The Regents of the University of California will serve as the lead State agency for the EIR. Cooperating agencies have not been identified at this time; however, NASA continues to coordinate with external agencies and may identify one or multiple cooperating agencies during the scoping period.

Joel Carney,

Associate Administrator of the Office of Strategic Infrastructure, Mission Support Directorate, National Aeronautics and Space Administration.

[FR Doc. 2024-13756 Filed 6-25-24; 8:45 am]

BILLING CODE 7510-13-P

NATIONAL SCIENCE FOUNDATION

Notice of Permit Applications Received Under the Antarctic Conservation Act of 1978

AGENCY: National Science Foundation.
ACTION: Notice of permit applications received.

SUMMARY: The National Science Foundation (NSF) is required to publish a notice of permit applications received to conduct activities regulated under the Antarctic Conservation Act of 1978. NSF has published regulations under the Antarctic Conservation Act in the Code of Federal Regulations. This is the required notice of permit applications received.

DATES: Interested parties are invited to submit written data, comments, or views with respect to this permit application by July 26, 2024. This application may be inspected by interested parties at the Permit Office, address below.

ADDRESSES: Comments should be addressed to Permit Office, Office of Polar Programs, National Science Foundation, 2415 Eisenhower Avenue, Alexandria, Virginia 22314 or ACApermits@nsf.gov.

FOR FURTHER INFORMATION CONTACT: Andrew Titmus, ACA Permit Officer, at the above address, 703-292-4479.

SUPPLEMENTARY INFORMATION: The National Science Foundation, as directed by the Antarctic Conservation Act of 1978 (Pub. L. 95-541, 45 CFR 671), as amended by the Antarctic Science, Tourism and Conservation Act of 1996, has developed regulations for the establishment of a permit system for various activities in Antarctica and

designation of certain animals and certain geographic areas as requiring special protection. The regulations establish such a permit system to designate Antarctic Specially Protected Areas.

Application Details

Permit Application: 2025-003

1. **Applicant:** Birgitte McDonald, Moss Landing Marine Labs, 8272 Moss Landing Rd. Moss landing, CA 95039

Activity for Which Permit is Requested: Take, Harmful Interference, Enter Antarctic Specially Protected Area, Import to USA. The applicant requests authorization to enter Antarctic Specially Protected Area (ASPA) No. 124, Cape Crozier, to conduct physiological and ecological studies on emperor penguins (*Aptenodytes forsteri*). The two-part project aims to address fundamental information gaps about the foraging ecology and habitat use of emperor penguins at two stages of their life history. The applicant proposes capturing up to 35 adult breeding emperor penguins as they depart colonies to forage. Penguins will be captured over 100 m away from the colony to minimize disturbance to the colony. Captured penguins will undergo morphological and physiological sampling, including blood, feathers, and guano, and will be fitted with instrumentation used for collecting foraging data. Up to five penguins will also be fitted with a video data logger. Up to 12 penguins would be measured for field metabolic rate using injected sterile doubly labeled water requiring the penguins to be corralled for up to 3.5 hours. Previous experience has shown the penguins remain calm during this period. After penguins return from a foraging trip (~1-3 weeks), they would be recaptured, weighted, measured, and a blood sample collected. An additional 200 guano samples would be collected from penguins at the colony by collecting fresh guano from clean ice or snow at the periphery of the colony.

Location: ASPA 124—Cape Crozier, Ross Island.

Dates of Permitted Activities: 1 October 2024–31 May 2025.

Kimiko S. Bowens-Knox,

Program Analyst, Office of Polar Programs.

[FR Doc. 2024-13965 Filed 6-25-24; 8:45 am]

BILLING CODE 7555-01-P

NEIGHBORHOOD REINVESTMENT CORPORATION

Sunshine Act Meetings

TIME AND DATE: 11:30 a.m., Friday, June 28, 2024.

PLACE: via Zoom.

STATUS: Parts of this meeting will be open to the public. The rest of the meeting will be closed to the public.

MATTERS TO BE CONSIDERED: Special Audit Committee of the Board of Directors meeting.

The General Counsel of the Corporation has certified that in her opinion, one or more of the exemptions set forth in the Government in the Sunshine Act, 5 U.S.C. 552b(c)(2) and (4) permit closure of the following portion(s) of this meeting:

- Executive (Closed) Session

Agenda

- I. Call to Order
- II. Sunshine Act Approval of Executive (Closed) Session
- III. Executive Session: Selection of External Auditor
- IV. Executive Session: Quality Assurance Review Update
- V. Action Item: Approval of External Auditor Selection

PORTIONS OPEN TO THE PUBLIC: Everything except the Executive (Closed) Session.

PORTIONS CLOSED TO THE PUBLIC: Executive (Closed) Session.

CONTACT PERSON FOR MORE INFORMATION: Jenna Sylvester, Paralegal, (202) 568-2560; jsylvester@nw.org.

Jenna Sylvester,
Paralegal.

[FR Doc. 2024-14135 Filed 6-24-24; 4:15 pm]

BILLING CODE 7570-01-P

NUCLEAR REGULATORY COMMISSION

[Docket Nos. 72-1041, 50-498, and 50-499; NRC-2024-0104]

South Texas Project Nuclear Operating Company; South Texas Project Electric Generating Station, Units 1 and 2; Independent Spent Fuel Storage Installation; Environmental Assessment and Finding of No Significant Impact

AGENCY: Nuclear Regulatory Commission.

ACTION: Notice; issuance.

SUMMARY: The U.S. Nuclear Regulatory Commission (NRC) is issuing an environmental assessment (EA) and a

Attachment D: Newspaper Notices

San Jose Mercury News

75 E. Santa Clara St , Suite 1100
San Jose, CA 95113
408-920-5332

3862238

ICF
980 9TH STREET - 12TH FLOOR
SACRAMENTO, CA 95814

PROOF OF PUBLICATION IN THE CITY OF SAN JOSE IN THE STATE OF CALIFORNIA COUNTY OF SANTA CLARA

FILE NO. UCB/NASA Scoping Notice

San Jose Mercury News

The undersigned, being first duly sworn, deposes and says: That at all times hereinafter mentioned affiant was and still is a citizen of the United States, over the age of eighteen years, and not a party to or interested in the above entitled proceedings; and was at and during all said times and still is the principal clerk of the printer and publisher of the San Jose Mercury News, a newspaper of general circulation printed and published daily in the City of San Jose, County of Santa Clara, State of California as determined by the court's decree dated June 27, 1952, Case Numbers 84096 and 84097, and that said San Jose Mercury News is and was at all times herein mentioned a newspaper of general circulation as that term is defined by Sections 6000; that at all times said newspaper has been established, printed and published in the said County and State at regular intervals for more than one year preceding the first publication of the notice herein mentioned. Said decree has not been revoked, vacated or set aside.

I declare that the notice, of which the annexed is a true printed copy, has been published in each regular or entire issue of said newspaper and not in any supplement thereof on the following dates, to wit:

06/21/2024

Dated at San Jose, California
July 2, 2024

I declare under penalty of perjury that the foregoing is true and correct.



Principal clerk of the printer and publisher of the San Jose Mercury News

Legal No.

0006836108

NOTICE IS HEREBY GIVEN of the intent of the University of California, Berkeley (UC Berkeley) and the National Aeronautics and Space Administration (NASA) to prepare a joint Environmental Impact Report/Environmental Impact Statement (EIR/EIS) for the Berkeley Space Center at NASA Research Park (project or proposed project). The Regents of the University of California, acting as the Lead Agency under the California Environmental Quality Act (CEQA), has determined that the proposed project could result in potentially significant environmental impacts and that an EIR is required pursuant to CEQA. UC Berkeley has released a Notice of Preparation (NOP) for the development of the EIR, initiating the environmental review process under CEQA. The NOP signals the start of the scoping period, providing an opportunity for the public and agencies to comment on the scope and content of the CEQA review.

Project Location: The project site is on federal land within the NASA Ames Research Center in Santa Clara County, California. The project site is bounded by Wescoat Road to the north and Cody Road to the east. The southern boundary of the project site is between Edquiba Road and Girard Road.

Project Description: The proposed project would redevelop the project site with academic and research facilities, conference and amenity facilities, student/faculty housing, short-term lodging, transportation networks, and public open spaces as well as landscaped spaces, to create a state-of-the-art research and education hub that shapes the future of technology and innovation and to advance UC Regents' educational, scientific research, charitable, and other exempt purposes (within the meaning of Section 501(c)(3) of the United States Internal Revenue Code).

Comment Period: The NOP will be circulated for a 30-day review period, from June 21, 2024, to July 22, 2024.

Comment Submission: Written comments can be mailed to: Shraddha Navalli Patil, Senior Planner; Physical & Environmental Planning; University of California, Berkeley; 200 A&E Building, Berkeley, CA 94720-1382. Comments can be emailed to: planning@berkeley.edu with subject line indicating Scoping Comments: Berkeley Space Center at NASA Research Park.

Accessing the Documents and Public Scoping Meetings: Additional information regarding the Berkeley Space Center at NASA Research Park, including the NOP, related informational materials, and public scoping meetings can be viewed online at <https://capitalstrategies.berkeley.edu/environmental-review>. UC Berkeley and NASA will hold two joint online public scoping meetings: Scoping Meeting No. 1 on Wednesday, July 10, 2024, from 6:00 p.m. - 7:30 p.m. and Scoping Meeting No. 2 on Monday, July 15, 2024, from 6:00 p.m. - 7:30 p.m.

MN# 0006836108 Jun 21, 2024

The Sunnyvale Sun

c/o Bay Area News Group
75 E. Santa Clara St , Suite 1100
San Jose, CA 95113

3862238

ICF
980 9TH STREET - 12TH FLOOR
SACRAMENTO, CA 95814

PROOF OF PUBLICATION State of California County of Santa Clara

FILE NO. UCB/NASA Public Scoping Notice

I am a citizen of the United States. I am over the age of eighteen years and I am not a party to or interested in the above entitled matter. I am the Legal Advertising Clerk of the printer and publisher of the Sunnyvale Sun, a newspaper published in the English language in the City of Sunnyvale, County of Santa Clara, State of California.

I declare that the Sunnyvale Sun is a newspaper of general circulation as defined by the laws of the State of California as determined by court decree dated September 22, 1994, Case Number CV742853. Said decree states that the Sunnyvale Sun is adjudged to be a newspaper of general circulation for the City of Sunnyvale, County of Santa Clara and State of California. Said order has not been revoked.

I declare that the notice, of which the annexed is a printed copy, has been published in each regular and entire issue of said newspaper and not in any supplement thereof on the following dates, to wit:

06/21/2024

I certify (or declare) under the penalty of perjury that the foregoing is true and correct.

Executed at Richmond, California.
On this 12th day of July, 2024.



Public Notice Advertising Clerk

Legal No.

0006835806

NOTICE IS HEREBY GIVEN of the intent of the University of California, Berkeley (UC Berkeley) and the National Aeronautics and Space Administration (NASA) to prepare a joint Environmental Impact Report/Environmental Impact Statement (EIR/EIS) for the Berkeley Space Center at NASA Research Park (project or proposed project). The Regents of the University of California, acting as the Lead Agency under the California Environmental Quality Act (CEQA), has determined that the proposed project could result in potentially significant environmental impacts and that an EIR is required pursuant to CEQA. UC Berkeley has released a Notice of Preparation (NOP) for the development of the EIR, initiating the environmental review process under CEQA. The NOP signals the start of the scoping period, providing an opportunity for the public and agencies to comment on the scope and content of the CEQA review.

Project Location: The project site is on federal land within the NASA Ames Research Center in Santa Clara County, California. The project site is bounded by Wescoat Road to the north and Cody Road to the east. The southern boundary of the project site is between Edquiba Road and Girard Road.

Project Description: The proposed project would redevelop the project site with academic and research facilities, conference and amenity facilities, student/faculty housing, short-term lodging, transportation networks, and public open spaces as well as landscaped spaces, to create a state-of-the-art research and education hub that shapes the future of technology and innovation and to advance UC Regents' educational, scientific research, charitable, and other exempt purposes (within the meaning of Section 501(c)(3) of the United States Internal Revenue Code).

Comment Period: The NOP will be circulated for a 30-day review period, from June 21, 2024, to July 22, 2024.

Comment Submission: Written comments can be mailed to: Shraddha Navalli Patil, Senior Planner; Physical & Environmental Planning; University of California, Berkeley; 200 A&E Building, Berkeley, CA 94720-1382. Comments can be emailed to: planning@berkeley.edu with subject line indicating Scoping Comments: Berkeley Space Center at NASA Research Park.

Accessing the Documents and Public Scoping Meetings: Additional information regarding the Berkeley Space Center at NASA Research Park, including the NOP, related informational materials, and public scoping meetings can be viewed online at <https://capitalstrategies.berkeley.edu/environmental-review>. UC Berkeley and NASA will hold two joint online public scoping meetings: Scoping Meeting No. 1 on Wednesday, July 10, 2024, from 6:00 p.m. - 7:30 p.m. and Scoping Meeting No. 2 on Monday, July 15, 2024, from 6:00 p.m. - 7:30 p.m.

SV# 0006835806 Jun 21, 2024

Attachment E: NOI Email Notification

Friday, August 30, 2024 at 20:39:26 Pacific Daylight Time

Subject: NASA NOI - Berkeley Space Center at NASA Research Park
Date: Wednesday, June 26, 2024 at 5:16:38 PM Pacific Daylight Time
From: Estrada, Andres V. (ARC-JQ)
To: Estrada, Andres V. (ARC-JQ)

Hello,

On June 26, 2024, pursuant to the National Environmental Policy Act (NEPA), the National Aeronautics and Space Administration (NASA) published, in the Federal Register, a Notice of Intent (NOI) to prepare an Environmental Impact Statement (EIS) for the Berkeley Space Center and NASA Research Park project. The EIS will be a joint EIS/environmental impact report (EIR) prepared in cooperation with the University of California Berkeley and will be written to fulfill the requirements of NEPA and the California Environmental Quality Act (CEQA).

The publication of the NOI opens the 30-day public scoping period for NEPA. Comments regarding the proposed action and joint EIS/EIR can be made at: <https://www.regulations.gov/> by searching for docket number: NASA-24-002.

Two public meetings will be held exclusively through Zoom teleconference. Meeting dates are planned for:
July 10, 2024 from 6:00 to 7:30 p.m. and July 15, 2024 from 6:00 to 7:30 p.m.

The NOI is available at the following link:
<https://www.federalregister.gov/documents/2024/06/26/2024-13756/national-environmental-policy-act-berkeley-space-center-at-nasa-research-park>

Andrés Estrada
NEPA Program Manager | Natural Resources Manager
NASA Ames Research Center
andres.v.estrada@nasa.gov
Mobile: (650) 224-8532

Attachment F: County Clerk NOP Posting



SANTA CLARA COUNTY CLERK
CEQA FILING COVER SHEET

THIS SPACE FOR CLERK'S USE ONLY

Complete and attach this form to each CEQA Notice filed with the County Clerk

TYPE OR PRINT CLEARLY

Check Document being Filed:

- Environmental Impact Report (EIR)
 Filing Fee (new project)
 Previously Paid F&W (**must attach F&W receipt and project titles must match**)
 No Effect Determination (**F&W letter must be attached**)
- Mitigated Negative Declaration (MND) or Negative Declaration (ND)
 Filing Fee (new project)
 Previously Paid F&W (**must attach F&W receipt and project titles must match**)
 No Effect Determination (**F&W letter must be attached**)
- Notice of Exemption (NOE)
- Other (Please fill in type):
Notice of Preparation (NOP) of a Joint Environmental Impact Report/Environmental Impact Statement (EIR/EIS)

1. LEAD AGENCY: The Regents of the University of California
2. LEAD AGENCY EMAIL: planning@berkeley.edu
3. PROJECT TITLE: Berkeley Space Center at NASA Research Park
4. APPLICANT NAME: Shraddha Navalli Patil, Ph.D., Senior Planner PHONE: (510) 642-6796
5. APPLICANT EMAIL: planning@berkeley.edu
6. APPLICANT ADDRESS: Physical & Environmental Planning; University of California, Berkeley; 200 A&E Building; Berkeley, CA 94720-1382
7. PROJECT APPLICANT IS A: Local Public Agency School District Other Special District State Agency Private Entity
8. NOTICE TO BE POSTED FOR 30 DAYS.

Filing fees are due at the time a Notice of Determination/Exemption is filed with our office. For more information on filing fees and No Effect Determinations, please refer to California Code of Regulations, Title 14, section 753.5.



State of California - Department of Fish and Wildlife
2024 ENVIRONMENTAL DOCUMENT FILING FEE
CASH RECEIPT
 DFW 753.5a (REV. 01/01/24) Previously DFG 753.5a

RECEIPT NUMBER:
 ENV25162
 STATE CLEARINGHOUSE NUMBER (if applicable)

SEE INSTRUCTIONS ON REVERSE, TYPE OR PRINT CLEARLY.

LEAD AGENCY THE REGENTS OF THE UNIVERSITY OF	LEAD AGENCY EMAIL	DATE 06/21/2024
COUNTY/STATE AGENCY OF FILING	DOCUMENT NUMBER	

PROJECT TITLE
 BERKELEY SPACE CENTER AT NASA RESEARCH PARK

PROJECT APPLICANT NAME SHRADDHA NAVALLI PATIL, PH. D., SENIOR	PROJECT APPLICANT EMAIL	PHONE NUMBER (510) 495-5786
PROJECT APPLICANT ADDRESS 200 A&E BUILDING	CITY BERKELEY	STATE CA
		ZIP CODE 94720

PROJECT APPLICANT (Check appropriate box)
 Local Public Agency School District Other Special District State Agency Private Entity

CHECK APPLICABLE FEES:

- Environmental Impact Report (EIR) \$4,061.26 \$ _____
- Mitigated/Negative Declaration (MND)(ND) \$2,818.75 \$ _____
- Certified Regulatory Program (CRP) document - payment due directly to CDFW \$1,377.25 \$ _____
- Exempt from fee
 - Notice of Exemption (attach)
 - CDFW No Effect Determination (attach)
 - Fee previously paid (attach previously issued cash receipt copy)
- Water Right Application or Petition Fee (State Water Resources Control Board only) 3850.00 \$ _____
- County documentary handling fee \$ _____
- Other \$ _____

PAYMENT METHOD:
 Cash Credit Check Other TOTAL RECEIVED \$ _____ \$0.00

SIGNATURE X	AGENCY OF FILING PRINTED NAME AND TITLE Patricia Camarena, Deputy County Clerk-Recorder
----------------	--



Regina Alcomendras
Santa Clara County
Clerk-Recorder
(408) 299-5688

<https://www.clerkrecorder.org>

Receipt: 24-91822

Check Document Value Paid

Product	Name	Extended
CEQA	ENVIRONMENTAL FILING	\$0.00
	# Pages	9
	Document #	ENV25162
	Filing Type	P

Total \$0.00

Change (Cash) \$0.00

- Allocated Negative Declaration (AND) or Negative Declaration (ND)
 - Filing Fee (Cash)
 - Expedited Fee (Cash) (Expedited Fee is not available for projects that are not expedited)
 - ND/AND Determination (ND/AND) (Not available for ND/AND)
 - Notice of Preparation (NOP)
 - Other (Please Print)
- Mode of Preparation (MOP) are Joint Government Impact/Negative Declaration Impact Statement (JG/ND)

1. COUNTY: The Regents of the University of California
2. CONTACT: planning@calpoly.edu
3. PROJECT: Stanford Space Center at NASA Research Park
4. APPLICANT: Shweta Navul Pathi, Ph.D., Senior Planner (Phone: 510) 485-5765
5. APPLICANT: planning@calpoly.edu
6. APPLICANT ADDRESS: Regents Environmental Planning University of California, 100 Hallway, Stanford, CA 94305
7. PROJECT APPLICANT: Local Public Agency State Agency Other (Please Print) Other Agency Other (Please Print)
8. NOTICE TO BY: 06/21/24 10:23 AM

PLEASE KEEP FOR REFERENCE

Attachment G: NOP Postcard

Notice of Preparation

of a Joint Environmental Impact Report/Environmental Impact Statement for the Berkeley Space Center at NASA Research Park

The University of California, Berkeley (UC Berkeley) and the National Aeronautics and Space Administration (NASA) have determined that a joint Environmental Impact Report/Environmental Impact Statement (EIR/EIS) will be prepared for the Berkeley Space Center at NASA Research Park (project or proposed project). The Regents of the University of California, acting as the Lead Agency under the California Environmental Quality Act (CEQA), has determined that the proposed project could result in potentially significant environmental impacts and that an EIR is required. NASA, acting as the Lead Agency under the National Environmental Policy Act (NEPA), has determined that an EIS will be prepared for the project. NASA is the entitlement agency for the project. Moffett Partners, LLC is a joint venture between the Regents of the University of California and SKSP NRP, LLC for the proposed project.

The project site is on federal land within the NASA Ames Research Center in Santa Clara County, California. The proposed project, for which this Notice of Preparation is being released, would redevelop the project site with academic and research facilities, including office, laboratories, and research and development (collectively, “research and office uses”); conference and amenity facilities, including a gym, lobbies, and other amenities (collectively, “active uses”); student/faculty housing; short-term lodging; transportation networks; and public open spaces as well as landscaped spaces, to create a state-of-the-art research and education hub that shapes the future of technology and innovation and to advance UC Regents’ educational, scientific research, charitable, and other exempt purposes (within the meaning of Section 501(c)(3) of the United States Internal Revenue Code).

The full Notice of Preparation provides a more detailed description of the proposed project and is available for public review on UC Berkeley’s Capital Strategies website:
<https://capitalstrategies.berkeley.edu/environmental-review>.



BERKELEY SPACE CENTER
AT NASA RESEARCH PARK

AN SKS PARTNERS VENTURE

Public Review and Comment Period

UC Berkeley invites comments on the scope and content of the joint Draft EIR/EIS. Written comments should focus on the scope and content of the environmental information to be included in the joint Draft EIR/EIS for the project as well as public interest in the proposed project. The Notice of Preparation will be circulated for a 30-day review period, from June 21, 2024, to July 22, 2024. **Responses to this Notice of Preparation must be received by 5:00 p.m. on July 22, 2024.** Please send your written response with appropriate contract information to:

Shradha Navalli Patil, Ph.D., Senior Planner
Physical & Environmental Planning
University of California, Berkeley
200 A&E Building, Berkeley, CA 94720-1382

Email: planning@berkeley.edu with subject line indicating Scoping Comments: Berkeley Space Center at NASA Research Park

View CEQA notices and environmental documents at:
<https://capitalstrategies.berkeley.edu/environmental-review>

You Are Invited



Public Scoping Meetings

UC Berkeley and NASA will hold two joint online public scoping meetings to inform interested parties about the Berkeley Space Center at NASA Research Park, and to provide agencies and the public with an opportunity to provide oral and written comments on the scope and content of the joint Environmental Impact Report/ Environmental Impact Statement.

Scoping Meeting No. 1

Wednesday, July 10, 2024

Time: 6:00 p.m. – 7:30 p.m.

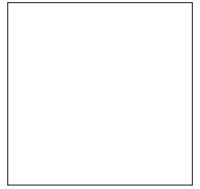
Meeting Link: <https://capitalstrategies.berkeley.edu/public-meetings>

Scoping Meeting No. 2

Monday, July 15, 2024

Time: 6:00 p.m. – 7:30 p.m.

Meeting Link: <https://capitalstrategies.berkeley.edu/public-meetings>



Attachment H: NOP Email Notification

Public Notice: Preparation of a Joint Environmental Impact Report/Environmental Impact Statement for Berkeley Space Center at NASA Research Park

1 message

UC Berkeley Capital Strategies <capitalstrategies@berkeley.edu>

Fri, Jun 21, 2024 at 12:22 PM

Reply-To: planning@berkeley.edu

To: planning@berkeley.edu

Berkeley
UNIVERSITY OF CALIFORNIA

Capital Strategies

Architects & Engineers Building
Berkeley, CA 94720

capitalstrategies@berkeley.edu

<https://capitalstrategies.berkeley.edu>



Public Notice

Preparation of a Joint Environmental Impact Report/Environmental Impact Statement

June 21, 2024

Project Title: Berkeley Space Center at NASA Research Park

CEQA Lead Agency: The Regents of the University of California

Project Location: The project site is on federal land located in the National Aeronautics and Space Administration Ames Research Center (NASA ARC) adjacent to the Cities of Mountain View and Sunnyvale in Santa Clara County. The project site is within Assessor Parcel Number 116-18-012.

County: Santa Clara County

The University of California, Berkeley (UC Berkeley) and NASA have determined that a joint Environmental Impact Report/Environmental Impact Statement (EIR/EIS) will be prepared for the Berkeley Space Center at NASA Research Park (project or proposed project) (State CEQA Guidelines Section 15222). The Regents of the University of California, acting as the Lead Agency under the California Environmental Quality Act (CEQA), has determined that the proposed project could result in potentially significant environmental impacts and that an EIR is required. NASA, acting as the Lead Agency under the National Environmental Policy Act (NEPA), has determined that an Environmental Impact Statement (EIS) will be prepared for the project. NASA is the entitlement agency for the project.

When the decision to prepare an EIR has already been made, CEQA states that an initial study is not required (State CEQA Guidelines Section 15063(a)). Accordingly, an initial study has not been prepared. This notice of preparation (NOP) has been prepared pursuant to State CEQA Guidelines Sections 15082 and 15083.

UC Berkeley has prepared this NOP to provide responsible and trustee agencies, state, federal agencies involved in approving or funding the project, and other interested parties with a description of the proposed project and information on potential environmental effects of the proposed project, pursuant to State CEQA Guidelines

Section 15082(a). The NOP is available for public review on UC Berkeley's Capital Strategies website:
<https://capitalstrategies.berkeley.edu/environmental-review>.

Project Location

The project site within the NASA ARC, which is located on approximately 2,000 acres between U.S. 101 and the southwestern edge of San Francisco Bay (refer to the attached Project Location map). The city of Mountain View borders the NASA ARC to the south and west; the city of Sunnyvale borders the NASA ARC to the south and east. The NASA ARC is approximately 33 miles south of the city of San Francisco and 8 miles north of the city of San José. As part of the NASA Ames Development Plan (NADP), which is NASA's vision for development of the NASA ARC, development was considered in four areas commonly referred to as the NASA Research Park (NRP), Eastside / Airfield, Bay View, and Ames Campus. The project site is within the NRP.

The approximately 36-acre triangular project site is currently developed with approximately 16 one- or two-story buildings that total approximately 112,000 square feet, along with surface parking lots, roadways, and utility infrastructure. The existing buildings are mostly vacant and many were formerly used as ancillary buildings that supported Navy operations (e.g., office buildings, food service, gas station).

The project site is bounded by Wescoat Road to the north and Cody Road to the east. The southern boundary of the project site is between Edquiba Road and Girard Road. Northwest of the project site, across Wescoat Road, is Shenandoah Plaza, a linear open space surrounded by buildings. Approximately 0.3 mile northeast of the project site, across from the intersection of Wescoat Road and Cody Road, is Hangar One, one of the largest freestanding structures in the world. Hangar One and many of the buildings, landscapes, and objects north of the project site are part of the Shenandoah Plaza Historic District. East of the project site, across Cody Road, is Moffett Federal Airfield. South of the project site is a planned residential development that would include approximately 2,000 residential units; the planned residential development would be located within the NRP, but is not part of the proposed project.

With respect to hazardous materials, ongoing remediation activities in the vicinity of the project site continue to be implemented under the jurisdictions of the United States Environmental Protection Agency and California Regional Water Quality Control Board.

Background

The project site is within the NRP, which was incorporated into the NASA ARC in 1994 following the closure of the former Naval Air Station Moffett Field. In 2002, a programmatic EIS (PEIS) was prepared pursuant to NEPA and was completed with a Record of Decision that provided environmental review for the implementation of the NADP. Since 2002, NASA (or other authorized parties) has redeveloped portions of the NASA ARC with entitled uses under the terms of several ground leases. The project site is one of the parcels considered for redevelopment in the 2002 PEIS. In 2019, NASA invited UC Berkeley, on behalf of the University of California system and its constituent campuses, to explore the feasibility of developing the project site for public and private sector research, professional education, and housing. In May 2021, the Regents authorized UC Berkeley to enter into a joint venture with SKSP NRP, LLC to create Moffett Partners, LLC for the proposed project.

Description of the Project

Moffett Partners, LLC is proposing the project. The proposed project would redevelop the project site with academic and research facilities, including office, laboratories, and research and development (collectively, "research and office uses"); conference and amenity facilities, including a gym, lobbies, and other amenities (collectively, "active uses"); student/faculty housing; short-term lodging; transportation networks; and public open spaces as well as landscaped spaces, to create a state-of-the-art research and education hub that shapes the future of technology and innovation and to advance UC Regents' educational, scientific research, charitable, and other exempt purposes (within the meaning of Section 501(c)(3) of the United States Internal Revenue Code).

The following project alternatives will be analyzed in the joint EIR/EIS:

- **Build Alternative 1:** Build Alternative 1 would create approximately 2.3 million square feet of research uses, a conference center, active uses, student/faculty housing, and short-term lodging for visitors and conference attendees. Build Alternative 1 would include approximately 1.99 million square feet (87 percent) research and office uses; 22,000 square feet (1 percent) conference center uses; 89,000 square feet (4 percent) active uses; 126,000 square feet (5 percent) student/faculty housing; and 73,000 square feet (3 percent) short-term lodging uses. Build Alternative 1 is considered the proposed project under CEQA and the Proposed Action under NEPA.
- **Build Alternative 2:** Build Alternative 2 would create approximately 1.4 million square feet of research uses, a conference center, active uses, student/faculty housing, and short-term lodging for visitors and conference attendees. Compared to Build Alternative 1, Build Alternative 2 would provide the same types of uses and the same square footage for most uses, with the exception that Build Alternative 2 would provide less space for research and office uses. Build Alternative 2 would include approximately 1.09 million square feet (78 percent) research and office uses; 22,000 square feet (2 percent) conference center uses; 89,000 square feet (6 percent) active uses; 126,000 square feet (9 percent) student/faculty housing; and 73,000 square feet (5 percent) short-term lodging uses. Build Alternative 2 is considered one of the alternatives to the proposed project under CEQA; it is also one of the alternatives under NEPA. Build Alternative 2 will be evaluated at the same level of detail as Build Alternative 1 in the joint EIR/EIS.
- **No Project/No Action Alternative:**
 - No Project Alternative: For the purposes of CEQA, under the No Project Alternative, Moffett Partners, LLC would not construct and operate the proposed project at the project site.
 - No Action Alternative: For the purposes of NEPA, under the No Action Alternative, the project would not be approved by NASA, and would not be constructed and operated at the project site.

As discussed below, Build Alternative 1 and Build Alternative 2 would have the same general site layout; the same maximum building heights; the same conference center, active uses, student/faculty housing, short-term lodging, and open space; the same amount of student/faculty housing; the same amount of short-term lodging; the same utility infrastructure and roadways; and the same ratio of parking spaces.

- **Site Layout:** Both build alternatives would include buildings that would be oriented around a large open space in the center of the project site, the Central Green. This area would include retail and amenity uses. The proposed research uses would be located along the perimeter of the project site. The proposed student/faculty housing, short-term lodging uses, and conference center would be located in the southwestern corner of the project site. The proposed parking garages would be located in the southwestern and southeastern corners of the project site. Vehicular access would be provided along Wescoat Road, the realigned Cody Road, and the realigned Girard Road (refer to the discussion of Utility Infrastructure and Roadways for more details on roadway realignments).
- **Maximum Building Heights:** Under both build alternatives, maximum structure heights would be 80 feet, with an exceedance allowed of up to 25 feet for mechanical screens and equipment.
- **Conference Center, Active Uses, Student/Faculty Housing, Short-term Lodging Uses, and Open Space:** Both build alternatives would include an approximately 20,000-square-foot conference center, approximately 92,000 square feet of active uses, and approximately 199,000 square feet of student/faculty housing and short-term lodging. In addition, both build alternatives would include approximately 10.9 acres of open space, including pathways, active uses (e.g., occupied areas that pedestrians could access via sidewalks or pathways), and passive uses (e.g., open lawns, patios). Landscaping would include a mix of native, climate-adaptive, and drought-resistant plant materials.
- **Student/Faculty Housing:** Both build alternatives would include approximately 141 student/faculty housing units, which would house approximately 352 residents. The proposed student/faculty housing would be used by students or faculty on a short-term basis (i.e., academic calendar year, semester, summer).
- **Short-term Lodging:** Both build alternatives would include approximately 99 short-term lodging units, which would accommodate approximately 197 guests. The proposed short-term lodging would be used as temporary lodging for staff, researchers, academics, tenants, and their families visiting the project site for conferences, meetings, research projects, and other short-term events affiliated with or at NASA ARC.
- **Utility Infrastructure and Roadways:** Both build alternatives would include building-level air source heat pumps for all heating, package air conditioning units for cooling at buildings without office or lab space, and water-cooled chillers for cooling at buildings with office and/ or lab spaces. In addition, both build alternatives would have the same infrastructure for utilities (i.e., wet and dry utilities) installed offsite and the same utility connection points to those utilities. Existing NASA critical infrastructure

would remain within the project site. Both build alternatives would realign Girard Road north to form the southern boundary of the project site and construct a new connector road between the realigned Girard Road and Wescoat Road along the southwestern corner of the project site. Both build alternatives would also realign Cody Road east to align with centerline of Hanger One, incorporating the design intent from the NADP, which was evaluated in the 2002 PEIS.

- **Ratio of Parking Spaces:** Parking would be located off the realigned Girard Road within parking structures and/or podium parking at designated areas. While Build Alternative 1 would have more parking spaces than Build Alternative 2 because it would include more space for research and office uses, both build alternatives would have the same parking ratios for each land use, establishing a blended parking ratio of approximately 1.43 parking spots per 1,000 square feet.

As discussed below, the primary differences between Build Alternative 1 and Build Alternative 2 would be the square footage of the research uses, the number of employees, the number of students, and the number of parking spaces.

- **Research and Office Uses:** Build Alternative 1 would include approximately 1.99 million square feet for research and office uses, whereas Build Alternative 2 would include approximately 1.09 million square feet for research and office uses.
- **Employees:** Build Alternative 1 would result in approximately 5,789 employees, whereas Build Alternative 2 would result in approximately 3,260 employees. Build Alternative 1 would result in more employees because it would include more space for research and office uses.
- **Students:** Build Alternative 1 would accommodate up to approximately 177 students at a time, whereas Build Alternative 2 would accommodate up to approximately 96 students at a time. Build Alternative 1 would accommodate more students because it would include more space for research and office uses.
- **Parking Spaces:** Build Alternative 1 would include approximately 3,290 parking spaces, whereas Build Alternative 2 would include approximately 2,009 parking spaces.

The future sub-tenant users for the proposed research space are not yet known and because the project would be constructed over a period of years, the exact configuration of certain project elements has not yet been determined. Thus, the joint EIR/EIS will evaluate the potential environmental impacts of the project based on conservative, worst case assumptions regarding certain aspects of the project design within specific areas of the project site (referred to as subareas). Specifically, it is anticipated that variations to the following project design elements could occur within seven subareas in the project site: the number and configuration of buildings, the design of the buildings, the allocation of permitted uses among or within the buildings, and the specific locations of mechanical equipment. On the other hand, it is anticipated that the following project elements would be known at the time the joint EIR/EIS is prepared: types of permitted uses, maximum square footage by use and in total, maximum building heights, parking ratios by use, locations of access roads, types and general locations of mechanical equipment, and other project parameters. This approach to the analysis will ensure that the joint EIR/EIS will evaluate the proposed project's maximum potential impact based on potential future building design and configuration to accommodate specific future sub-tenants of the proposed research and office space.

Prior to construction of the proposed project, all of the existing buildings and utilities infrastructure within the project site would be demolished except for the existing NASA critical infrastructure that would remain.

Probable Environmental Effects

UC Berkeley has determined that Public Resources Code Section 21080.09 requires an EIR be prepared for the proposed project. Therefore, as allowed under State CEQA Guidelines Section 15060 (Title 14 Cal. Code Regs.), UC Berkeley has not prepared an initial study and will instead begin work directly on the joint EIR/EIS process.

As required, the joint EIR/EIS will focus on the significant effects of the proposed project and will document the reasons for concluding that other effects will be less-than-significant. Where significant or potentially significant environmental impacts are identified, the joint EIR/EIS will also discuss feasible mitigation measures to avoid or reduce these impacts, and a reasonable range of potentially feasible alternatives.

The joint EIR/EIS will evaluate the probable environmental effects, including cumulative effects, of the proposed project, in the following environmental issue areas:

- **Aesthetics and Visual Resources:** The joint EIR/EIS will evaluate temporary and long-term impacts to scenic vistas and scenic resources, conflicts with applicable regulations governing scenic quality, and whether implementation of the project would result in a source of substantial light or glare impacting nighttime views.
- **Air Quality:** The joint EIR/EIS will evaluate the project's consistency with applicable air quality plans and potential impacts associated with temporary increases in criteria pollutant emissions from construction and long-term increases in criteria pollutant emissions from project operations and associated vehicular trips, and potential exposure impacts associated with exposure of sensitive receptors to air pollutants during construction or project operations. In addition, a health risk analysis will be prepared for the project.
- **Biological Resources:** The joint EIR/EIS will evaluate the potential for implementation of the project to result in substantial adverse effects on biological resources, including sensitive habitats and species, wetlands, and waters, as well as potential conflicts with applicable policies or ordinances protecting biological resources, or with applicable conservation plans.
- **Cultural Resources:** The joint EIR/EIS will evaluate the potential for implementation of the project to result in a substantial adverse change in the significance of known or unknown archaeological or historical resources, or disturbance of human remains.
- **Energy:** The joint EIR/EIS will evaluate potential impacts related to energy use for construction and operation of the project or conflicts with applicable plans for renewable energy or energy efficiency.
- **Geology, Soils, and Paleontological Resources:** The joint EIR/EIS will evaluate the potential for implementation of the project to result in substantial adverse effects associated with seismic risks, soil erosion, geologic hazards, or to destroy a unique paleontological resource or site or unique geologic feature.
- **Greenhouse Gas Emissions:** The joint EIR/EIS will evaluate potential impacts from temporary increases in greenhouse gas (GHG) emissions associated with mobile-source exhaust from construction worker commute trips, truck haul trips, and equipment (e.g., excavators, graders); and long-term increases in GHG emissions associated with project operations, including stationary and mobile sources. The joint EIR/EIS will also evaluate the project's potential to conflict with applicable plans, policies, or regulations for reducing GHG emissions.
- **Hazards and Hazardous Materials:** The joint EIR/EIS will evaluate the potential for construction and operational activities associated with the project create a significant hazard to the public or the environment associated with routine transport, use or disposal, or the accidental release of, of hazardous materials. The joint EIR/EIS will evaluate the potential for the project to result in a safety hazard or excessive noise for people residing or working in the project area due to the proximity to the Moffett Federal Airfield. The joint EIR/EIS will also evaluate the potential for implementation of the project to physically interfere with or impair implementation of an adopted emergency response or evacuation plans, or the potential for the project to expose people or structures to significant risks associated with wildland fires.
- **Hydrology and Water Quality:** The joint EIR/EIS will evaluate the potential for implementation of the project to violate any water quality standards or waste discharge requirements, substantially degrade surface or ground water quality, decrease groundwater supplies, substantially alter existing drainage patterns, or result in any flood or inundation hazards. during construction and operation. The joint EIR/EIS will also evaluate the potential for the project to conflict with applicable water quality control plans.
- **Land Use and Planning:** The joint EIR/EIS will evaluate the potential for implementation of the project to physically divide an established community or cause a significant environmental effect due to a conflict with applicable land use plans and policies adopted for the purpose of reducing or avoiding environmental impacts.
- **Noise:** The joint EIR/EIS will evaluate potential impacts from temporary increases in noise (including off-site, vehicle traffic noise) and vibration levels during construction; and long-term increases in noise and vibration from project operation, including stationary and mobile sources.
- **Population and Housing:** The joint EIR/EIS will evaluate the potential for implementation of the project to induce (directly or indirectly) unplanned substantial population growth or displace substantial housing or residents.

- **Public Services:** The joint EIR/EIS will evaluate potential impacts on public services.
- **Recreation:** The joint EIR/EIS will evaluate potential impacts on recreation facilities.
- **Transportation and Traffic:** The joint EIR/EIS will evaluate the potential for implementation of the project to increase vehicle miles traveled (VMT) locally and in the region and whether such increases would conflict with applicable plans, policies, or regulations related to the effectiveness of the local/regional circulation system. The joint EIR/EIS will also include a discussion of emergency access adequacy, and potential transportation hazards from implementation of the project.
- **Tribal Cultural Resources:** The joint EIR/EIS will evaluate the potential for implementation of the project to result in a substantial adverse change in the significance of known or unknown tribal cultural resources.
- **Utilities and Service Systems:** The joint EIR/EIS will evaluate the potential for implementation of the project to increase demand for water, transmission, and treatment; demand for wastewater transmission and treatment; use of recycled water; demand for electricity and natural gas; and the potential need to increase the capacity of existing infrastructure.

No significant impacts with respect to agriculture and forestry resources or mineral resources or wildfire are anticipated, and these issue areas will not be evaluated in detail as part of the joint EIR/EIS.

Cortese List Notice

Pursuant to Public Resources Code 21092.6(a), the project site is located on a site included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 (California Department of Toxic Substances Control list of various hazardous sites). The proposed project would be required to follow existing soil and groundwater remediation protocols. Details regarding the required remediation would be coordinated with the United States Environmental Protection Agency and Responsible Parties in charge of ongoing remediation efforts.

Public Review and Comment Period

UC Berkeley invites comments on the scope and content of the joint Draft EIR/EIS and appreciates your prompt review of this NOP. Written comments should focus on the scope and content of the environmental information to be included in the joint Draft EIR/EIS for the Berkeley Space Center at NASA Research Park, germane to agencies having statutory responsibilities associated with the proposed project, as well as public interest in the proposed project. All comments on environmental issues received during the public comment period will be considered in the joint Draft EIR/EIS. Due to the time limits mandated by State law, this NOP will be circulated for a 30-day review period, which will extend from June 21, 2024, to July 22, 2024. Responses to this NOP must be received by 5:00 p.m. on July 22, 2024. Please send your written or electronic responses, with appropriate contact information, to the following address:

Shraddha Navalli Patil, Ph.D., Senior Planner
Physical & Environmental Planning
University of California, Berkeley
200 A&E Building, Berkeley, CA 94720-1382
Email: planning@berkeley.edu

Please include a subject line indicating Scoping Comments: Berkeley Space Center at NASA Research Park.

Public Scoping Meetings

UC Berkeley and NASA will hold two joint online public scoping meetings to inform interested parties about the project, and to provide agencies and the public with an opportunity to provide oral and written comments on the scope and content of the joint EIR/EIS. The scoping meetings will be held exclusively through Zoom videoconference. The information for the meetings is as follows:

Scoping Meeting No. 1
Wednesday, July 10, 2024
Time: 6:00 – 7:30 p.m.

Meeting Link: <https://capitalstrategies.berkeley.edu/public-meetings>

Scoping Meeting No. 2

Monday, July 15, 2024

Time: 6:00 – 7:30 p.m.

Meeting Link: <https://capitalstrategies.berkeley.edu/public-meetings>

For instructions to access and participate in the Zoom meetings by telephone or from a PC, Mac, iPad, iPhone, or Android device, please visit: <https://capitalstrategies.berkeley.edu/public-meetings>.

To request a paper copy of this notice or if you have questions concerning this NOP, scoping session, or associated environmental review for the project, please contact Physical & Environmental Planning, at (510) 495-5786 or planning@berkeley.edu.

Download: [Public Notice with Location Map \(PDF\)](#)

Project Inquiries: (510) 495-5786 or planning@berkeley.edu

About us:

[Capital Strategies](#) provides a full suite of planning, design, real estate, construction, and development services to UC Berkeley. Capital Strategies is part of the [Administrative Division](#) and includes real estate professionals, architects, planners, engineers, construction managers, and administrative specialists, working together to serve the campus community.

Media contact:

Kyle Gibson, Director of Communications

kyle.gibson@berkeley.edu

(510) 495-5786

UC Berkeley Capital Strategies | A&E Building | Berkeley, CA 94720 US

[Unsubscribe](#) | [Update Profile](#) | [Constant Contact Data Notice](#)



Try email marketing for free today!

Attachment I: NOP/NOI Scoping Comments

PUBLIC SUBMISSION

As of: 7/23/24, 10:33 AM
Received: June 26, 2024
Status: Pending_Post
Tracking No. lxw-1dve-gzqp
Comments Due: July 26, 2024
Submission Type: API

Docket: NASA-2024-0002
National Environmental Policy Act; Berkeley Space Center at NASA Research Park

Comment On: NASA-2024-0002-0001
Environmental Impact Statements; Availability, etc.: Berkeley Space Center at NASA Research Park

Document: NASA-2024-0002-DRAFT-0001
Comment on FR Doc # 2024-13756

Submitter Information

Name: Richard Spotts
Address:
Saint George, UT, 84790-1553
Email: raspotts2@gmail.com

General Comment

I appreciate the need for this proposed action. I believe that all NEPA analyses by federal agencies should address how the proposed action and feasible alternatives could help respond to the already deadly and rapidly worsening climate crisis. There is an overwhelming international consensus on the severity of this crisis and the urgent need to transition away from fossil fuels and toward clean renewable energy sources (please review the attached IPCC report). There is also an overlapping extinction crisis where the loss of biodiversity threatens the stability of ecosystems upon which all life depends. For scoping purposes, please consider how to design and implement the final approved action in a manner to maximize benefits for renewable energy and the protection of biodiversity and to minimize the use of fossil fuels and to avoid the degradation of any wildlife habitats. This work should provide leadership in striving for greater environmental health and sustainability. Thank you very much.

Attachments

Climate Change IPCC 2023 Summary Report

ipcc

INTERGOVERNMENTAL PANEL ON climate change

CLIMATE CHANGE 2023

Synthesis Report

Summary for Policymakers

A Report of the Intergovernmental Panel on Climate Change



CLIMATE CHANGE 2023

Synthesis Report

Summary for Policymakers

Edited by

The Core Writing Team

Synthesis Report
IPCC

Hoesung Lee

Chairman
IPCC

José Romero

Head, Technical Support Unit
IPCC

Core Writing Team

Hoesung Lee (Chair), Katherine Calvin (USA), Dipak Dasgupta (India/USA), Gerhard Krinner (France/Germany), Aditi Mukherji (India), Peter Thorne (Ireland/United Kingdom), Christopher Trisos (South Africa), José Romero (Switzerland), Paulina Aldunce (Chile), Ko Barrett (USA), Gabriel Blanco (Argentina), William W. L. Cheung (Canada), Sarah L. Connors (France/United Kingdom), Fatima Denton (The Gambia), Aïda Diongue-Niang (Senegal), David Dodman (Jamaica/United Kingdom/Netherlands), Matthias Garschagen (Germany), Oliver Geden (Germany), Bronwyn Hayward (New Zealand), Christopher Jones (United Kingdom), Frank Jotzo (Australia), Thelma Krug (Brazil), Rodel Lasco (Philippines), June-Yi Lee (Republic of Korea), Valérie Masson-Delmotte (France), Malte Meinshausen (Australia/Germany), Katja Mintenbeck (Germany), Abdalah Mokssit (Morocco), Friederike E. L. Otto (United Kingdom/Germany), Minal Pathak (India), Anna Pirani (Italy), Elvira Poloczanska (United Kingdom/Australia), Hans-Otto Pörtner (Germany), Aromar Revi (India), Debra C. Roberts (South Africa), Joyashree Roy (India/Thailand), Alex C. Ruane (USA), Jim Skea (United Kingdom), Priyadarshi R. Shukla (India), Raphael Slade (United Kingdom), Aimée Slangen (The Netherlands), Youba Sokona (Mali), Anna A. Sörensson (Argentina), Melinda Tignor (USA/Germany), Detlef van Vuuren (The Netherlands), Yi-Ming Wei (China), Harald Winkler (South Africa), Panmao Zhai (China), Zinta Zommers (Latvia)

Technical Support Unit for the Synthesis Report

José Romero (Switzerland), Jinmi Kim (Republic of Korea), Erik F. Haites (Canada), Yonghun Jung (Republic of Korea), Robert Stavins (USA), Arlene Birt (USA), Meeyoung Ha (Republic of Korea), Dan Jezreel A. Orendain (Philippines), Lance Ignon (USA), Semin Park (Republic of Korea), Youngin Park (Republic of Korea)

Referencing this report:

IPCC, 2023: Summary for Policymakers. In: *Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* [Core Writing Team, H. Lee and J. Romero (eds.)]. IPCC, Geneva, Switzerland, pp. 1-34, doi: 10.59327/IPCC/AR6-9789291691647.001

Extended Writing Team

Jean-Charles Hourcade (France), Francis X. Johnson (Thailand/Sweden), Shonali Pachauri (Austria/India), Nicholas P. Simpson (South Africa/Zimbabwe), Chandni Singh (India), Adelle Thomas (Bahamas), Edmond Totin (Benin)

Review Editors

Paola Arias (Colombia), Mercedes Bustamante (Brazil), Ismail Elgizouli (Sudan), Gregory Flato (Canada), Mark Howden (Australia), Carlos Méndez (Venezuela), Joy Jacqueline Pereira (Malaysia), Ramón Pichs-Madruga (Cuba), Steven K Rose (USA), Yamina Saheb (Algeria/France), Roberto Sánchez Rodríguez (Mexico), Diana Ürge-Vorsatz (Hungary), Cunde Xiao (China), Noureddine Yassaa (Algeria)

Contributing Authors

Andrés Alegría (Germany/Honduras), Kyle Armour (USA), Birgit Bednar-Friedl (Austria), Kornelis Blok (The Netherlands), Guéladio Cissé (Switzerland/Mauritania/France), Frank Dentener (EU/Netherlands), Siri Eriksen (Norway), Erich Fischer (Switzerland), Gregory Garner (USA), Céline Guivarch (France), Marjolijn Haasnoot (The Netherlands), Gerrit Hansen (Germany), Mathias Hauser (Switzerland), Ed Hawkins (UK), Tim Hermans (The Netherlands), Robert Kopp (USA), Noémie Leprince-Ringuet (France), Jared Lewis (Australia/New Zealand), Debora Ley (Mexico/Guatemala), Chloé Ludden (Germany/France), Leila Niamir (Iran/The Netherlands/Austria), Zebedee Nicholls (Australia), Shreya Some (India/Thailand), Sophie Szopa (France), Blair Trewin (Australia), Kaj-Ivar van der Wijst (The Netherlands), Gundula Winter (The Netherlands/Germany), Maximilian Witting (Germany)

Scientific Steering Committee

Hoesung Lee (Chair, IPCC), Amjad Abdulla (Maldives), Edvin Aldrian (Indonesia), Ko Barrett (United States of America), Eduardo Calvo (Peru), Carlo Carraro (Italy), Diriba Korecha Dadi (Ethiopia), Fatima Driouech (Morocco), Andreas Fischlin (Switzerland), Jan Fuglestad (Norway), Thelma Krug (Brazil), Nagmeldin G.E. Mahmoud (Sudan), Valérie Masson-Delmotte (France), Carlos Méndez (Venezuela), Joy Jacqueline Pereira (Malaysia), Ramón Pichs-Madruga (Cuba), Hans-Otto Pörtner (Germany), Andy Reisinger (New Zealand), Debra C. Roberts (South Africa), Sergey Semenov (Russian Federation), Priyadarshi Shukla (India), Jim Skea (United Kingdom), Youba Sokona (Mali), Kiyoto Tanabe (Japan), Muhammad Irfan Tariq (Pakistan), Diana Ürge-Vorsatz (Hungary), Carolina Vera (Argentina), Pius Yanda (United Republic of Tanzania), Noureddine Yassaa (Algeria), Taha M. Zatari (Saudi Arabia), Panmao Zhai (China)

Visual Conception and Information Design

Arlene Birt (USA), Meeyoung Ha (Republic of Korea)

Cover: Designed by Meeyoung Ha, IPCC SYR TSU

Photo Reference

“Fog opening the dawn” by Chung Jin Sil

The Weather and Climate Photography & Video Contest 2021, Korea Meteorological Administration
<http://www.kma.go.kr/kma> © KMA

THE INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE

© Intergovernmental Panel on Climate Change, 2023

The designations employed and the presentation of material on maps do not imply the expression of any opinion whatsoever on the part of the Intergovernmental Panel on Climate Change concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. The mention of specific companies or products does not imply that they are endorsed or recommended by IPCC in preference to others of a similar nature, which are not mentioned or advertised. The right of publication in print, electronic and any other form and in any language is reserved by the IPCC.

Short extracts from this publication may be reproduced without authorization provided that complete source is clearly indicated.

Editorial correspondence and requests to publish, reproduce or translate articles in part or in whole should be addressed to: IPCC c/o World Meteorological Organization (WMO) 7bis, avenue de la Paix Tel.: +41 22 730 8208 P.O. Box 2300 Fax: +41 22 730 8025 CH 1211 Geneva 2, Switzerland E-mail: IPCC-Sec@wmo.int www.ipcc.ch

Sources cited in this Synthesis Report

References for material contained in this report are given in curly brackets {} at the end of each paragraph.

In the Summary for Policymakers, the references refer to the numbers of the sections, figures, tables and boxes in the underlying Introduction and Topics of this Synthesis Report.

In the Introduction and Sections of the longer report, the references refer to the contributions of the Working Groups I, II and III (WGI, WGII, WGIII) to the Sixth Assessment Report and other IPCC Reports (in italicized curly brackets), or to other sections of the Synthesis Report itself (in round brackets).

The following abbreviations have been used:

SPM: Summary for Policymakers

TS: Technical Summary

ES: Executive Summary of a chapter

Numbers denote specific chapters and sections of a report.

Other IPCC reports cited in this Synthesis Report:

SR1.5: Global Warming of 1.5°C

SRCCCL: Climate Change and Land

SROCC: The Ocean and Cryosphere in a Changing Climate

Summary for Policymakers

This Summary for Policymakers should be cited as:

IPCC, 2023: Summary for Policymakers. In: *Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* [Core Writing Team, H. Lee and J. Romero (eds.)]. IPCC, Geneva, Switzerland, pp. 1-34, doi: 10.59327/IPCC/AR6-9789291691647.001

Introduction

This Synthesis Report (SYR) of the IPCC Sixth Assessment Report (AR6) summarises the state of knowledge of climate change, its widespread impacts and risks, and climate change mitigation and adaptation. It integrates the main findings of the Sixth Assessment Report (AR6) based on contributions from the three Working Groups¹, and the three Special Reports². The summary for Policymakers (SPM) is structured in three parts: SPM.A Current Status and Trends, SPM.B Future Climate Change, Risks, and Long-Term Responses, and SPM.C Responses in the Near Term³.

This report recognizes the interdependence of climate, ecosystems and biodiversity, and human societies; the value of diverse forms of knowledge; and the close linkages between climate change adaptation, mitigation, ecosystem health, human well-being and sustainable development, and reflects the increasing diversity of actors involved in climate action.

Based on scientific understanding, key findings can be formulated as statements of fact or associated with an assessed level of confidence using the IPCC calibrated language⁴.

¹ The three Working Group contributions to AR6 are: AR6 Climate Change 2021: The Physical Science Basis; AR6 Climate Change 2022: Impacts, Adaptation and Vulnerability; and AR6 Climate Change 2022: Mitigation of Climate Change. Their assessments cover scientific literature accepted for publication respectively by 31 January 2021, 1 September 2021 and 11 October 2021.

² The three Special Reports are: Global Warming of 1.5°C (2018): an IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty (SR1.5); Climate Change and Land (2019): an IPCC Special Report on climate change, desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems (SRCLL); and The Ocean and Cryosphere in a Changing Climate (2019) (SROCC). The Special Reports cover scientific literature accepted for publication respectively by 15 May 2018, 7 April 2019 and 15 May 2019.

³ In this report, the near term is defined as the period until 2040. The long term is defined as the period beyond 2040.

⁴ Each finding is grounded in an evaluation of underlying evidence and agreement. The IPCC calibrated language uses five qualifiers to express a level of confidence: very low, low, medium, high and very high, and typeset in italics, for example, *medium confidence*. The following terms are used to indicate the assessed likelihood of an outcome or a result: virtually certain 99–100% probability, very likely 90–100%, likely 66–100%, more likely than not >50–100%, about as likely as not 33–66%, unlikely 0–33%, very unlikely 0–10%, exceptionally unlikely 0–1%. Additional terms (extremely likely 95–100%; and extremely unlikely 0–5%) are also used when appropriate. Assessed likelihood is typeset in italics, e.g., *very likely*. This is consistent with AR5 and the other AR6 Reports.

A. Current Status and Trends

Observed Warming and its Causes

A.1 Human activities, principally through emissions of greenhouse gases, have unequivocally caused global warming, with global surface temperature reaching 1.1°C above 1850–1900 in 2011–2020. Global greenhouse gas emissions have continued to increase, with unequal historical and ongoing contributions arising from unsustainable energy use, land use and land-use change, lifestyles and patterns of consumption and production across regions, between and within countries, and among individuals (*high confidence*). {2.1, Figure 2.1, Figure 2.2}

- A.1.1 Global surface temperature was 1.09 [0.95 to 1.20]⁵°C higher in 2011–2020 than 1850–1900⁶, with larger increases over land (1.59 [1.34 to 1.83]°C) than over the ocean (0.88 [0.68 to 1.01]°C). Global surface temperature in the first two decades of the 21st century (2001–2020) was 0.99 [0.84 to 1.10]°C higher than 1850–1900. Global surface temperature has increased faster since 1970 than in any other 50-year period over at least the last 2000 years (*high confidence*). {2.1.1, Figure 2.1}
- A.1.2 The *likely* range of total human-caused global surface temperature increase from 1850–1900 to 2010–2019⁷ is 0.8°C to 1.3°C, with a best estimate of 1.07°C. Over this period, it is *likely* that well-mixed greenhouse gases (GHGs) contributed a warming of 1.0°C to 2.0°C⁸, and other human drivers (principally aerosols) contributed a cooling of 0.0°C to 0.8°C, natural (solar and volcanic) drivers changed global surface temperature by –0.1°C to +0.1°C, and internal variability changed it by –0.2°C to +0.2°C. {2.1.1, Figure 2.1}
- A.1.3 Observed increases in well-mixed GHG concentrations since around 1750 are unequivocally caused by GHG emissions from human activities over this period. Historical cumulative net CO₂ emissions from 1850 to 2019 were 2400 ± 240 GtCO₂ of which more than half (58%) occurred between 1850 and 1989, and about 42% occurred between 1990 and 2019 (*high confidence*). In 2019, atmospheric CO₂ concentrations (410 parts per million) were higher than at any time in at least 2 million years (*high confidence*), and concentrations of methane (1866 parts per billion) and nitrous oxide (332 parts per billion) were higher than at any time in at least 800,000 years (*very high confidence*). {2.1.1, Figure 2.1}
- A.1.4 Global net anthropogenic GHG emissions have been estimated to be 59 ± 6.6 GtCO₂-eq⁹ in 2019, about 12% (6.5 GtCO₂-eq) higher than in 2010 and 54% (21 GtCO₂-eq) higher than in 1990, with the largest share and growth in gross GHG emissions occurring in CO₂ from fossil fuels combustion and industrial processes (CO₂-FFI) followed by methane, whereas the highest relative growth occurred in fluorinated gases (F-gases), starting from low levels in 1990. Average annual GHG emissions during 2010–2019 were higher than in any previous decade on record, while the rate of growth between 2010 and 2019 (1.3% yr⁻¹) was lower than that between 2000 and 2009 (2.1% yr⁻¹). In 2019, approximately 79% of global GHG

⁵ Ranges given throughout the SPM represent *very likely* ranges (5–95% range) unless otherwise stated.

⁶ The estimated increase in global surface temperature since AR5 is principally due to further warming since 2003–2012 (0.19 [0.16 to 0.22] °C). Additionally, methodological advances and new datasets have provided a more complete spatial representation of changes in surface temperature, including in the Arctic. These and other improvements have also increased the estimate of global surface temperature change by approximately 0.1°C, but this increase does not represent additional physical warming since AR5.

⁷ The period distinction with A.1.1 arises because the attribution studies consider this slightly earlier period. The observed warming to 2010–2019 is 1.06 [0.88 to 1.21]°C.

⁸ Contributions from emissions to the 2010–2019 warming relative to 1850–1900 assessed from radiative forcing studies are: CO₂ 0.8 [0.5 to 1.2]°C; methane 0.5 [0.3 to 0.8]°C; nitrous oxide 0.1 [0.0 to 0.2]°C and fluorinated gases 0.1 [0.0 to 0.2]°C. {2.1.1}

⁹ GHG emission metrics are used to express emissions of different greenhouse gases in a common unit. Aggregated GHG emissions in this report are stated in CO₂-equivalents (CO₂-eq) using the Global Warming Potential with a time horizon of 100 years (GWP100) with values based on the contribution of Working Group I to the AR6. The AR6 WGI and WGIII reports contain updated emission metric values, evaluations of different metrics with regard to mitigation objectives, and assess new approaches to aggregating gases. The choice of metric depends on the purpose of the analysis and all GHG emission metrics have limitations and uncertainties, given that they simplify the complexity of the physical climate system and its response to past and future GHG emissions. {2.1.1}

emissions came from the sectors of energy, industry, transport, and buildings together and 22%¹⁰ from agriculture, forestry and other land use (AFOLU). Emissions reductions in CO₂-FFI due to improvements in energy intensity of GDP and carbon intensity of energy, have been less than emissions increases from rising global activity levels in industry, energy supply, transport, agriculture and buildings. (*high confidence*) {2.1.1}

- A.1.5 Historical contributions of CO₂ emissions vary substantially across regions in terms of total magnitude, but also in terms of contributions to CO₂-FFI and net CO₂ emissions from land use, land-use change and forestry (CO₂-LULUCF). In 2019, around 35% of the global population live in countries emitting more than 9 tCO₂-eq per capita¹¹ (excluding CO₂-LULUCF) while 41% live in countries emitting less than 3 tCO₂-eq per capita; of the latter a substantial share lacks access to modern energy services. Least Developed Countries (LDCs) and Small Island Developing States (SIDS) have much lower per capita emissions (1.7 tCO₂-eq and 4.6 tCO₂-eq, respectively) than the global average (6.9 tCO₂-eq), excluding CO₂-LULUCF. The 10% of households with the highest per capita emissions contribute 34–45% of global consumption-based household GHG emissions, while the bottom 50% contribute 13–15%. (*high confidence*) {2.1.1, Figure 2.2}

Observed Changes and Impacts

A.2 Widespread and rapid changes in the atmosphere, ocean, cryosphere and biosphere have occurred. Human-caused climate change is already affecting many weather and climate extremes in every region across the globe. This has led to widespread adverse impacts and related losses and damages to nature and people (*high confidence*). Vulnerable communities who have historically contributed the least to current climate change are disproportionately affected (*high confidence*). {2.1, Table 2.1, Figure 2.2, Figure 2.3} (Figure SPM.1)

- A.2.1 It is unequivocal that human influence has warmed the atmosphere, ocean and land. Global mean sea level increased by 0.20 [0.15 to 0.25] m between 1901 and 2018. The average rate of sea level rise was 1.3 [0.6 to 2.1] mm yr⁻¹ between 1901 and 1971, increasing to 1.9 [0.8 to 2.9] mm yr⁻¹ between 1971 and 2006, and further increasing to 3.7 [3.2 to 4.2] mm yr⁻¹ between 2006 and 2018 (*high confidence*). Human influence was *very likely* the main driver of these increases since at least 1971. Evidence of observed changes in extremes such as heatwaves, heavy precipitation, droughts, and tropical cyclones, and, in particular, their attribution to human influence, has further strengthened since AR5. Human influence has *likely* increased the chance of compound extreme events since the 1950s, including increases in the frequency of concurrent heatwaves and droughts (*high confidence*). {2.1.2, Table 2.1, Figure 2.3, Figure 3.4} (Figure SPM.1)
- A.2.2 Approximately 3.3 to 3.6 billion people live in contexts that are highly vulnerable to climate change. Human and ecosystem vulnerability are interdependent. Regions and people with considerable development constraints have high vulnerability to climatic hazards. Increasing weather and climate extreme events have exposed millions of people to acute food insecurity¹² and reduced water security, with the largest adverse impacts observed in many locations and/or communities in Africa, Asia, Central and South America, LDCs, Small Islands and the Arctic, and globally for Indigenous Peoples, small-scale food producers and low-income households. Between 2010 and 2020, human mortality from floods, droughts and storms was 15 times higher in highly vulnerable regions, compared to regions with very low vulnerability. (*high confidence*) {2.1.2, 4.4} (Figure SPM.1)
- A.2.3 Climate change has caused substantial damages, and increasingly irreversible losses, in terrestrial, freshwater, cryospheric, and coastal and open ocean ecosystems (*high confidence*). Hundreds of local losses of species have been driven by increases in the magnitude of heat extremes (*high confidence*) with mass mortality events recorded on land and in the ocean (*very high confidence*). Impacts on some ecosystems are approaching irreversibility such as the impacts of hydrological changes resulting from the retreat of glaciers, or the changes in some mountain (*medium confidence*) and Arctic ecosystems driven by permafrost thaw (*high confidence*). {2.1.2, Figure 2.3} (Figure SPM.1)

¹⁰ GHG emission levels are rounded to two significant digits; as a consequence, small differences in sums due to rounding may occur. {2.1.1}

¹¹ Territorial emissions.

¹² Acute food insecurity can occur at any time with a severity that threatens lives, livelihoods or both, regardless of the causes, context or duration, as a result of shocks risking determinants of food security and nutrition, and is used to assess the need for humanitarian action. {2.1}

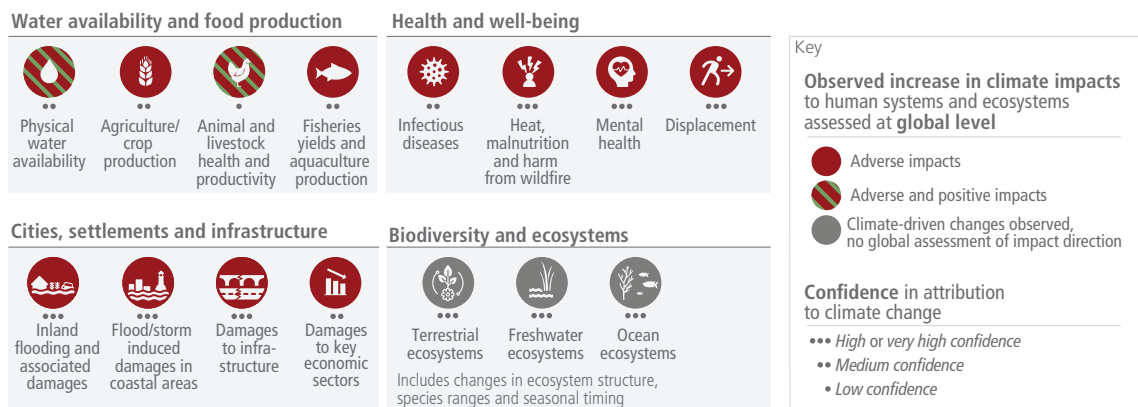
- A.2.4 Climate change has reduced food security and affected water security, hindering efforts to meet Sustainable Development Goals (*high confidence*). Although overall agricultural productivity has increased, climate change has slowed this growth over the past 50 years globally (*medium confidence*), with related negative impacts mainly in mid- and low latitude regions but positive impacts in some high latitude regions (*high confidence*). Ocean warming and ocean acidification have adversely affected food production from fisheries and shellfish aquaculture in some oceanic regions (*high confidence*). Roughly half of the world's population currently experience severe water scarcity for at least part of the year due to a combination of climatic and non-climatic drivers (*medium confidence*). {2.1.2, Figure 2.3} (Figure SPM.1)
- A.2.5 In all regions increases in extreme heat events have resulted in human mortality and morbidity (*very high confidence*). The occurrence of climate-related food-borne and water-borne diseases (*very high confidence*) and the incidence of vector-borne diseases (*high confidence*) have increased. In assessed regions, some mental health challenges are associated with increasing temperatures (*high confidence*), trauma from extreme events (*very high confidence*), and loss of livelihoods and culture (*high confidence*). Climate and weather extremes are increasingly driving displacement in Africa, Asia, North America (*high confidence*), and Central and South America (*medium confidence*), with small island states in the Caribbean and South Pacific being disproportionately affected relative to their small population size (*high confidence*). {2.1.2, Figure 2.3} (Figure SPM.1)
- A.2.6 Climate change has caused widespread adverse impacts and related losses and damages¹³ to nature and people that are unequally distributed across systems, regions and sectors. Economic damages from climate change have been detected in climate-exposed sectors, such as agriculture, forestry, fishery, energy, and tourism. Individual livelihoods have been affected through, for example, destruction of homes and infrastructure, and loss of property and income, human health and food security, with adverse effects on gender and social equity. (*high confidence*) {2.1.2} (Figure SPM.1)
- A.2.7 In urban areas, observed climate change has caused adverse impacts on human health, livelihoods and key infrastructure. Hot extremes have intensified in cities. Urban infrastructure, including transportation, water, sanitation and energy systems have been compromised by extreme and slow-onset events¹⁴, with resulting economic losses, disruptions of services and negative impacts to well-being. Observed adverse impacts are concentrated amongst economically and socially marginalised urban residents. (*high confidence*) {2.1.2}

¹³ In this report, the term 'losses and damages' refers to adverse observed impacts and/or projected risks and can be economic and/or non-economic (see Annex I: Glossary).

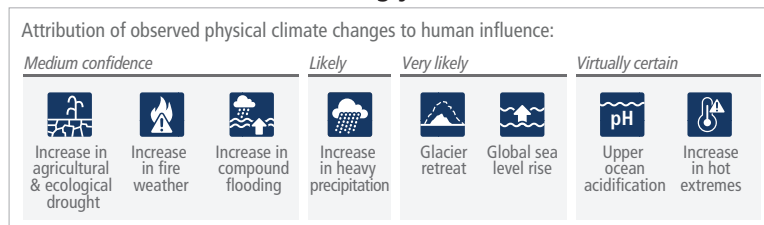
¹⁴ Slow-onset events are described among the climatic-impact drivers of the AR6 WGI and refer to the risks and impacts associated with e.g., increasing temperature means, desertification, decreasing precipitation, loss of biodiversity, land and forest degradation, glacial retreat and related impacts, ocean acidification, sea level rise and salinization. {2.1.2}

Adverse impacts from human-caused climate change will continue to intensify

a) Observed widespread and substantial impacts and related losses and damages attributed to climate change



b) Impacts are driven by changes in multiple physical climate conditions, which are increasingly attributed to human influence



c) The extent to which current and future generations will experience a hotter and different world depends on choices now and in the near term

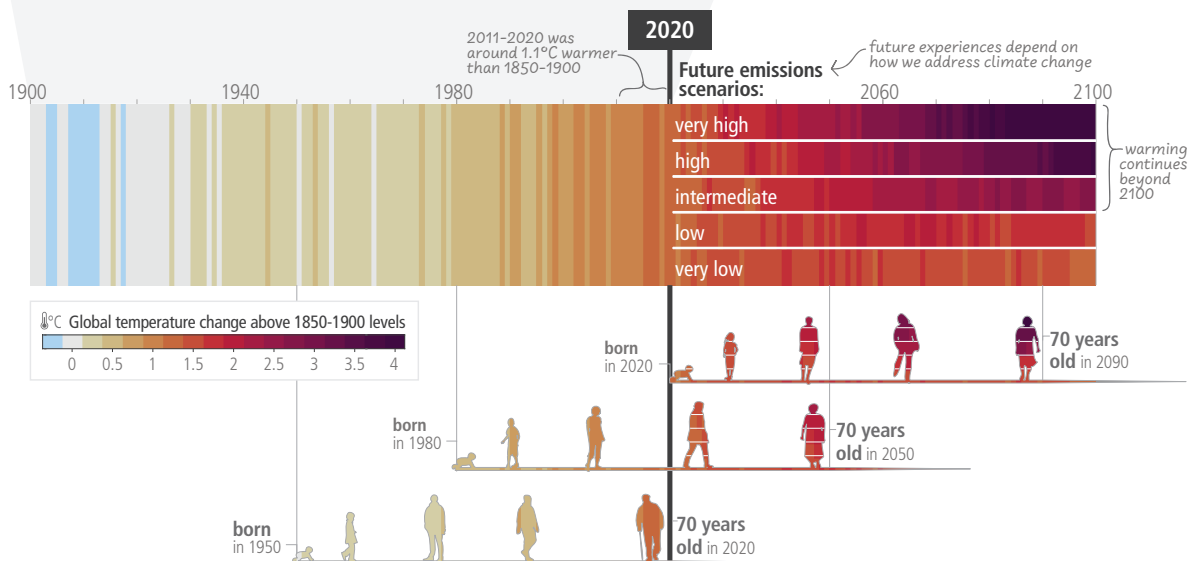


Figure SPM.1: (a) Climate change has already caused widespread impacts and related losses and damages on human systems and altered terrestrial, freshwater and ocean ecosystems worldwide. Physical water availability includes balance of water available from various sources including ground water, water quality and demand for water. Global mental health and displacement assessments reflect only assessed regions. Confidence levels reflect the assessment of attribution of the observed impact to climate change. (b) Observed impacts are connected to physical climate changes including many that have been attributed to human influence such as the selected climatic impact-drivers shown. Confidence and likelihood levels reflect the assessment of attribution of the observed climatic impact-driver to human influence. (c) Observed (1900–2020) and projected (2021–2100) changes in global surface temperature (relative to 1850–1900), which are linked to changes in climate conditions and impacts, illustrate how the climate has already changed and will change along the lifespan of three

representative generations (born in 1950, 1980 and 2020). Future projections (2021–2100) of changes in global surface temperature are shown for very low (SSP1-1.9), low (SSP1-2.6), intermediate (SSP2-4.5), high (SSP3-7.0) and very high (SSP5-8.5) GHG emissions scenarios. Changes in annual global surface temperatures are presented as ‘climate stripes’, with future projections showing the human-caused long-term trends and continuing modulation by natural variability (represented here using observed levels of past natural variability). Colours on the generational icons correspond to the global surface temperature stripes for each year, with segments on future icons differentiating possible future experiences. {2.1, 2.1.2, Figure 2.1, Table 2.1, Figure 2.3, Cross-Section Box.2, 3.1, Figure 3.3, 4.1, 4.3} (Box SPM.1)

Current Progress in Adaptation and Gaps and Challenges

A.3 Adaptation planning and implementation has progressed across all sectors and regions, with documented benefits and varying effectiveness. Despite progress, adaptation gaps exist, and will continue to grow at current rates of implementation. Hard and soft limits to adaptation have been reached in some ecosystems and regions. Maladaptation is happening in some sectors and regions. Current global financial flows for adaptation are insufficient for, and constrain implementation of, adaptation options, especially in developing countries (*high confidence*). {2.2, 2.3}

- A.3.1 Progress in adaptation planning and implementation has been observed across all sectors and regions, generating multiple benefits (*very high confidence*). Growing public and political awareness of climate impacts and risks has resulted in at least 170 countries and many cities including adaptation in their climate policies and planning processes (*high confidence*). {2.2.3}
- A.3.2 Effectiveness¹⁵ of adaptation in reducing climate risks¹⁶ is documented for specific contexts, sectors and regions (*high confidence*). Examples of effective adaptation options include: cultivar improvements, on-farm water management and storage, soil moisture conservation, irrigation, agroforestry, community-based adaptation, farm and landscape level diversification in agriculture, sustainable land management approaches, use of agroecological principles and practices and other approaches that work with natural processes (*high confidence*). Ecosystem-based adaptation¹⁷ approaches such as urban greening, restoration of wetlands and upstream forest ecosystems have been effective in reducing flood risks and urban heat (*high confidence*). Combinations of non-structural measures like early warning systems and structural measures like levees have reduced loss of lives in case of inland flooding (*medium confidence*). Adaptation options such as disaster risk management, early warning systems, climate services and social safety nets have broad applicability across multiple sectors (*high confidence*). {2.2.3}
- A.3.3 Most observed adaptation responses are fragmented, incremental¹⁸, sector-specific and unequally distributed across regions. Despite progress, adaptation gaps exist across sectors and regions, and will continue to grow under current levels of implementation, with the largest adaptation gaps among lower income groups. (*high confidence*) {2.3.2}
- A.3.4 There is increased evidence of maladaptation in various sectors and regions. Maladaptation especially affects marginalised and vulnerable groups adversely. (*high confidence*) {2.3.2}
- A.3.5 Soft limits to adaptation are currently being experienced by small-scale farmers and households along some low-lying coastal areas (*medium confidence*) resulting from financial, governance, institutional and policy constraints (*high confidence*). Some tropical, coastal, polar and mountain ecosystems have reached hard adaptation limits (*high confidence*). Adaptation does not prevent all losses and damages, even with effective adaptation and before reaching soft and hard limits (*high confidence*). {2.3.2}

¹⁵ Effectiveness refers here to the extent to which an adaptation option is anticipated or observed to reduce climate-related risk. {2.2.3}

¹⁶ See Annex I: Glossary. {2.2.3}

¹⁷ Ecosystem-based Adaptation (EbA) is recognized internationally under the Convention on Biological Diversity (CBD14/5). A related concept is Nature-based Solutions (NbS), see Annex I: Glossary.

¹⁸ Incremental adaptations to change in climate are understood as extensions of actions and behaviours that already reduce the losses or enhance the benefits of natural variations in extreme weather/climate events. {2.3.2}

- A.3.6 Key barriers to adaptation are limited resources, lack of private sector and citizen engagement, insufficient mobilization of finance (including for research), low climate literacy, lack of political commitment, limited research and/or slow and low uptake of adaptation science, and low sense of urgency. There are widening disparities between the estimated costs of adaptation and the finance allocated to adaptation (*high confidence*). Adaptation finance has come predominantly from public sources, and a small proportion of global tracked climate finance was targeted to adaptation and an overwhelming majority to mitigation (*very high confidence*). Although global tracked climate finance has shown an upward trend since AR5, current global financial flows for adaptation, including from public and private finance sources, are insufficient and constrain implementation of adaptation options, especially in developing countries (*high confidence*). Adverse climate impacts can reduce the availability of financial resources by incurring losses and damages and through impeding national economic growth, thereby further increasing financial constraints for adaptation, particularly for developing and least developed countries (*medium confidence*). {2.3.2, 2.3.3}

Box SPM.1 The use of scenarios and modelled pathways in the AR6 Synthesis Report

Modelled scenarios and pathways¹⁹ are used to explore future emissions, climate change, related impacts and risks, and possible mitigation and adaptation strategies and are based on a range of assumptions, including socio-economic variables and mitigation options. These are quantitative projections and are neither predictions nor forecasts. Global modelled emission pathways, including those based on cost effective approaches contain regionally differentiated assumptions and outcomes, and have to be assessed with the careful recognition of these assumptions. Most do not make explicit assumptions about global equity, environmental justice or intra-regional income distribution. IPCC is neutral with regard to the assumptions underlying the scenarios in the literature assessed in this report, which do not cover all possible futures.²⁰ {Cross-Section Box.2}

WGI assessed the climate response to five illustrative scenarios based on Shared Socio-economic Pathways (SSPs)²¹ that cover the range of possible future development of anthropogenic drivers of climate change found in the literature. High and very high GHG emissions scenarios (SSP3-7.0 and SSP5-8.5²²) have CO₂ emissions that roughly double from current levels by 2100 and 2050, respectively. The intermediate GHG emissions scenario (SSP2-4.5) has CO₂ emissions remaining around current levels until the middle of the century. The very low and low GHG emissions scenarios (SSP1-1.9 and SSP1-2.6) have CO₂ emissions declining to net zero around 2050 and 2070, respectively, followed by varying levels of net negative CO₂ emissions. In addition, Representative Concentration Pathways (RCPs)²³ were used by WGI and WGII to assess regional climate changes, impacts and risks. In WGIII, a large number of global modelled emissions pathways were assessed, of which 1202 pathways were categorised based on their assessed global warming over the 21st century; categories range from pathways that limit warming to 1.5°C with more than 50% likelihood (noted >50% in this report) with no or limited overshoot (C1) to pathways that exceed 4°C (C8). {Cross-Section Box.2} (Box SPM.1, Table 1)

Global warming levels (GWLs) relative to 1850–1900 are used to integrate the assessment of climate change and related impacts and risks since patterns of changes for many variables at a given GWL are common to all scenarios considered and independent of timing when that level is reached. {Cross-Section Box.2}

¹⁹ In the literature, the terms pathways and scenarios are used interchangeably, with the former more frequently used in relation to climate goals. WGI primarily used the term scenarios and WGIII mostly used the term modelled emission and mitigation pathways. The SYR primarily uses scenarios when referring to WGI and modelled emission and mitigation pathways when referring to WGIII.

²⁰ Around half of all modelled global emission pathways assume cost-effective approaches that rely on least-cost mitigation/abatement options globally. The other half looks at existing policies and regionally and sectorally differentiated actions.

²¹ SSP-based scenarios are referred to as SSPx-y, where 'SSPx' refers to the Shared Socioeconomic Pathway describing the socioeconomic trends underlying the scenarios, and 'y' refers to the level of radiative forcing (in watts per square metre, or W m⁻²) resulting from the scenario in the year 2100. {Cross-Section Box.2}

²² Very high emissions scenarios have become *less likely* but cannot be ruled out. Warming levels >4°C may result from very high emissions scenarios, but can also occur from lower emission scenarios if climate sensitivity or carbon cycle feedbacks are higher than the best estimate. {3.1.1}

²³ RCP-based scenarios are referred to as RCPy, where 'y' refers to the level of radiative forcing (in watts per square metre, or W m⁻²) resulting from the scenario in the year 2100. The SSP scenarios cover a broader range of greenhouse gas and air pollutant futures than the RCPs. They are similar but not identical, with differences in concentration trajectories. The overall effective radiative forcing tends to be higher for the SSPs compared to the RCPs with the same label (*medium confidence*). {Cross-Section Box.2}

Box SPM.1, Table 1: Description and relationship of scenarios and modelled pathways considered across AR6 Working Group reports. {Cross-Section Box.2 Figure 1}

Category in WGIII	Category description	GHG emissions scenarios (SSPx-y*) in WGI & WGII	RCPy** in WGI & WGII
C1	limit warming to 1.5°C (>50%) with no or limited overshoot***	Very low (SSP1-1.9)	
C2	return warming to 1.5°C (>50%) after a high overshoot***		
C3	limit warming to 2°C (>67%)	Low (SSP1-2.6)	RCP2.6
C4	limit warming to 2°C (>50%)		
C5	limit warming to 2.5°C (>50%)		
C6	limit warming to 3°C (>50%)	Intermediate (SSP2-4.5)	RCP 4.5
C7	limit warming to 4°C (>50%)	High (SSP3-7.0)	
C8	exceed warming of 4°C (>50%)	Very high (SSP5-8.5)	RCP 8.5

* See footnote 21 for the SSPx-y terminology.

** See footnote 23 for the RCPy terminology.

*** Limited overshoot refers to exceeding 1.5°C global warming by up to about 0.1°C, high overshoot by 0.1°C-0.3°C, in both cases for up to several decades.

Current Mitigation Progress, Gaps and Challenges

A.4 Policies and laws addressing mitigation have consistently expanded since AR5. Global GHG emissions in 2030 implied by nationally determined contributions (NDCs) announced by October 2021 make it *likely* that warming will exceed 1.5°C during the 21st century and make it harder to limit warming below 2°C. There are gaps between projected emissions from implemented policies and those from NDCs and finance flows fall short of the levels needed to meet climate goals across all sectors and regions. (*high confidence*) {2.2, 2.3, Figure 2.5, Table 2.2}

A.4.1 The UNFCCC, Kyoto Protocol, and the Paris Agreement are supporting rising levels of national ambition. The Paris Agreement, adopted under the UNFCCC, with near universal participation, has led to policy development and target-setting at national and sub-national levels, in particular in relation to mitigation, as well as enhanced transparency of climate action and support (*medium confidence*). Many regulatory and economic instruments have already been deployed successfully (*high confidence*). In many countries, policies have enhanced energy efficiency, reduced rates of deforestation and accelerated technology deployment, leading to avoided and in some cases reduced or removed emissions (*high confidence*). Multiple lines of evidence suggest that mitigation policies have led to several²⁴ Gt CO₂-eq yr⁻¹ of avoided global emissions (*medium confidence*). At least 18 countries have sustained absolute production-based GHG and consumption-based CO₂ reductions²⁵ for longer than 10 years. These reductions have only partly offset global emissions growth (*high confidence*). {2.2.1, 2.2.2}

A.4.2 Several mitigation options, notably solar energy, wind energy, electrification of urban systems, urban green infrastructure, energy efficiency, demand-side management, improved forest and crop/grassland management, and reduced food waste and loss, are technically viable, are becoming increasingly cost effective and are generally supported by the

²⁴ At least 1.8 GtCO₂-eq yr⁻¹ can be accounted for by aggregating separate estimates for the effects of economic and regulatory instruments. Growing numbers of laws and executive orders have impacted global emissions and were estimated to result in 5.9 GtCO₂-eq yr⁻¹ less emissions in 2016 than they otherwise would have been. (*medium confidence*) {2.2.2}

²⁵ Reductions were linked to energy supply decarbonisation, energy efficiency gains, and energy demand reduction, which resulted from both policies and changes in economic structure (*high confidence*). {2.2.2}

public. From 2010 to 2019 there have been sustained decreases in the unit costs of solar energy (85%), wind energy (55%), and lithium-ion batteries (85%), and large increases in their deployment, e.g., >10× for solar and >100× for electric vehicles (EVs), varying widely across regions. The mix of policy instruments that reduced costs and stimulated adoption includes public R&D, funding for demonstration and pilot projects, and demand-pull instruments such as deployment subsidies to attain scale. Maintaining emission-intensive systems may, in some regions and sectors, be more expensive than transitioning to low emission systems. (*high confidence*) {2.2.2, Figure 2.4}

- A.4.3 A substantial ‘emissions gap’ exists between global GHG emissions in 2030 associated with the implementation of NDCs announced prior to COP26²⁶ and those associated with modelled mitigation pathways that limit warming to 1.5°C (>50%) with no or limited overshoot or limit warming to 2°C (>67%) assuming immediate action (*high confidence*). This would make it *likely* that warming will exceed 1.5°C during the 21st century (*high confidence*). Global modelled mitigation pathways that limit warming to 1.5°C (>50%) with no or limited overshoot or limit warming to 2°C (>67%) assuming immediate action imply deep global GHG emissions reductions this decade (*high confidence*) (see SPM Box 1, Table 1, B.6)²⁷. Modelled pathways that are consistent with NDCs announced prior to COP26 until 2030 and assume no increase in ambition thereafter have higher emissions, leading to a median global warming of 2.8 [2.1 to 3.4] °C by 2100 (*medium confidence*). Many countries have signalled an intention to achieve net zero GHG or net zero CO₂ by around mid-century but pledges differ across countries in terms of scope and specificity, and limited policies are to date in place to deliver on them. {2.3.1, Table 2.2, Figure 2.5, Table 3.1, 4.1}
- A.4.4 Policy coverage is uneven across sectors (*high confidence*). Policies implemented by the end of 2020 are projected to result in higher global GHG emissions in 2030 than emissions implied by NDCs, indicating an ‘implementation gap’ (*high confidence*). Without a strengthening of policies, global warming of 3.2 [2.2 to 3.5] °C is projected by 2100 (*medium confidence*). {2.2.2, 2.3.1, 3.1.1, Figure 2.5} (Box SPM.1, Figure SPM.5)
- A.4.5 The adoption of low-emission technologies lags in most developing countries, particularly least developed ones, due in part to limited finance, technology development and transfer, and capacity (*medium confidence*). The magnitude of climate finance flows has increased over the last decade and financing channels have broadened but growth has slowed since 2018 (*high confidence*). Financial flows have developed heterogeneously across regions and sectors (*high confidence*). Public and private finance flows for fossil fuels are still greater than those for climate adaptation and mitigation (*high confidence*). The overwhelming majority of tracked climate finance is directed towards mitigation, but nevertheless falls short of the levels needed to limit warming to below 2°C or to 1.5°C across all sectors and regions (see C7.2) (*very high confidence*). In 2018, public and publicly mobilised private climate finance flows from developed to developing countries were below the collective goal under the UNFCCC and Paris Agreement to mobilise USD 100 billion per year by 2020 in the context of meaningful mitigation action and transparency on implementation (*medium confidence*). {2.2.2, 2.3.1, 2.3.3}

²⁶ Due to the literature cutoff date of WGIII, the additional NDCs submitted after 11 October 2021 are not assessed here. {Footnote 32 in the Longer Report}

²⁷ Projected 2030 GHG emissions are 50 (47–55) GtCO₂-eq if all conditional NDC elements are taken into account. Without conditional elements, the global emissions are projected to be approximately similar to modelled 2019 levels at 53 (50–57) GtCO₂-eq. {2.3.1, Table 2.2}

B. Future Climate Change, Risks, and Long-Term Responses

Future Climate Change

B.1 Continued greenhouse gas emissions will lead to increasing global warming, with the best estimate of reaching 1.5°C in the near term in considered scenarios and modelled pathways. Every increment of global warming will intensify multiple and concurrent hazards (*high confidence*). Deep, rapid, and sustained reductions in greenhouse gas emissions would lead to a discernible slowdown in global warming within around two decades, and also to discernible changes in atmospheric composition within a few years (*high confidence*). {Cross-Section Boxes 1 and 2, 3.1, 3.3, Table 3.1, Figure 3.1, 4.3} (Figure SPM.2, Box SPM.1)

- B.1.1** Global warming²⁸ will continue to increase in the near term (2021–2040) mainly due to increased cumulative CO₂ emissions in nearly all considered scenarios and modelled pathways. In the near term, global warming *is more likely than not* to reach 1.5°C even under the very low GHG emission scenario (SSP1-1.9) and *likely* or *very likely* to exceed 1.5°C under higher emissions scenarios. In the considered scenarios and modelled pathways, the best estimates of the time when the level of global warming of 1.5°C is reached lie in the near term²⁹. Global warming declines back to below 1.5°C by the end of the 21st century in some scenarios and modelled pathways (see B.7). The assessed climate response to GHG emissions scenarios results in a best estimate of warming for 2081–2100 that spans a range from 1.4°C for a very low GHG emissions scenario (SSP1-1.9) to 2.7°C for an intermediate GHG emissions scenario (SSP2-4.5) and 4.4°C for a very high GHG emissions scenario (SSP5-8.5)³⁰, with narrower uncertainty ranges³¹ than for corresponding scenarios in AR5. {Cross-Section Boxes 1 and 2, 3.1.1, 3.3.4, Table 3.1, 4.3} (Box SPM.1)
- B.1.2** Discernible differences in trends of global surface temperature between contrasting GHG emissions scenarios (SSP1-1.9 and SSP1-2.6 vs. SSP3-7.0 and SSP5-8.5) would begin to emerge from natural variability³² within around 20 years. Under these contrasting scenarios, discernible effects would emerge within years for GHG concentrations, and sooner for air quality improvements, due to the combined targeted air pollution controls and strong and sustained methane emissions reductions. Targeted reductions of air pollutant emissions lead to more rapid improvements in air quality within years compared to reductions in GHG emissions only, but in the long term, further improvements are projected in scenarios that combine efforts to reduce air pollutants as well as GHG emissions³³. (*high confidence*) {3.1.1} (Box SPM.1)
- B.1.3** Continued emissions will further affect all major climate system components. With every additional increment of global warming, changes in extremes continue to become larger. Continued global warming is projected to further intensify the global water cycle, including its variability, global monsoon precipitation, and very wet and very dry weather and

²⁸ Global warming (see Annex I: Glossary) is here reported as running 20-year averages, unless stated otherwise, relative to 1850–1900. Global surface temperature in any single year can vary above or below the long-term human-caused trend, due to natural variability. The internal variability of global surface temperature in a single year is estimated to be about ±0.25°C (5–95% range, *high confidence*). The occurrence of individual years with global surface temperature change above a certain level does not imply that this global warming level has been reached. {4.3, Cross-Section Box.2}

²⁹ Median five-year interval at which a 1.5°C global warming level is reached (50% probability) in categories of modelled pathways considered in WGIII is 2030–2035. By 2030, global surface temperature in any individual year could exceed 1.5°C relative to 1850–1900 with a probability between 40% and 60%, across the five scenarios assessed in WGI (*medium confidence*). In all scenarios considered in WGI except the very high emissions scenario (SSP5-8.5), the midpoint of the first 20-year running average period during which the assessed average global surface temperature change reaches 1.5°C lies in the first half of the 2030s. In the very high GHG emissions scenario, the midpoint is in the late 2020s. {3.1.1, 3.3.1, 4.3} (Box SPM.1)

³⁰ The best estimates [and *very likely* ranges] for the different scenarios are: 1.4 [1.0 to 1.8]°C (SSP1-1.9); 1.8 [1.3 to 2.4]°C (SSP1-2.6); 2.7 [2.1 to 3.5]°C (SSP2-4.5); 3.6 [2.8 to 4.6]°C (SSP3-7.0); and 4.4 [3.3 to 5.7]°C (SSP5-8.5). {3.1.1} (Box SPM.1)

³¹ Assessed future changes in global surface temperature have been constructed, for the first time, by combining multi-model projections with observational constraints and the assessed equilibrium climate sensitivity and transient climate response. The uncertainty range is narrower than in the AR5 thanks to improved knowledge of climate processes, paleoclimate evidence and model-based emergent constraints. {3.1.1}

³² See Annex I: Glossary. Natural variability includes natural drivers and internal variability. The main internal variability phenomena include El Niño-Southern Oscillation, Pacific Decadal Variability and Atlantic Multi-decadal Variability. {4.3}

³³ Based on additional scenarios.

climate events and seasons (*high confidence*). In scenarios with increasing CO₂ emissions, natural land and ocean carbon sinks are projected to take up a decreasing proportion of these emissions (*high confidence*). Other projected changes include further reduced extents and/or volumes of almost all cryospheric elements³⁴ (*high confidence*), further global mean sea level rise (*virtually certain*), and increased ocean acidification (*virtually certain*) and deoxygenation (*high confidence*). {3.1.1, 3.3.1, Figure 3.4} (Figure SPM.2)

- B.1.4 With further warming, every region is projected to increasingly experience concurrent and multiple changes in climatic impact-drivers. Compound heatwaves and droughts are projected to become more frequent, including concurrent events across multiple locations (*high confidence*). Due to relative sea level rise, current 1-in-100 year extreme sea level events are projected to occur at least annually in more than half of all tide gauge locations by 2100 under all considered scenarios (*high confidence*). Other projected regional changes include intensification of tropical cyclones and/or extratropical storms (*medium confidence*), and increases in aridity and fire weather (*medium to high confidence*). {3.1.1, 3.1.3}
- B.1.5 Natural variability will continue to modulate human-caused climate changes, either attenuating or amplifying projected changes, with little effect on centennial-scale global warming (*high confidence*). These modulations are important to consider in adaptation planning, especially at the regional scale and in the near term. If a large explosive volcanic eruption were to occur³⁵, it would temporarily and partially mask human-caused climate change by reducing global surface temperature and precipitation for one to three years (*medium confidence*). {4.3}

³⁴ Permafrost, seasonal snow cover, glaciers, the Greenland and Antarctic Ice Sheets, and Arctic sea ice.

³⁵ Based on 2500-year reconstructions, eruptions with a radiative forcing more negative than -1 W m^{-2} , related to the radiative effect of volcanic stratospheric aerosols in the literature assessed in this report, occur on average twice per century. {4.3}

With every increment of global warming, regional changes in mean climate and extremes become more widespread and pronounced

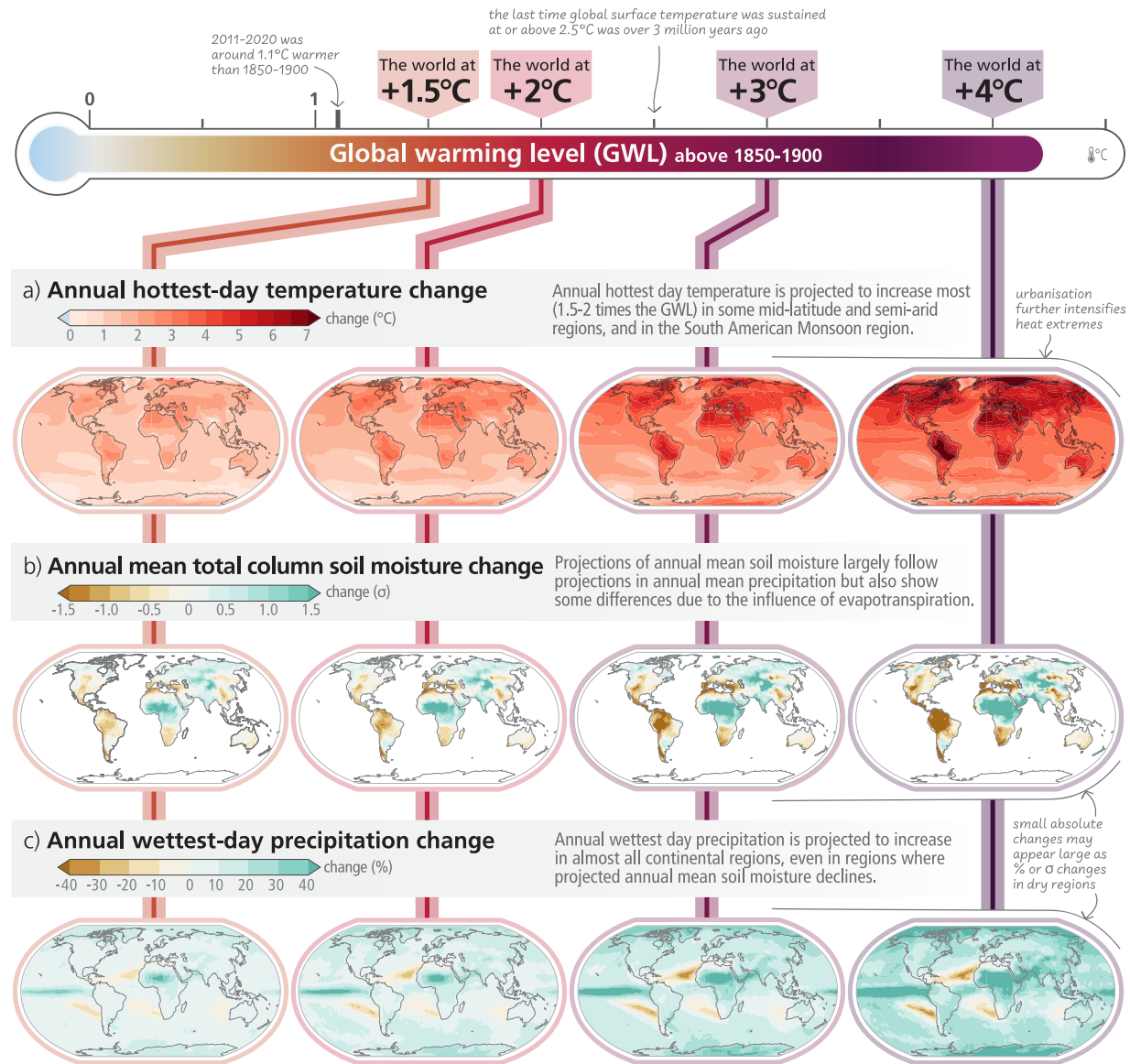


Figure SPM.2: Projected changes of annual maximum daily maximum temperature, annual mean total column soil moisture and annual maximum 1-day precipitation at global warming levels of 1.5°C, 2°C, 3°C, and 4°C relative to 1850–1900. Projected (a) annual maximum daily temperature change (°C), (b) annual mean total column soil moisture change (standard deviation), (c) annual maximum 1-day precipitation change (%). The panels show CMIP6 multi-model median changes. In panels (b) and (c), large positive relative changes in dry regions may correspond to small absolute changes. In panel (b), the unit is the standard deviation of interannual variability in soil moisture during 1850–1900. Standard deviation is a widely used metric in characterising drought severity. A projected reduction in mean soil moisture by one standard deviation corresponds to soil moisture conditions typical of droughts that occurred about once every six years during 1850–1900. The WGI Interactive Atlas (<https://interactive-atlas.ipcc.ch/>) can be used to explore additional changes in the climate system across the range of global warming levels presented in this figure. {Figure 3.1, Cross-Section Box.2}

Climate Change Impacts and Climate-Related Risks

B.2 For any given future warming level, many climate-related risks are higher than assessed in AR5, and projected long-term impacts are up to multiple times higher than currently observed (*high confidence*). Risks and projected adverse impacts and related losses and damages from climate change escalate with every increment of global warming (*very high confidence*). Climatic and non-climatic risks will increasingly interact, creating compound and cascading risks that are more complex and difficult to manage (*high confidence*). {Cross-Section Box.2, 3.1, 4.3, Figure 3.3, Figure 4.3} (Figure SPM.3, Figure SPM.4)

- B.2.1 In the near term, every region in the world is projected to face further increases in climate hazards (*medium to high confidence*, depending on region and hazard), increasing multiple risks to ecosystems and humans (*very high confidence*). Hazards and associated risks expected in the near term include an increase in heat-related human mortality and morbidity (*high confidence*), food-borne, water-borne, and vector-borne diseases (*high confidence*), and mental health challenges³⁶ (*very high confidence*), flooding in coastal and other low-lying cities and regions (*high confidence*), biodiversity loss in land, freshwater and ocean ecosystems (*medium to very high confidence*, depending on ecosystem), and a decrease in food production in some regions (*high confidence*). Cryosphere-related changes in floods, landslides, and water availability have the potential to lead to severe consequences for people, infrastructure and the economy in most mountain regions (*high confidence*). The projected increase in frequency and intensity of heavy precipitation (*high confidence*) will increase rain-generated local flooding (*medium confidence*). {Figure 3.2, Figure 3.3, 4.3, Figure 4.3} (Figure SPM.3, Figure SPM.4)
- B.2.2 Risks and projected adverse impacts and related losses and damages from climate change will escalate with every increment of global warming (*very high confidence*). They are higher for global warming of 1.5°C than at present, and even higher at 2°C (*high confidence*). Compared to the AR5, global aggregated risk levels³⁷ (Reasons for Concern³⁸) are assessed to become high to very high at lower levels of global warming due to recent evidence of observed impacts, improved process understanding, and new knowledge on exposure and vulnerability of human and natural systems, including limits to adaptation (*high confidence*). Due to unavoidable sea level rise (see also B.3), risks for coastal ecosystems, people and infrastructure will continue to increase beyond 2100 (*high confidence*). {3.1.2, 3.1.3, Figure 3.4, Figure 4.3} (Figure SPM.3, Figure SPM.4)
- B.2.3 With further warming, climate change risks will become increasingly complex and more difficult to manage. Multiple climatic and non-climatic risk drivers will interact, resulting in compounding overall risk and risks cascading across sectors and regions. Climate-driven food insecurity and supply instability, for example, are projected to increase with increasing global warming, interacting with non-climatic risk drivers such as competition for land between urban expansion and food production, pandemics and conflict. (*high confidence*) {3.1.2, 4.3, Figure 4.3}
- B.2.4 For any given warming level, the level of risk will also depend on trends in vulnerability and exposure of humans and ecosystems. Future exposure to climatic hazards is increasing globally due to socio-economic development trends including migration, growing inequality and urbanisation. Human vulnerability will concentrate in informal settlements and rapidly growing smaller settlements. In rural areas vulnerability will be heightened by high reliance on climate-sensitive livelihoods. Vulnerability of ecosystems will be strongly influenced by past, present, and future patterns of unsustainable consumption and production, increasing demographic pressures, and persistent unsustainable use and management of land, ocean, and water. Loss of ecosystems and their services has cascading and long-term impacts on people globally, especially for Indigenous Peoples and local communities who are directly dependent on ecosystems to meet basic needs. (*high confidence*) {Cross-Section Box.2 Figure 1c, 3.1.2, 4.3}

³⁶ In all assessed regions.

³⁷ Undetectable risk level indicates no associated impacts are detectable and attributable to climate change; moderate risk indicates associated impacts are both detectable and attributable to climate change with at least *medium confidence*, also accounting for the other specific criteria for key risks; high risk indicates severe and widespread impacts that are judged to be high on one or more criteria for assessing key risks; and very high risk level indicates very high risk of severe impacts and the presence of significant irreversibility or the persistence of climate-related hazards, combined with limited ability to adapt due to the nature of the hazard or impacts/risks. {3.1.2}

³⁸ The Reasons for Concern (RFC) framework communicates scientific understanding about accrual of risk for five broad categories. RFC1: Unique and threatened systems: ecological and human systems that have restricted geographic ranges constrained by climate-related conditions and have high endemism or other distinctive properties. RFC2: Extreme weather events: risks/impacts to human health, livelihoods, assets and ecosystems from extreme weather events. RFC3: Distribution of impacts: risks/impacts that disproportionately affect particular groups due to uneven distribution of physical climate change hazards, exposure or vulnerability. RFC4: Global aggregate impacts: impacts to socio-ecological systems that can be aggregated globally into a single metric. RFC5: Large-scale singular events: relatively large, abrupt and sometimes irreversible changes in systems caused by global warming. See also Annex I: Glossary. {3.1.2, Cross-Section Box.2}

Future climate change is projected to increase the severity of impacts across natural and human systems and will increase regional differences

Examples of impacts without additional adaptation

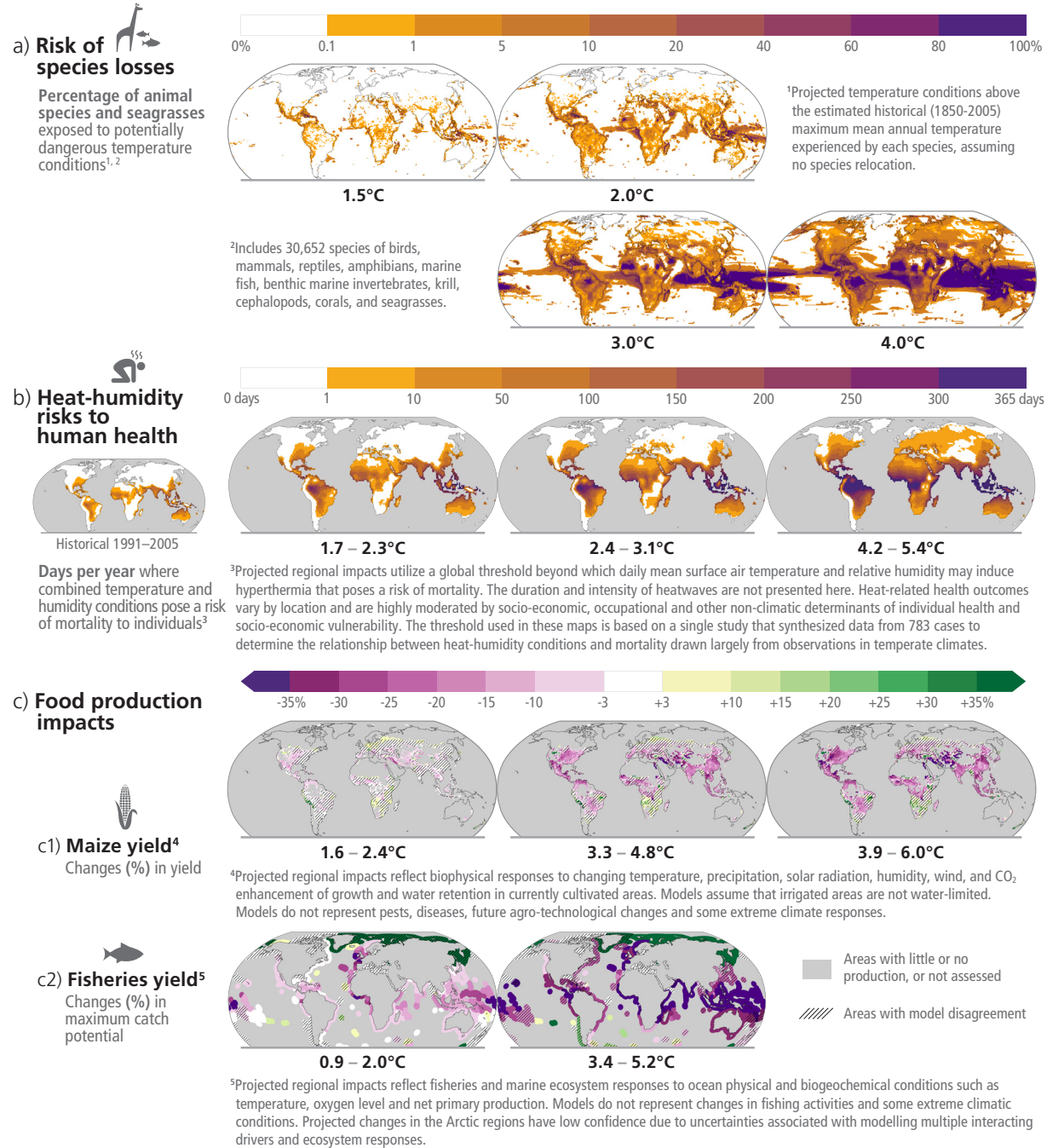


Figure SPM.3: Projected risks and impacts of climate change on natural and human systems at different global warming levels (GWLs) relative to 1850-1900 levels. Projected risks and impacts shown on the maps are based on outputs from different subsets of Earth system and impact models that were used to project each impact indicator without additional adaptation. WGII provides further assessment of the impacts on human and natural systems using these projections and additional lines of evidence. **(a)** Risks of species losses as indicated by the percentage of assessed species exposed to potentially dangerous temperature conditions, as defined by conditions beyond the estimated historical (1850–2005) maximum mean annual temperature experienced by each species, at GWLs of 1.5°C, 2°C, 3°C and 4°C. Underpinning projections of temperature are from 21 Earth system models and do not consider extreme events impacting ecosystems such as the Arctic. **(b)** Risks to human health as indicated by the days per year of population exposure to hyperthermic conditions that pose a risk of mortality from surface air temperature and humidity conditions for historical period (1991–2005) and at GWLs of 1.7°C–2.3°C (mean = 1.9°C; 13 climate models), 2.4°C–3.1°C (2.7°C; 16 climate models) and 4.2°C–5.4°C (4.7°C; 15 climate models). Interquartile ranges of GWLs by 2081–2100 under RCP2.6, RCP4.5 and RCP8.5. The presented index is consistent with common features found in many indices included within WGI and WGII assessments. **(c)** Impacts on food production: (c1) Changes in maize yield by 2080–2099 relative to 1986–2005 at projected GWLs of 1.6°C–2.4°C (2.0°C), 3.3°C–4.8°C (4.1°C) and 3.9°C–6.0°C (4.9°C). Median yield changes from an ensemble of 12 crop models, each driven by bias-adjusted outputs from 5 Earth system models, from the Agricultural Model Intercomparison and Improvement Project (AgMIP) and the Inter-Sectoral Impact Model Intercomparison Project (ISIMIP). Maps depict

2080–2099 compared to 1986–2005 for current growing regions (>10 ha), with the corresponding range of future global warming levels shown under SSP1-2.6, SSP3-7.0 and SSP5-8.5, respectively. Hatching indicates areas where <70% of the climate-crop model combinations agree on the sign of impact. (c2) Change in maximum fisheries catch potential by 2081–2099 relative to 1986–2005 at projected GWLs of 0.9°C–2.0°C (1.5°C) and 3.4°C–5.2°C (4.3°C). GWLs by 2081–2100 under RCP2.6 and RCP8.5. Hatching indicates where the two climate-fisheries models disagree in the direction of change. Large relative changes in low yielding regions may correspond to small absolute changes. Biodiversity and fisheries in Antarctica were not analysed due to data limitations. Food security is also affected by crop and fishery failures not presented here. {3.1.2, Figure 3.2, Cross-Section Box.2} (Box SPM.1)

Risks are increasing with every increment of warming

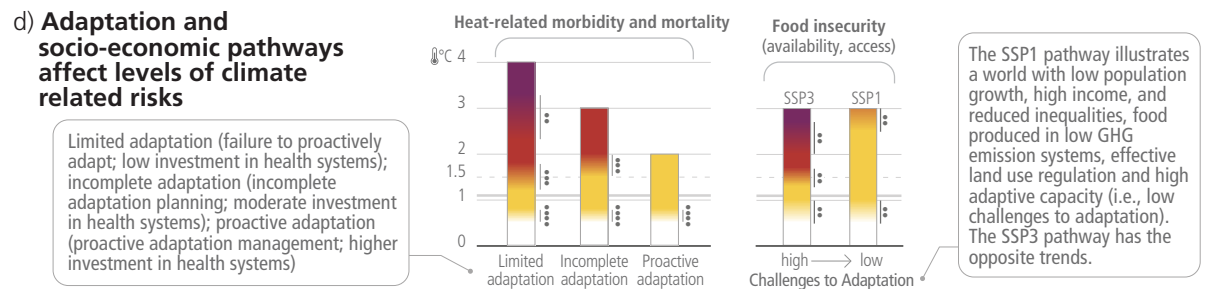
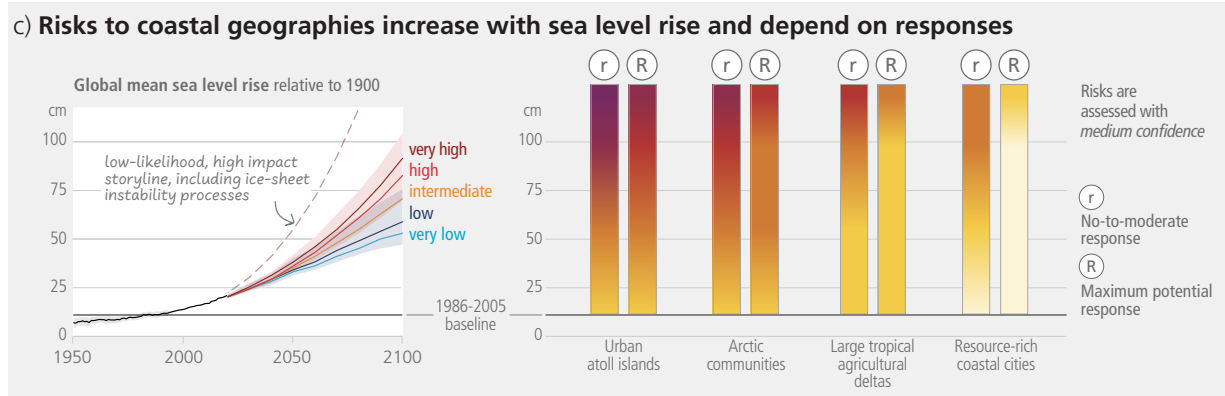
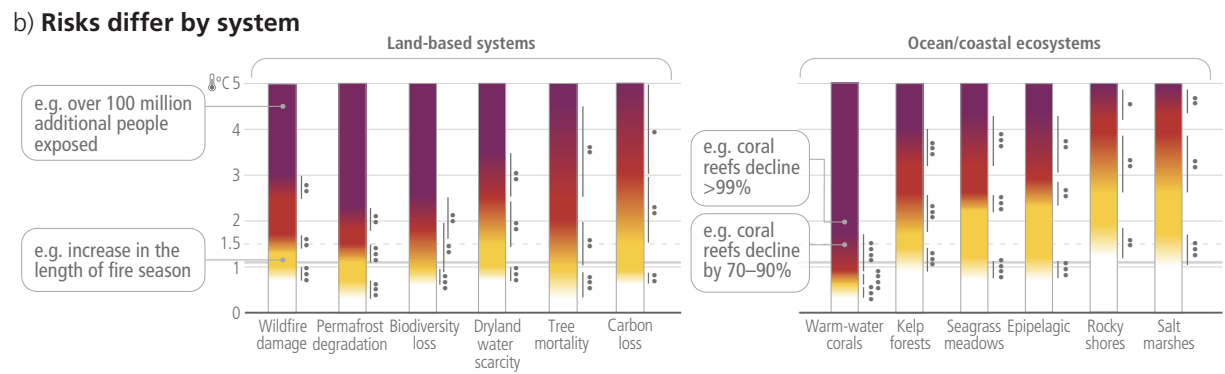
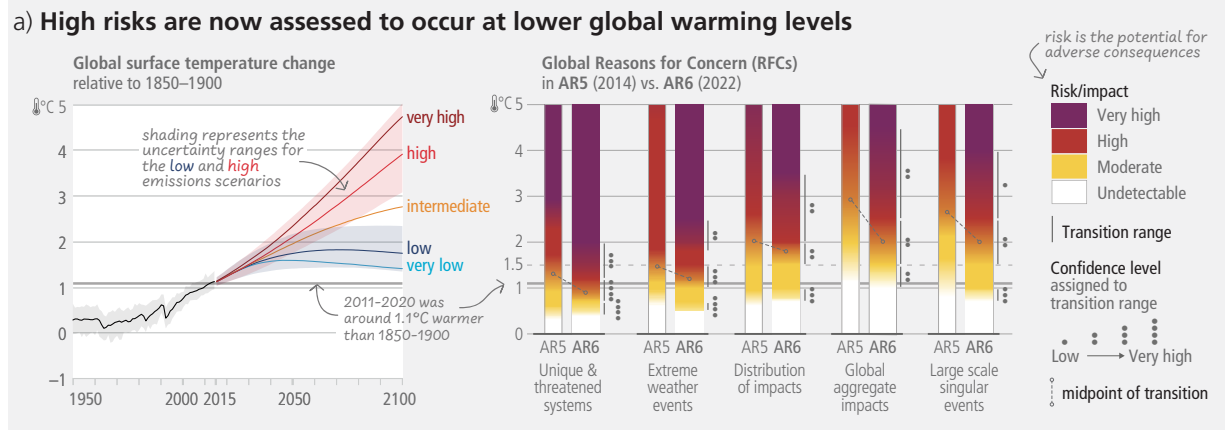


Figure SPM.4: Subset of assessed climate outcomes and associated global and regional climate risks. The burning embers result from a literature based expert elicitation. **Panel (a): Left** – Global surface temperature changes in °C relative to 1850–1900. These changes were obtained by combining CMIP6 model simulations with observational constraints based on past simulated warming, as well as an updated assessment of equilibrium climate sensitivity. *Very likely* ranges are shown for the low and high GHG emissions scenarios (SSP1-2.6 and SSP3-7.0) (Cross-Section Box.2). **Right** – Global Reasons for Concern (RFC), comparing AR6 (thick embers) and AR5 (thin embers) assessments. Risk transitions have generally shifted towards lower temperatures with updated scientific understanding. Diagrams are shown for each RFC, assuming low to no adaptation. Lines connect the midpoints of the transitions from moderate to high risk across AR5 and AR6. **Panel (b):** Selected global risks for land and ocean ecosystems, illustrating general increase of risk with global warming levels with low to no adaptation. **Panel (c): Left** - Global mean sea level change in centimetres, relative to 1900. The historical changes (black) are observed by tide gauges before 1992 and altimeters afterwards. The future changes to 2100 (coloured lines and shading) are assessed consistently with observational constraints based on emulation of CMIP, ice-sheet, and glacier models, and *likely* ranges are shown for SSP1-2.6 and SSP3-7.0. **Right** - Assessment of the combined risk of coastal flooding, erosion and salinization for four illustrative coastal geographies in 2100, due to changing mean and extreme sea levels, under two response scenarios, with respect to the SROCC baseline period (1986–2005). The assessment does not account for changes in extreme sea level beyond those directly induced by mean sea level rise; risk levels could increase if other changes in extreme sea levels were considered (e.g., due to changes in cyclone intensity). “No-to-moderate response” describes efforts as of today (i.e., no further significant action or new types of actions). “Maximum potential response” represent a combination of responses implemented to their full extent and thus significant additional efforts compared to today, assuming minimal financial, social and political barriers. (In this context, ‘today’ refers to 2019.) The assessment criteria include exposure and vulnerability, coastal hazards, in-situ responses and planned relocation. Planned relocation refers to managed retreat or resettlements. The term response is used here instead of adaptation because some responses, such as retreat, may or may not be considered to be adaptation. **Panel (d):** Selected risks under different socio-economic pathways, illustrating how development strategies and challenges to adaptation influence risk. **Left** - Heat-sensitive human health outcomes under three scenarios of adaptation effectiveness. The diagrams are truncated at the nearest whole °C within the range of temperature change in 2100 under three SSP scenarios. **Right** - Risks associated with food security due to climate change and patterns of socio-economic development. Risks to food security include availability and access to food, including population at risk of hunger, food price increases and increases in disability adjusted life years attributable to childhood underweight. Risks are assessed for two contrasted socio-economic pathways (SSP1 and SSP3) excluding the effects of targeted mitigation and adaptation policies. {Figure 3.3} (Box SPM.1)

Likelihood and Risks of Unavoidable, Irreversible or Abrupt Changes

B.3 Some future changes are unavoidable and/or irreversible but can be limited by deep, rapid, and sustained global greenhouse gas emissions reduction. The likelihood of abrupt and/or irreversible changes increases with higher global warming levels. Similarly, the probability of low-likelihood outcomes associated with potentially very large adverse impacts increases with higher global warming levels. (high confidence) {3.1}

- B.3.1** Limiting global surface temperature does not prevent continued changes in climate system components that have multi-decadal or longer timescales of response (*high confidence*). Sea level rise is unavoidable for centuries to millennia due to continuing deep ocean warming and ice sheet melt, and sea levels will remain elevated for thousands of years (*high confidence*). However, deep, rapid, and sustained GHG emissions reductions would limit further sea level rise acceleration and projected long-term sea level rise commitment. Relative to 1995–2014, the *likely* global mean sea level rise under the SSP1-1.9 GHG emissions scenario is 0.15–0.23 m by 2050 and 0.28–0.55 m by 2100; while for the SSP5-8.5 GHG emissions scenario it is 0.20–0.29 m by 2050 and 0.63–1.01 m by 2100 (*medium confidence*). Over the next 2000 years, global mean sea level will rise by about 2–3 m if warming is limited to 1.5°C and 2–6 m if limited to 2°C (*low confidence*). {3.1.3, Figure 3.4} (Box SPM.1)
- B.3.2** The likelihood and impacts of abrupt and/or irreversible changes in the climate system, including changes triggered when tipping points are reached, increase with further global warming (*high confidence*). As warming levels increase, so do the risks of species extinction or irreversible loss of biodiversity in ecosystems including forests (*medium confidence*), coral reefs (*very high confidence*) and in Arctic regions (*high confidence*). At sustained warming levels between 2°C and 3°C, the Greenland and West Antarctic ice sheets will be lost almost completely and irreversibly over multiple millennia, causing several metres of sea level rise (*limited evidence*). The probability and rate of ice mass loss increase with higher global surface temperatures (*high confidence*). {3.1.2, 3.1.3}
- B.3.3** The probability of low-likelihood outcomes associated with potentially very large impacts increases with higher global warming levels (*high confidence*). Due to deep uncertainty linked to ice-sheet processes, global mean sea level rise above the *likely* range – approaching 2 m by 2100 and in excess of 15 m by 2300 under the very high GHG emissions scenario (SSP5-8.5) (*low confidence*) – cannot be excluded. There is *medium confidence* that the Atlantic Meridional Overturning Circulation will not collapse abruptly before 2100, but if it were to occur, it would *very likely* cause abrupt shifts in regional weather patterns, and large impacts on ecosystems and human activities. {3.1.3} (Box SPM.1)

Adaptation Options and their Limits in a Warmer World

- B.4 Adaptation options that are feasible and effective today will become constrained and less effective with increasing global warming. With increasing global warming, losses and damages will increase and additional human and natural systems will reach adaptation limits. Maladaptation can be avoided by flexible, multi-sectoral, inclusive, long-term planning and implementation of adaptation actions, with co-benefits to many sectors and systems. (*high confidence*) {3.2, 4.1, 4.2, 4.3}**
- B.4.1 The effectiveness of adaptation, including ecosystem-based and most water-related options, will decrease with increasing warming. The feasibility and effectiveness of options increase with integrated, multi-sectoral solutions that differentiate responses based on climate risk, cut across systems and address social inequities. As adaptation options often have long implementation times, long-term planning increases their efficiency. (*high confidence*) {3.2, Figure 3.4, 4.1, 4.2}
- B.4.2 With additional global warming, limits to adaptation and losses and damages, strongly concentrated among vulnerable populations, will become increasingly difficult to avoid (*high confidence*). Above 1.5°C of global warming, limited freshwater resources pose potential hard adaptation limits for small islands and for regions dependent on glacier and snow melt (*medium confidence*). Above that level, ecosystems such as some warm-water coral reefs, coastal wetlands, rainforests, and polar and mountain ecosystems will have reached or surpassed hard adaptation limits and as a consequence, some Ecosystem-based Adaptation measures will also lose their effectiveness (*high confidence*). {2.3.2, 3.2, 4.3}
- B.4.3 Actions that focus on sectors and risks in isolation and on short-term gains often lead to maladaptation over the long term, creating lock-ins of vulnerability, exposure and risks that are difficult to change. For example, seawalls effectively reduce impacts to people and assets in the short term but can also result in lock-ins and increase exposure to climate risks in the long term unless they are integrated into a long-term adaptive plan. Maladaptive responses can worsen existing inequities especially for Indigenous Peoples and marginalised groups and decrease ecosystem and biodiversity resilience. Maladaptation can be avoided by flexible, multi-sectoral, inclusive, long-term planning and implementation of adaptation actions, with co-benefits to many sectors and systems. (*high confidence*) {2.3.2, 3.2}

Carbon Budgets and Net Zero Emissions

- B.5 Limiting human-caused global warming requires net zero CO₂ emissions. Cumulative carbon emissions until the time of reaching net zero CO₂ emissions and the level of greenhouse gas emission reductions this decade largely determine whether warming can be limited to 1.5°C or 2°C (*high confidence*). Projected CO₂ emissions from existing fossil fuel infrastructure without additional abatement would exceed the remaining carbon budget for 1.5°C (50%) (*high confidence*). {2.3, 3.1, 3.3, Table 3.1}**
- B.5.1 From a physical science perspective, limiting human-caused global warming to a specific level requires limiting cumulative CO₂ emissions, reaching at least net zero CO₂ emissions, along with strong reductions in other greenhouse gas emissions. Reaching net zero GHG emissions primarily requires deep reductions in CO₂, methane, and other GHG emissions, and implies net negative CO₂ emissions³⁹. Carbon dioxide removal (CDR) will be necessary to achieve net negative CO₂ emissions (see B.6). Net zero GHG emissions, if sustained, are projected to result in a gradual decline in global surface temperatures after an earlier peak. (*high confidence*) {3.1.1, 3.3.1, 3.3.2, 3.3.3, Table 3.1, Cross-Section Box 1}
- B.5.2 For every 1000 GtCO₂ emitted by human activity, global surface temperature rises by 0.45°C (best estimate, with a *likely* range from 0.27°C to 0.63°C). The best estimates of the remaining carbon budgets from the beginning of 2020 are 500 GtCO₂ for a 50% likelihood of limiting global warming to 1.5°C and 1150 GtCO₂ for a 67% likelihood of limiting warming to 2°C⁴⁰. The stronger the reductions in non-CO₂ emissions, the lower the resulting temperatures are for a given remaining carbon budget or the larger remaining carbon budget for the same level of temperature change⁴¹. {3.3.1}

³⁹ Net zero GHG emissions defined by the 100-year global warming potential. See footnote 9.

⁴⁰ Global databases make different choices about which emissions and removals occurring on land are considered anthropogenic. Most countries report their anthropogenic land CO₂ fluxes including fluxes due to human-caused environmental change (e.g., CO₂ fertilisation) on 'managed' land in their national GHG inventories. Using emissions estimates based on these inventories, the remaining carbon budgets must be correspondingly reduced. {3.3.1}

⁴¹ For example, remaining carbon budgets could be 300 or 600 GtCO₂ for 1.5°C (50%), respectively for high and low non-CO₂ emissions, compared to 500 GtCO₂ in the central case. {3.3.1}

- B.5.3 If the annual CO₂ emissions between 2020–2030 stayed, on average, at the same level as 2019, the resulting cumulative emissions would almost exhaust the remaining carbon budget for 1.5°C (50%), and deplete more than a third of the remaining carbon budget for 2°C (67%). Estimates of future CO₂ emissions from existing fossil fuel infrastructures without additional abatement⁴² already exceed the remaining carbon budget for limiting warming to 1.5°C (50%) (*high confidence*). Projected cumulative future CO₂ emissions over the lifetime of existing and planned fossil fuel infrastructure, if historical operating patterns are maintained and without additional abatement⁴³, are approximately equal to the remaining carbon budget for limiting warming to 2°C with a likelihood of 83%⁴⁴ (*high confidence*). {2.3.1, 3.3.1, Figure 3.5}
- B.5.4 Based on central estimates only, historical cumulative net CO₂ emissions between 1850 and 2019 amount to about four fifths⁴⁵ of the total carbon budget for a 50% probability of limiting global warming to 1.5°C (central estimate about 2900 GtCO₂), and to about two thirds⁴⁶ of the total carbon budget for a 67% probability to limit global warming to 2°C (central estimate about 3550 GtCO₂). {3.3.1, Figure 3.5}

Mitigation Pathways

B.6 All global modelled pathways that limit warming to 1.5°C (>50%) with no or limited overshoot, and those that limit warming to 2°C (>67%), involve rapid and deep and, in most cases, immediate greenhouse gas emissions reductions in all sectors this decade. Global net zero CO₂ emissions are reached for these pathway categories, in the early 2050s and around the early 2070s, respectively. (*high confidence*) {3.3, 3.4, 4.1, 4.5, Table 3.1} (Figure SPM.5, Box SPM.1)

- B.6.1 Global modelled pathways provide information on limiting warming to different levels; these pathways, particularly their sectoral and regional aspects, depend on the assumptions described in Box SPM.1. Global modelled pathways that limit warming to 1.5°C (>50%) with no or limited overshoot or limit warming to 2°C (>67%) are characterized by deep, rapid, and, in most cases, immediate GHG emissions reductions. Pathways that limit warming to 1.5°C (>50%) with no or limited overshoot reach net zero CO₂ in the early 2050s, followed by net negative CO₂ emissions. Those pathways that reach net zero GHG emissions do so around the 2070s. Pathways that limit warming to 2°C (>67%) reach net zero CO₂ emissions in the early 2070s. Global GHG emissions are projected to peak between 2020 and at the latest before 2025 in global modelled pathways that limit warming to 1.5°C (>50%) with no or limited overshoot and in those that limit warming to 2°C (>67%) and assume immediate action. (*high confidence*) {3.3.2, 3.3.4, 4.1, Table 3.1, Figure 3.6} (Table SPM.1)

⁴² Abatement here refers to human interventions that reduce the amount of greenhouse gases that are released from fossil fuel infrastructure to the atmosphere.

⁴³ Ibid.

⁴⁴ WGI provides carbon budgets that are in line with limiting global warming to temperature limits with different likelihoods, such as 50%, 67% or 83%. {3.3.1}

⁴⁵ Uncertainties for total carbon budgets have not been assessed and could affect the specific calculated fractions.

⁴⁶ Ibid.

Table SPM.1: Greenhouse gas and CO₂ emission reductions from 2019, median and 5-95 percentiles. {3.3.1, 4.1, Table 3.1, Figure 2.5, Box SPM.1}

	Reductions from 2019 emission levels (%)				
		2030	2035	2040	2050
Limit warming to 1.5°C (>50%) with no or limited overshoot	GHG	43 [34-60]	60 [49-77]	69 [58-90]	84 [73-98]
	CO ₂	48 [36-69]	65 [50-96]	80 [61-109]	99 [79-119]
Limit warming to 2°C (>67%)	GHG	21 [1-42]	35 [22-55]	46 [34-63]	64 [53-77]
	CO ₂	22 [1-44]	37 [21-59]	51 [36-70]	73 [55-90]

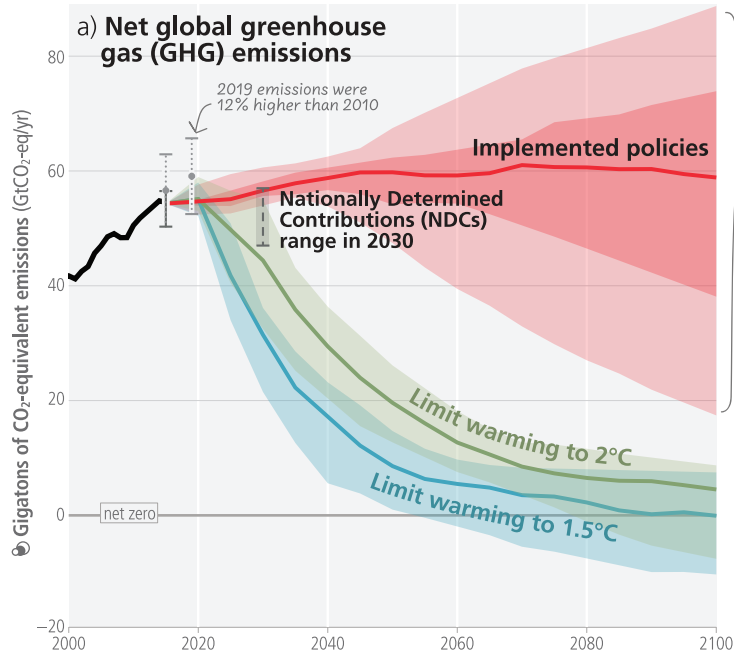
- B.6.2 Reaching net zero CO₂ or GHG emissions primarily requires deep and rapid reductions in gross emissions of CO₂, as well as substantial reductions of non-CO₂ GHG emissions (*high confidence*). For example, in modelled pathways that limit warming to 1.5°C (>50%) with no or limited overshoot, global methane emissions are reduced by 34 [21–57] % by 2030 relative to 2019. However, some hard-to-abate residual GHG emissions (e.g., some emissions from agriculture, aviation, shipping, and industrial processes) remain and would need to be counterbalanced by deployment of CDR methods to achieve net zero CO₂ or GHG emissions (*high confidence*). As a result, net zero CO₂ is reached earlier than net zero GHGs (*high confidence*). {3.3.2, 3.3.3, Table 3.1, Figure 3.5} (Figure SPM.5)
- B.6.3 Global modelled mitigation pathways reaching net zero CO₂ and GHG emissions include transitioning from fossil fuels without carbon capture and storage (CCS) to very low- or zero-carbon energy sources, such as renewables or fossil fuels with CCS, demand-side measures and improving efficiency, reducing non-CO₂ GHG emissions, and CDR⁴⁷. In most global modelled pathways, land-use change and forestry (via reforestation and reduced deforestation) and the energy supply sector reach net zero CO₂ emissions earlier than the buildings, industry and transport sectors. (*high confidence*) {3.3.3, 4.1, 4.5, Figure 4.1} (Figure SPM.5, Box SPM.1)
- B.6.4 Mitigation options often have synergies with other aspects of sustainable development, but some options can also have trade-offs. There are potential synergies between sustainable development and, for instance, energy efficiency and renewable energy. Similarly, depending on the context⁴⁸, biological CDR methods like reforestation, improved forest management, soil carbon sequestration, peatland restoration and coastal blue carbon management can enhance biodiversity and ecosystem functions, employment and local livelihoods. However, afforestation or production of biomass crops can have adverse socio-economic and environmental impacts, including on biodiversity, food and water security, local livelihoods and the rights of Indigenous Peoples, especially if implemented at large scales and where land tenure is insecure. Modelled pathways that assume using resources more efficiently or that shift global development towards sustainability include fewer challenges, such as less dependence on CDR and pressure on land and biodiversity. (*high confidence*) {3.4.1}

⁴⁷ CCS is an option to reduce emissions from large-scale fossil-based energy and industry sources provided geological storage is available. When CO₂ is captured directly from the atmosphere (DACCS), or from biomass (BECCS), CCS provides the storage component of these CDR methods. CO₂ capture and subsurface injection is a mature technology for gas processing and enhanced oil recovery. In contrast to the oil and gas sector, CCS is less mature in the power sector, as well as in cement and chemicals production, where it is a critical mitigation option. The technical geological storage capacity is estimated to be on the order of 1000 GtCO₂, which is more than the CO₂ storage requirements through 2100 to limit global warming to 1.5°C, although the regional availability of geological storage could be a limiting factor. If the geological storage site is appropriately selected and managed, it is estimated that the CO₂ can be permanently isolated from the atmosphere. Implementation of CCS currently faces technological, economic, institutional, ecological-environmental and socio-cultural barriers. Currently, global rates of CCS deployment are far below those in modelled pathways limiting global warming to 1.5°C to 2°C. Enabling conditions such as policy instruments, greater public support and technological innovation could reduce these barriers. (*high confidence*) {3.3.3}

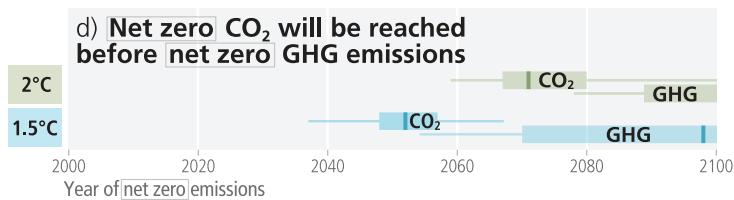
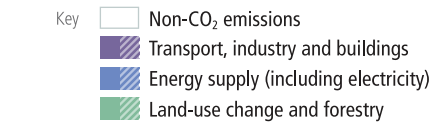
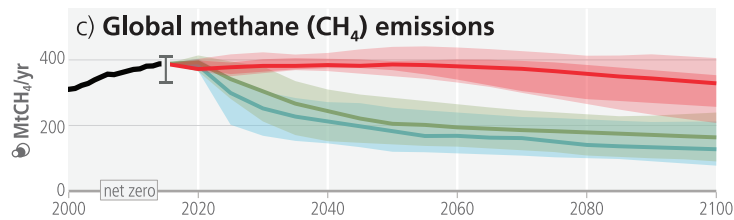
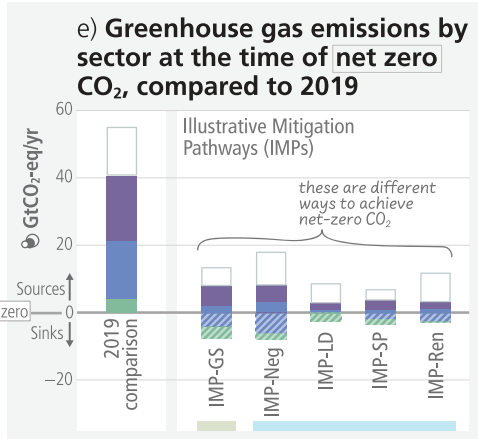
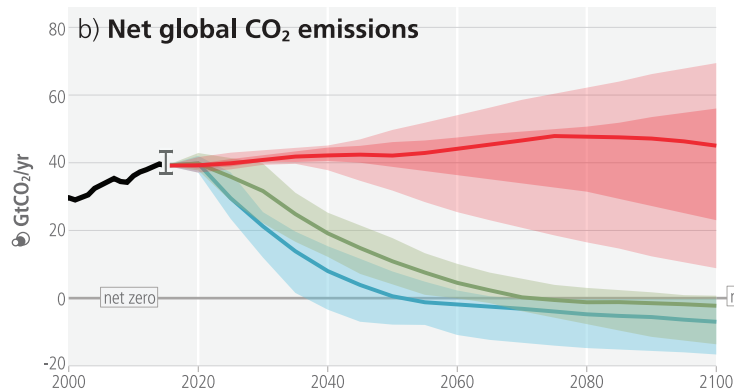
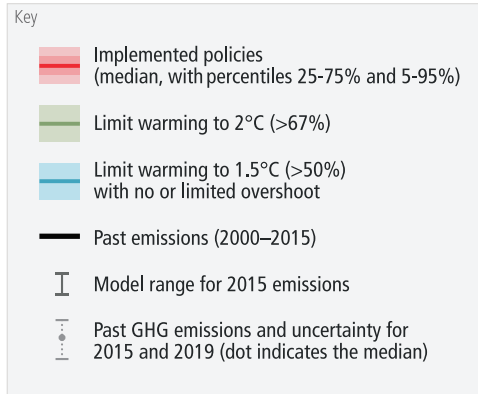
⁴⁸ The impacts, risks, and co-benefits of CDR deployment for ecosystems, biodiversity and people will be highly variable depending on the method, site-specific context, implementation and scale (*high confidence*).

Limiting warming to 1.5°C and 2°C involves rapid, deep and in most cases immediate greenhouse gas emission reductions

Net zero CO₂ and net zero GHG emissions can be achieved through strong reductions across all sectors



Implemented policies result in projected emissions that lead to warming of 3.2°C, with a range of 2.2°C to 3.5°C (medium confidence)



Summary for Policymakers

Figure SPM.5: Global emissions pathways consistent with implemented policies and mitigation strategies. Panels (a), (b) and (c) show the development of global GHG, CO₂ and methane emissions in modelled pathways, while panel (d) shows the associated timing of when GHG and CO₂ emissions reach net zero. Coloured ranges denote the 5th to 95th percentile across the global modelled pathways falling within a given category as described in Box SPM.1. The red ranges depict emissions pathways assuming policies that were implemented by the end of 2020. Ranges of modelled pathways that limit warming to 1.5°C (>50%) with no or limited overshoot are shown in light blue (category C1) and pathways that limit warming to 2°C (>67%) are shown in green (category C3). Global emission pathways that would limit warming to 1.5°C (>50%) with no or limited overshoot and also reach net zero GHG in the second half of the century do so between 2070–2075. Panel (e) shows the sectoral contributions of CO₂ and non-CO₂ emissions sources and sinks at the time when net zero CO₂ emissions are reached in illustrative mitigation pathways (IMPs) consistent with limiting warming to 1.5°C with a high reliance on net negative emissions (IMP-Neg) (“high overshoot”), high resource efficiency (IMP-LD), a focus on sustainable development (IMP-SP), renewables (IMP-Ren) and limiting warming to 2°C with less rapid mitigation initially followed by a gradual strengthening (IMP-GS). Positive and negative emissions for different IMPs are compared to GHG emissions from the year 2019. Energy supply (including electricity) includes bioenergy with carbon dioxide capture and storage and direct air carbon dioxide capture and storage. CO₂ emissions from land-use change and forestry can only be shown as a net number as many models do not report emissions and sinks of this category separately. {Figure 3.6, 4.1} (Box SPM.1)

Overshoot: Exceeding a Warming Level and Returning

B.7 If warming exceeds a specified level such as 1.5°C, it could gradually be reduced again by achieving and sustaining net negative global CO₂ emissions. This would require additional deployment of carbon dioxide removal, compared to pathways without overshoot, leading to greater feasibility and sustainability concerns. Overshoot entails adverse impacts, some irreversible, and additional risks for human and natural systems, all growing with the magnitude and duration of overshoot. (high confidence) {3.1, 3.3, 3.4, Table 3.1, Figure 3.6}

- B.7.1 Only a small number of the most ambitious global modelled pathways limit global warming to 1.5°C (>50%) by 2100 without exceeding this level temporarily. Achieving and sustaining net negative global CO₂ emissions, with annual rates of CDR greater than residual CO₂ emissions, would gradually reduce the warming level again (*high confidence*). Adverse impacts that occur during this period of overshoot and cause additional warming via feedback mechanisms, such as increased wildfires, mass mortality of trees, drying of peatlands, and permafrost thawing, weakening natural land carbon sinks and increasing releases of GHGs would make the return more challenging (*medium confidence*). {3.3.2, 3.3.4, Table 3.1, Figure 3.6} (Box SPM.1)
- B.7.2 The higher the magnitude and the longer the duration of overshoot, the more ecosystems and societies are exposed to greater and more widespread changes in climatic impact-drivers, increasing risks for many natural and human systems. Compared to pathways without overshoot, societies would face higher risks to infrastructure, low-lying coastal settlements, and associated livelihoods. Overshooting 1.5°C will result in irreversible adverse impacts on certain ecosystems with low resilience, such as polar, mountain, and coastal ecosystems, impacted by ice-sheet melt, glacier melt, or by accelerating and higher committed sea level rise. (*high confidence*) {3.1.2, 3.3.4}
- B.7.3 The larger the overshoot, the more net negative CO₂ emissions would be needed to return to 1.5°C by 2100. Transitioning towards net zero CO₂ emissions faster and reducing non-CO₂ emissions such as methane more rapidly would limit peak warming levels and reduce the requirement for net negative CO₂ emissions, thereby reducing feasibility and sustainability concerns, and social and environmental risks associated with CDR deployment at large scales. (*high confidence*) {3.3.3, 3.3.4, 3.4.1, Table 3.1}

C. Responses in the Near Term

Urgency of Near-Term Integrated Climate Action

- C.1 Climate change is a threat to human well-being and planetary health (*very high confidence*). There is a rapidly closing window of opportunity to secure a liveable and sustainable future for all (*very high confidence*). Climate resilient development integrates adaptation and mitigation to advance sustainable development for all, and is enabled by increased international cooperation including improved access to adequate financial resources, particularly for vulnerable regions, sectors and groups, and inclusive governance and coordinated policies (*high confidence*). The choices and actions implemented in this decade will have impacts now and for thousands of years (*high confidence*). {3.1, 3.3, 4.1, 4.2, 4.3, 4.4, 4.7, 4.8, 4.9, Figure 3.1, Figure 3.3, Figure 4.2} (Figure SPM.1, Figure SPM.6)**
- C.1.1 Evidence of observed adverse impacts and related losses and damages, projected risks, levels and trends in vulnerability and adaptation limits, demonstrate that worldwide climate resilient development action is more urgent than previously assessed in AR5. Climate resilient development integrates adaptation and GHG mitigation to advance sustainable development for all. Climate resilient development pathways have been constrained by past development, emissions and climate change and are progressively constrained by every increment of warming, in particular beyond 1.5°C. (*very high confidence*) {3.4, 3.4.2, 4.1}
- C.1.2 Government actions at sub-national, national and international levels, with civil society and the private sector, play a crucial role in enabling and accelerating shifts in development pathways towards sustainability and climate resilient development (*very high confidence*). Climate resilient development is enabled when governments, civil society and the private sector make inclusive development choices that prioritize risk reduction, equity and justice, and when decision-making processes, finance and actions are integrated across governance levels, sectors, and timeframes (*very high confidence*). Enabling conditions are differentiated by national, regional and local circumstances and geographies, according to capabilities, and include: political commitment and follow-through, coordinated policies, social and international cooperation, ecosystem stewardship, inclusive governance, knowledge diversity, technological innovation, monitoring and evaluation, and improved access to adequate financial resources, especially for vulnerable regions, sectors and communities (*high confidence*). {3.4, 4.2, 4.4, 4.5, 4.7, 4.8} (Figure SPM.6)
- C.1.3 Continued emissions will further affect all major climate system components, and many changes will be irreversible on centennial to millennial time scales and become larger with increasing global warming. Without urgent, effective, and equitable mitigation and adaptation actions, climate change increasingly threatens ecosystems, biodiversity, and the livelihoods, health and well-being of current and future generations. (*high confidence*) {3.1.3, 3.3.3, 3.4.1, Figure 3.4, 4.1, 4.2, 4.3, 4.4} (Figure SPM.1, Figure SPM.6)

There is a rapidly narrowing window of opportunity to enable climate resilient development

Multiple interacting choices and actions can shift development pathways towards sustainability

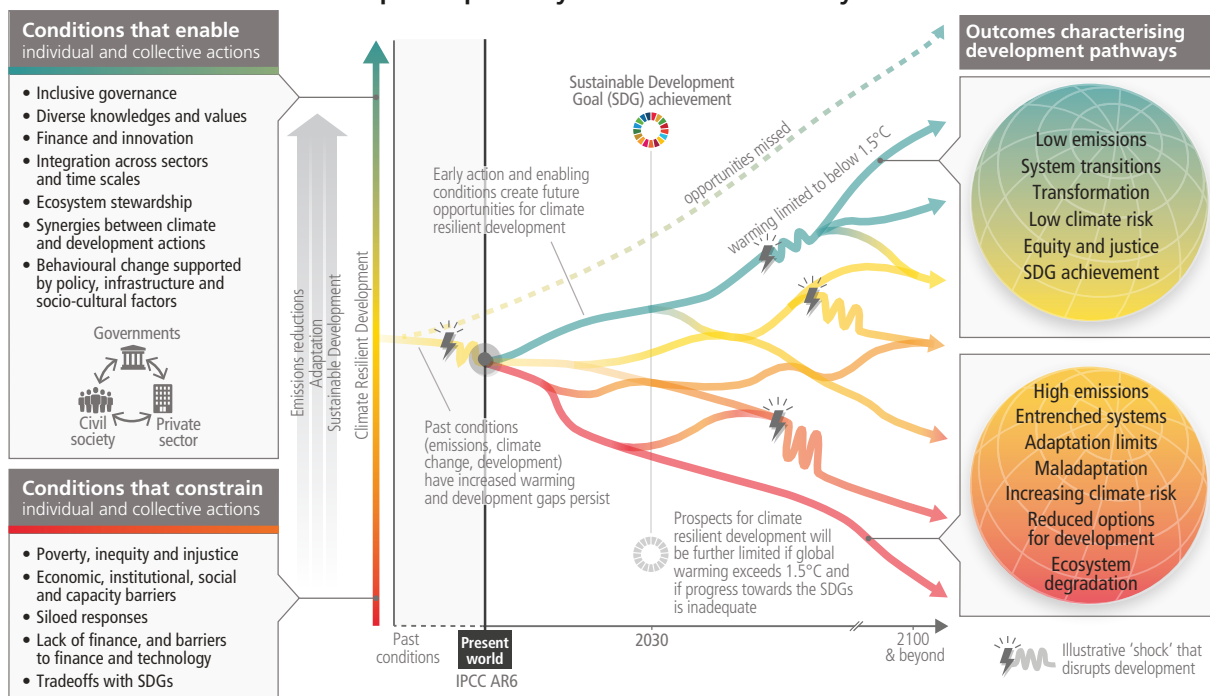


Figure SPM.6: The illustrative development pathways (red to green) and associated outcomes (right panel) show that there is a rapidly narrowing window of opportunity to secure a liveable and sustainable future for all. Climate resilient development is the process of implementing greenhouse gas mitigation and adaptation measures to support sustainable development. Diverging pathways illustrate that interacting choices and actions made by diverse government, private sector and civil society actors can advance climate resilient development, shift pathways towards sustainability, and enable lower emissions and adaptation. Diverse knowledge and values include cultural values, Indigenous Knowledge, local knowledge, and scientific knowledge. Climatic and non-climatic events, such as droughts, floods or pandemics, pose more severe shocks to pathways with lower climate resilient development (red to yellow) than to pathways with higher climate resilient development (green). There are limits to adaptation and adaptive capacity for some human and natural systems at global warming of 1.5°C, and with every increment of warming, losses and damages will increase. The development pathways taken by countries at all stages of economic development impact GHG emissions and mitigation challenges and opportunities, which vary across countries and regions. Pathways and opportunities for action are shaped by previous actions (or inactions and opportunities missed; dashed pathway) and enabling and constraining conditions (left panel), and take place in the context of climate risks, adaptation limits and development gaps. The longer emissions reductions are delayed, the fewer effective adaptation options. {Figure 4.2, 3.1, 3.2, 3.4, 4.2, 4.4, 4.5, 4.6, 4.9}

The Benefits of Near-Term Action

C.2 Deep, rapid, and sustained mitigation and accelerated implementation of adaptation actions in this decade would reduce projected losses and damages for humans and ecosystems (very high confidence), and deliver many co-benefits, especially for air quality and health (high confidence). Delayed mitigation and adaptation action would lock in high-emissions infrastructure, raise risks of stranded assets and cost-escalation, reduce feasibility, and increase losses and damages (high confidence). Near-term actions involve high up-front investments and potentially disruptive changes that can be lessened by a range of enabling policies (high confidence). {2.1, 2.2, 3.1, 3.2, 3.3, 3.4, 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, 4.8}

C.2.1 Deep, rapid, and sustained mitigation and accelerated implementation of adaptation actions in this decade would reduce future losses and damages related to climate change for humans and ecosystems (very high confidence). As adaptation options often have long implementation times, accelerated implementation of adaptation in this decade is important to close adaptation gaps (high confidence). Comprehensive, effective, and innovative responses integrating adaptation and mitigation can harness synergies and reduce trade-offs between adaptation and mitigation (high confidence). {4.1, 4.2, 4.3}

- C.2.2 Delayed mitigation action will further increase global warming and losses and damages will rise and additional human and natural systems will reach adaptation limits. Challenges from delayed adaptation and mitigation actions include the risk of cost escalation, lock-in of infrastructure, stranded assets, and reduced feasibility and effectiveness of adaptation and mitigation options. Without rapid, deep and sustained mitigation and accelerated adaptation actions, losses and damages will continue to increase, including projected adverse impacts in Africa, LDCs, SIDS, Central and South America⁴⁹, Asia and the Arctic, and will disproportionately affect the most vulnerable populations. (*high confidence*) {2.1.2, 3.1.2, 3.2, 3.3.1, 3.3.3, 4.1, 4.2, 4.3} (Figure SPM.3, Figure SPM.4)
- C.2.3 Accelerated climate action can also provide co-benefits (see also C.4) (*high confidence*). Many mitigation actions would have benefits for health through lower air pollution, active mobility (e.g., walking, cycling), and shifts to sustainable healthy diets (*high confidence*). Strong, rapid and sustained reductions in methane emissions can limit near-term warming and improve air quality by reducing global surface ozone (*high confidence*). Adaptation can generate multiple additional benefits such as improving agricultural productivity, innovation, health and well-being, food security, livelihood, and biodiversity conservation (*very high confidence*). {4.2, 4.5.4, 4.5.5, 4.6}
- C.2.4 Cost-benefit analysis remains limited in its ability to represent all avoided damages from climate change (*high confidence*). The economic benefits for human health from air quality improvement arising from mitigation action can be of the same order of magnitude as mitigation costs, and potentially even larger (*medium confidence*). Even without accounting for all the benefits of avoiding potential damages, the global economic and social benefit of limiting global warming to 2°C exceeds the cost of mitigation in most of the assessed literature (*medium confidence*)⁵⁰. More rapid climate change mitigation, with emissions peaking earlier, increases co-benefits and reduces feasibility risks and costs in the long-term, but requires higher up-front investments (*high confidence*). {3.4.1, 4.2}
- C.2.5 Ambitious mitigation pathways imply large and sometimes disruptive changes in existing economic structures, with significant distributional consequences within and between countries. To accelerate climate action, the adverse consequences of these changes can be moderated by fiscal, financial, institutional and regulatory reforms and by integrating climate actions with macroeconomic policies through (i) economy-wide packages, consistent with national circumstances, supporting sustainable low-emission growth paths; (ii) climate resilient safety nets and social protection; and (iii) improved access to finance for low-emissions infrastructure and technologies, especially in developing countries. (*high confidence*) {4.2, 4.4, 4.7, 4.8.1}

⁴⁹ The southern part of Mexico is included in the climatic subregion South Central America (SCA) for WGI. Mexico is assessed as part of North America for WGII. The climate change literature for the SCA region occasionally includes Mexico, and in those cases WGII assessment makes reference to Latin America. Mexico is considered part of Latin America and the Caribbean for WGIII.

⁵⁰ The evidence is too limited to make a similar robust conclusion for limiting warming to 1.5°C. Limiting global warming to 1.5°C instead of 2°C would increase the costs of mitigation, but also increase the benefits in terms of reduced impacts and related risks, and reduced adaptation needs (*high confidence*).

There are multiple opportunities for scaling up climate action

a) Feasibility of climate responses and adaptation, and potential of mitigation options in the near term

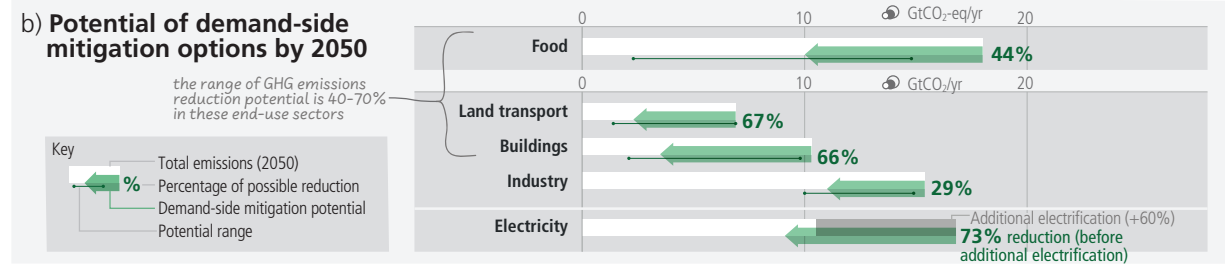
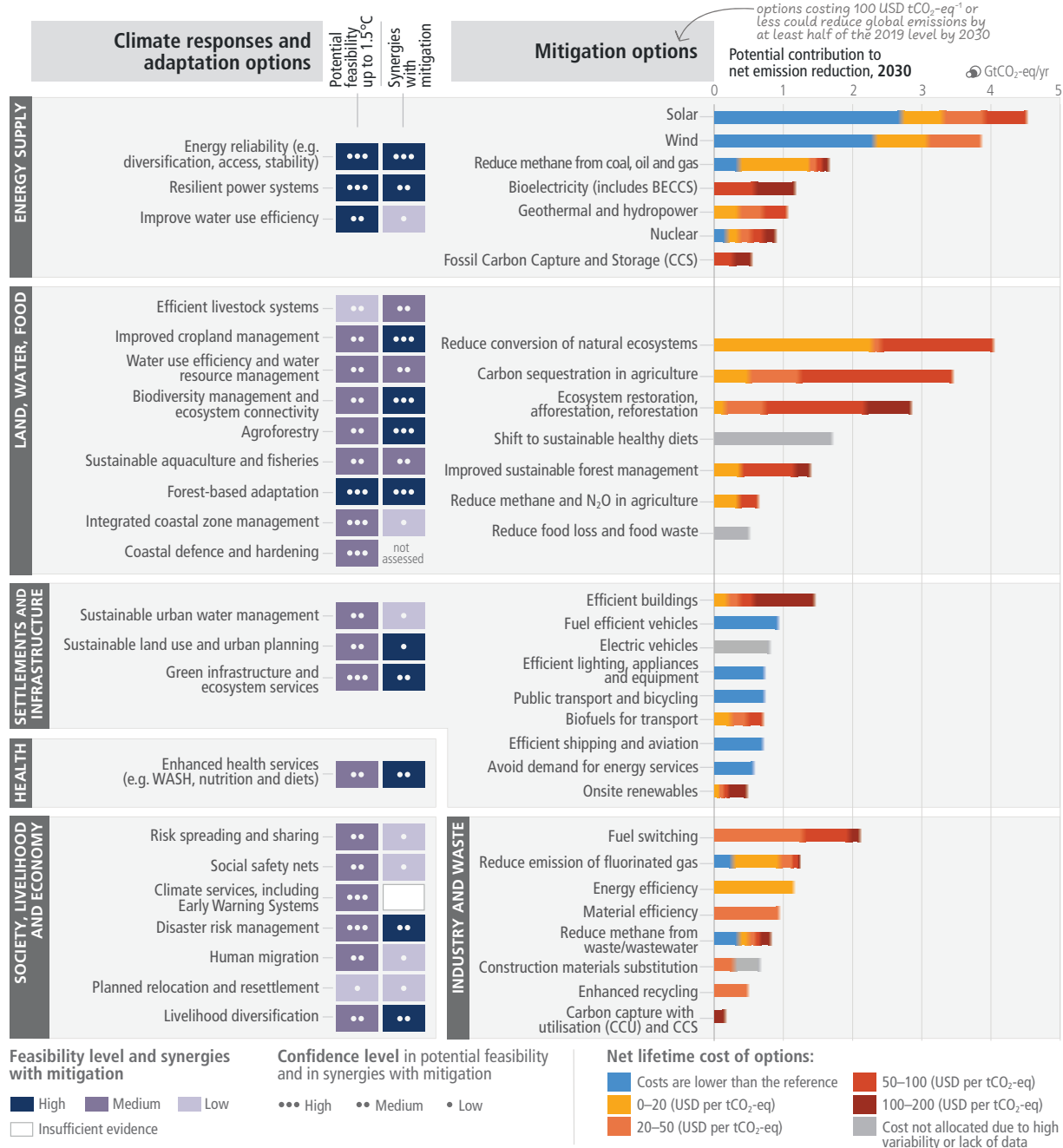


Figure SPM.7: Multiple Opportunities for scaling up climate action. Panel (a) presents selected mitigation and adaptation options across different systems. The left-hand side of panel a shows climate responses and adaptation options assessed for their multidimensional feasibility at global scale, in the near term and up to 1.5°C global warming. As literature above 1.5°C is limited, feasibility at higher levels of warming may change, which is currently not possible to assess robustly. The term response is used here in addition to adaptation because some responses, such as migration, relocation and resettlement may or may not be considered to be adaptation. Forest based adaptation includes sustainable forest management, forest conservation and restoration, reforestation

and afforestation. WASH refers to water, sanitation and hygiene. Six feasibility dimensions (economic, technological, institutional, social, environmental and geophysical) were used to calculate the potential feasibility of climate responses and adaptation options, along with their synergies with mitigation. For potential feasibility and feasibility dimensions, the figure shows high, medium, or low feasibility. Synergies with mitigation are identified as high, medium, and low. The right-hand side of Panel a provides an overview of selected mitigation options and their estimated costs and potentials in 2030. Costs are net lifetime discounted monetary costs of avoided GHG emissions calculated relative to a reference technology. Relative potentials and costs will vary by place, context and time and in the longer term compared to 2030. The potential (horizontal axis) is the net GHG emission reduction (sum of reduced emissions and/or enhanced sinks) broken down into cost categories (coloured bar segments) relative to an emission baseline consisting of current policy (around 2019) reference scenarios from the AR6 scenarios database. The potentials are assessed independently for each option and are not additive. Health system mitigation options are included mostly in settlement and infrastructure (e.g., efficient healthcare buildings) and cannot be identified separately. Fuel switching in industry refers to switching to electricity, hydrogen, bioenergy and natural gas. Gradual colour transitions indicate uncertain breakdown into cost categories due to uncertainty or heavy context dependency. The uncertainty in the total potential is typically 25–50%. **Panel (b)** displays the indicative potential of demand-side mitigation options for 2050. Potentials are estimated based on approximately 500 bottom-up studies representing all global regions. The baseline (white bar) is provided by the sectoral mean GHG emissions in 2050 of the two scenarios (IEA-STEPS and IP_ModAct) consistent with policies announced by national governments until 2020. The green arrow represents the demand-side emissions reductions potentials. The range in potential is shown by a line connecting dots displaying the highest and the lowest potentials reported in the literature. Food shows demand-side potential of socio-cultural factors and infrastructure use, and changes in land-use patterns enabled by change in food demand. Demand-side measures and new ways of end-use service provision can reduce global GHG emissions in end-use sectors (buildings, land transport, food) by 40–70% by 2050 compared to baseline scenarios, while some regions and socioeconomic groups require additional energy and resources. The last row shows how demand-side mitigation options in other sectors can influence overall electricity demand. The dark grey bar shows the projected increase in electricity demand above the 2050 baseline due to increasing electrification in the other sectors. Based on a bottom-up assessment, this projected increase in electricity demand can be avoided through demand-side mitigation options in the domains of infrastructure use and socio-cultural factors that influence electricity usage in industry, land transport, and buildings (green arrow). (Figure 4.4)

Mitigation and Adaptation Options across Systems

C.3 Rapid and far-reaching transitions across all sectors and systems are necessary to achieve deep and sustained emissions reductions and secure a liveable and sustainable future for all. These system transitions involve a significant upscaling of a wide portfolio of mitigation and adaptation options. Feasible, effective, and low-cost options for mitigation and adaptation are already available, with differences across systems and regions. (high confidence) {4.1, 4.5, 4.6} (Figure SPM.7)

C.3.1 The systemic change required to achieve rapid and deep emissions reductions and transformative adaptation to climate change is unprecedented in terms of scale, but not necessarily in terms of speed (*medium confidence*). Systems transitions include: deployment of low- or zero-emission technologies; reducing and changing demand through infrastructure design and access, socio-cultural and behavioural changes, and increased technological efficiency and adoption; social protection, climate services or other services; and protecting and restoring ecosystems (*high confidence*). Feasible, effective, and low-cost options for mitigation and adaptation are already available (*high confidence*). The availability, feasibility and potential of mitigation and adaptation options in the near term differs across systems and regions (*very high confidence*). {4.1, 4.5.1 to 4.5.6} (Figure SPM.7)

Energy Systems

C.3.2 Net zero CO₂ energy systems entail: a substantial reduction in overall fossil fuel use, minimal use of unabated fossil fuels⁵¹, and use of carbon capture and storage in the remaining fossil fuel systems; electricity systems that emit no net CO₂; widespread electrification; alternative energy carriers in applications less amenable to electrification; energy conservation and efficiency; and greater integration across the energy system (*high confidence*). Large contributions to emissions reductions with costs less than USD 20 tCO₂-eq⁻¹ come from solar and wind energy, energy efficiency improvements, and methane emissions reductions (coal mining, oil and gas, waste) (*medium confidence*). There are feasible adaptation options that support infrastructure resilience, reliable power systems and efficient water use for existing and new energy generation systems (*very high confidence*). Energy generation diversification (e.g., via wind, solar, small scale hydropower) and demand-side management (e.g., storage and energy efficiency improvements) can increase energy reliability and reduce vulnerabilities to climate change (*high confidence*). Climate responsive energy markets, updated design standards on energy assets according to current and projected climate change, smart-grid technologies, robust transmission systems and improved capacity to respond to supply deficits have high feasibility in the medium to long term, with mitigation co-benefits (*very high confidence*). {4.5.1} (Figure SPM.7)

⁵¹ In this context, ‘unabated fossil fuels’ refers to fossil fuels produced and used without interventions that substantially reduce the amount of GHG emitted throughout the life cycle; for example, capturing 90% or more CO₂ from power plants, or 50–80% of fugitive methane emissions from energy supply.

Industry and Transport

C.3.3 Reducing industry GHG emissions entails coordinated action throughout value chains to promote all mitigation options, including demand management, energy and materials efficiency, circular material flows, as well as abatement technologies and transformational changes in production processes (*high confidence*). In transport, sustainable biofuels, low-emissions hydrogen, and derivatives (including ammonia and synthetic fuels) can support mitigation of CO₂ emissions from shipping, aviation, and heavy-duty land transport but require production process improvements and cost reductions (*medium confidence*). Sustainable biofuels can offer additional mitigation benefits in land-based transport in the short and medium term (*medium confidence*). Electric vehicles powered by low-GHG emissions electricity have large potential to reduce land-based transport GHG emissions, on a life cycle basis (*high confidence*). Advances in battery technologies could facilitate the electrification of heavy-duty trucks and complement conventional electric rail systems (*medium confidence*). The environmental footprint of battery production and growing concerns about critical minerals can be addressed by material and supply diversification strategies, energy and material efficiency improvements, and circular material flows (*medium confidence*). {4.5.2, 4.5.3} (Figure SPM.7)

Cities, Settlements and Infrastructure

C.3.4 Urban systems are critical for achieving deep emissions reductions and advancing climate resilient development (*high confidence*). Key adaptation and mitigation elements in cities include considering climate change impacts and risks (e.g., through climate services) in the design and planning of settlements and infrastructure; land use planning to achieve compact urban form, co-location of jobs and housing; supporting public transport and active mobility (e.g., walking and cycling); the efficient design, construction, retrofit, and use of buildings; reducing and changing energy and material consumption; sufficiency⁵²; material substitution; and electrification in combination with low emissions sources (*high confidence*). Urban transitions that offer benefits for mitigation, adaptation, human health and well-being, ecosystem services, and vulnerability reduction for low-income communities are fostered by inclusive long-term planning that takes an integrated approach to physical, natural and social infrastructure (*high confidence*). Green/natural and blue infrastructure supports carbon uptake and storage and either singly or when combined with grey infrastructure can reduce energy use and risk from extreme events such as heatwaves, flooding, heavy precipitation and droughts, while generating co-benefits for health, well-being and livelihoods (*medium confidence*). {4.5.3}

Land, Ocean, Food, and Water

C.3.5 Many agriculture, forestry, and other land use (AFOLU) options provide adaptation and mitigation benefits that could be upscaled in the near term across most regions. Conservation, improved management, and restoration of forests and other ecosystems offer the largest share of economic mitigation potential, with reduced deforestation in tropical regions having the highest total mitigation potential. Ecosystem restoration, reforestation, and afforestation can lead to trade-offs due to competing demands on land. Minimizing trade-offs requires integrated approaches to meet multiple objectives including food security. Demand-side measures (shifting to sustainable healthy diets⁵³ and reducing food loss/waste) and sustainable agricultural intensification can reduce ecosystem conversion, and methane and nitrous oxide emissions, and free up land for reforestation and ecosystem restoration. Sustainably sourced agricultural and forest products, including long-lived wood products, can be used instead of more GHG-intensive products in other sectors. Effective adaptation options include cultivar improvements, agroforestry, community-based adaptation, farm and landscape diversification, and urban agriculture. These AFOLU response options require integration of biophysical, socioeconomic and other enabling factors. Some options, such as conservation of high-carbon ecosystems (e.g., peatlands, wetlands, rangelands, mangroves and forests), deliver immediate benefits, while others, such as restoration of high-carbon ecosystems, take decades to deliver measurable results. (*high confidence*) {4.5.4} (Figure SPM.7)

C.3.6 Maintaining the resilience of biodiversity and ecosystem services at a global scale depends on effective and equitable conservation of approximately 30% to 50% of Earth's land, freshwater and ocean areas, including currently near-natural ecosystems (*high confidence*). Conservation, protection and restoration of terrestrial, freshwater, coastal and

⁵² A set of measures and daily practices that avoid demand for energy, materials, land, and water while delivering human well-being for all within planetary boundaries. {4.5.3}

⁵³ 'Sustainable healthy diets' promote all dimensions of individuals' health and well-being; have low environmental pressure and impact; are accessible, affordable, safe and equitable; and are culturally acceptable, as described in FAO and WHO. The related concept of 'balanced diets' refers to diets that feature plant-based foods, such as those based on coarse grains, legumes, fruits and vegetables, nuts and seeds, and animal-sourced food produced in resilient, sustainable and low-GHG emission systems, as described in SRCCL.

ocean ecosystems, together with targeted management to adapt to unavoidable impacts of climate change reduces the vulnerability of biodiversity and ecosystem services to climate change (*high confidence*), reduces coastal erosion and flooding (*high confidence*), and could increase carbon uptake and storage if global warming is limited (*medium confidence*). Rebuilding overexploited or depleted fisheries reduces negative climate change impacts on fisheries (*medium confidence*) and supports food security, biodiversity, human health and well-being (*high confidence*). Land restoration contributes to climate change mitigation and adaptation with synergies via enhanced ecosystem services and with economically positive returns and co-benefits for poverty reduction and improved livelihoods (*high confidence*). Cooperation, and inclusive decision making, with Indigenous Peoples and local communities, as well as recognition of inherent rights of Indigenous Peoples, is integral to successful adaptation and mitigation across forests and other ecosystems (*high confidence*). {4.5.4, 4.6} (Figure SPM.7)

Health and Nutrition

C.3.7 Human health will benefit from integrated mitigation and adaptation options that mainstream health into food, infrastructure, social protection, and water policies (*very high confidence*). Effective adaptation options exist to help protect human health and well-being, including: strengthening public health programs related to climate-sensitive diseases, increasing health systems resilience, improving ecosystem health, improving access to potable water, reducing exposure of water and sanitation systems to flooding, improving surveillance and early warning systems, vaccine development (*very high confidence*), improving access to mental healthcare, and Heat Health Action Plans that include early warning and response systems (*high confidence*). Adaptation strategies which reduce food loss and waste or support balanced, sustainable healthy diets contribute to nutrition, health, biodiversity and other environmental benefits (*high confidence*). {4.5.5} (Figure SPM.7)

Society, Livelihoods, and Economies

C.3.8 Policy mixes that include weather and health insurance, social protection and adaptive social safety nets, contingent finance and reserve funds, and universal access to early warning systems combined with effective contingency plans, can reduce vulnerability and exposure of human systems. Disaster risk management, early warning systems, climate services and risk spreading and sharing approaches have broad applicability across sectors. Increasing education including capacity building, climate literacy, and information provided through climate services and community approaches can facilitate heightened risk perception and accelerate behavioural changes and planning. (*high confidence*) {4.5.6}

Synergies and Trade-Offs with Sustainable Development

C.4 Accelerated and equitable action in mitigating and adapting to climate change impacts is critical to sustainable development. Mitigation and adaptation actions have more synergies than trade-offs with Sustainable Development Goals. Synergies and trade-offs depend on context and scale of implementation. (*high confidence*) {3.4, 4.2, 4.4, 4.5, 4.6, 4.9, Figure 4.5}

C.4.1 Mitigation efforts embedded within the wider development context can increase the pace, depth and breadth of emission reductions (*medium confidence*). Countries at all stages of economic development seek to improve the well-being of people, and their development priorities reflect different starting points and contexts. Different contexts include but are not limited to social, economic, environmental, cultural, political circumstances, resource endowment, capabilities, international environment, and prior development (*high confidence*). In regions with high dependency on fossil fuels for, among other things, revenue and employment generation, mitigating risk for sustainable development requires policies that promote economic and energy sector diversification and considerations of just transitions principles, processes and practices (*high confidence*). Eradicating extreme poverty, energy poverty, and providing decent living standards in low-emitting countries / regions in the context of achieving sustainable development objectives, in the near term, can be achieved without significant global emissions growth (*high confidence*). {4.4, 4.6, Annex I: Glossary}

C.4.2 Many mitigation and adaptation actions have multiple synergies with Sustainable Development Goals (SDGs) and sustainable development generally, but some actions can also have trade-offs. Potential synergies with SDGs exceed potential trade-offs; synergies and trade-offs depend on the pace and magnitude of change and the development context including inequalities with consideration of climate justice. Trade-offs can be evaluated and minimised by giving emphasis to capacity building, finance, governance, technology transfer, investments, development, context specific gender-based and other social equity considerations with meaningful participation of Indigenous Peoples, local communities and vulnerable populations. (*high confidence*) {3.4.1, 4.6, Figure 4.5, 4.9}

- C.4.3 Implementing both mitigation and adaptation actions together and taking trade-offs into account supports co-benefits and synergies for human health and well-being. For example, improved access to clean energy sources and technologies generates health benefits especially for women and children; electrification combined with low-GHG energy, and shifts to active mobility and public transport can enhance air quality, health, employment, and can elicit energy security and deliver equity. *(high confidence)* {4.2, 4.5.3, 4.5.5, 4.6, 4.9}

Equity and Inclusion

C.5 Prioritising equity, climate justice, social justice, inclusion and just transition processes can enable adaptation and ambitious mitigation actions and climate resilient development. Adaptation outcomes are enhanced by increased support to regions and people with the highest vulnerability to climatic hazards. Integrating climate adaptation into social protection programs improves resilience. Many options are available for reducing emission-intensive consumption, including through behavioural and lifestyle changes, with co-benefits for societal well-being. *(high confidence)* {4.4, 4.5}

- C.5.1 Equity remains a central element in the UN climate regime, notwithstanding shifts in differentiation between states over time and challenges in assessing fair shares. Ambitious mitigation pathways imply large and sometimes disruptive changes in economic structure, with significant distributional consequences, within and between countries. Distributional consequences within and between countries include shifting of income and employment during the transition from high- to low-emissions activities. *(high confidence)* {4.4}
- C.5.2 Adaptation and mitigation actions that prioritise equity, social justice, climate justice, rights-based approaches, and inclusivity, lead to more sustainable outcomes, reduce trade-offs, support transformative change and advance climate resilient development. Redistributive policies across sectors and regions that shield the poor and vulnerable, social safety nets, equity, inclusion and just transitions, at all scales can enable deeper societal ambitions and resolve trade-offs with sustainable development goals. Attention to equity and broad and meaningful participation of all relevant actors in decision making at all scales can build social trust which builds on equitable sharing of benefits and burdens of mitigation that deepen and widen support for transformative changes. *(high confidence)* {4.4}
- C.5.3 Regions and people (3.3 to 3.6 billion in number) with considerable development constraints have high vulnerability to climatic hazards (see A.2.2). Adaptation outcomes for the most vulnerable within and across countries and regions are enhanced through approaches focusing on equity, inclusivity and rights-based approaches. Vulnerability is exacerbated by inequity and marginalisation linked to e.g., gender, ethnicity, low incomes, informal settlements, disability, age, and historical and ongoing patterns of inequity such as colonialism, especially for many Indigenous Peoples and local communities. Integrating climate adaptation into social protection programs, including cash transfers and public works programs, is highly feasible and increases resilience to climate change, especially when supported by basic services and infrastructure. The greatest gains in well-being in urban areas can be achieved by prioritising access to finance to reduce climate risk for low-income and marginalised communities including people living in informal settlements. *(high confidence)* {4.4, 4.5.3, 4.5.5, 4.5.6}
- C.5.4 The design of regulatory instruments and economic instruments and consumption-based approaches, can advance equity. Individuals with high socio-economic status contribute disproportionately to emissions, and have the highest potential for emissions reductions. Many options are available for reducing emission-intensive consumption while improving societal well-being. Socio-cultural options, behaviour and lifestyle changes supported by policies, infrastructure, and technology can help end-users shift to low-emissions-intensive consumption, with multiple co-benefits. A substantial share of the population in low-emitting countries lack access to modern energy services. Technology development, transfer, capacity building and financing can support developing countries / regions leapfrogging or transitioning to low-emissions transport systems thereby providing multiple co-benefits. Climate resilient development is advanced when actors work in equitable, just and inclusive ways to reconcile divergent interests, values and worldviews, toward equitable and just outcomes. *(high confidence)* {2.1, 4.4}

Governance and Policies

C.6 Effective climate action is enabled by political commitment, well-aligned multilevel governance, institutional frameworks, laws, policies and strategies and enhanced access to finance and technology. Clear goals, coordination across multiple policy domains, and inclusive governance processes facilitate effective climate action. Regulatory and economic instruments can support deep emissions reductions and climate resilience if scaled up and applied widely. Climate resilient development benefits from drawing on diverse knowledge. (*high confidence*) {2.2, 4.4, 4.5, 4.7}

C.6.1 Effective climate governance enables mitigation and adaptation. Effective governance provides overall direction on setting targets and priorities and mainstreaming climate action across policy domains and levels, based on national circumstances and in the context of international cooperation. It enhances monitoring and evaluation and regulatory certainty, prioritising inclusive, transparent and equitable decision-making, and improves access to finance and technology (see C.7). (*high confidence*) {2.2.2, 4.7}

C.6.2 Effective local, municipal, national and subnational institutions build consensus for climate action among diverse interests, enable coordination and inform strategy setting but require adequate institutional capacity. Policy support is influenced by actors in civil society, including businesses, youth, women, labour, media, Indigenous Peoples, and local communities. Effectiveness is enhanced by political commitment and partnerships between different groups in society. (*high confidence*) {2.2, 4.7}

C.6.3 Effective multilevel governance for mitigation, adaptation, risk management, and climate resilient development is enabled by inclusive decision processes that prioritise equity and justice in planning and implementation, allocation of appropriate resources, institutional review, and monitoring and evaluation. Vulnerabilities and climate risks are often reduced through carefully designed and implemented laws, policies, participatory processes, and interventions that address context specific inequities such as those based on gender, ethnicity, disability, age, location and income. (*high confidence*) {4.4, 4.7}

C.6.4 Regulatory and economic instruments could support deep emissions reductions if scaled up and applied more widely (*high confidence*). Scaling up and enhancing the use of regulatory instruments can improve mitigation outcomes in sectoral applications, consistent with national circumstances (*high confidence*). Where implemented, carbon pricing instruments have incentivized low-cost emissions reduction measures but have been less effective, on their own and at prevailing prices during the assessment period, to promote higher-cost measures necessary for further reductions (*medium confidence*). Equity and distributional impacts of such carbon pricing instruments, e.g., carbon taxes and emissions trading, can be addressed by using revenue to support low-income households, among other approaches. Removing fossil fuel subsidies would reduce emissions⁵⁴ and yield benefits such as improved public revenue, macroeconomic and sustainability performance; subsidy removal can have adverse distributional impacts, especially on the most economically vulnerable groups which, in some cases can be mitigated by measures such as redistributing revenue saved, all of which depend on national circumstances (*high confidence*). Economy-wide policy packages, such as public spending commitments and pricing reforms, can meet short-term economic goals while reducing emissions and shifting development pathways towards sustainability (*medium confidence*). Effective policy packages would be comprehensive, consistent, balanced across objectives, and tailored to national circumstances (*high confidence*). {2.2.2, 4.7}

C.6.5 Drawing on diverse knowledges and cultural values, meaningful participation and inclusive engagement processes—including Indigenous Knowledge, local knowledge, and scientific knowledge—facilitates climate resilient development, builds capacity and allows locally appropriate and socially acceptable solutions. (*high confidence*) {4.4, 4.5.6, 4.7}

⁵⁴ Fossil fuel subsidy removal is projected by various studies to reduce global CO₂ emission by 1 to 4%, and GHG emissions by up to 10% by 2030, varying across regions (*medium confidence*).

Finance, Technology and International Cooperation

- C.7 Finance, technology and international cooperation are critical enablers for accelerated climate action. If climate goals are to be achieved, both adaptation and mitigation financing would need to increase many-fold. There is sufficient global capital to close the global investment gaps but there are barriers to redirect capital to climate action. Enhancing technology innovation systems is key to accelerate the widespread adoption of technologies and practices. Enhancing international cooperation is possible through multiple channels. (*high confidence*) {2.3, 4.8}**
- C.7.1 Improved availability of and access to finance⁵⁵ would enable accelerated climate action (*very high confidence*). Addressing needs and gaps and broadening equitable access to domestic and international finance, when combined with other supportive actions, can act as a catalyst for accelerating adaptation and mitigation, and enabling climate resilient development (*high confidence*). If climate goals are to be achieved, and to address rising risks and accelerate investments in emissions reductions, both adaptation and mitigation finance would need to increase many-fold (*high confidence*). {4.8.1}
- C.7.2 Increased access to finance can build capacity and address soft limits to adaptation and avert rising risks, especially for developing countries, vulnerable groups, regions and sectors (*high confidence*). Public finance is an important enabler of adaptation and mitigation, and can also leverage private finance (*high confidence*). Average annual modelled mitigation investment requirements for 2020 to 2030 in scenarios that limit warming to 2°C or 1.5°C are a factor of three to six greater than current levels⁵⁶, and total mitigation investments (public, private, domestic and international) would need to increase across all sectors and regions (*medium confidence*). Even if extensive global mitigation efforts are implemented, there will be a need for financial, technical, and human resources for adaptation (*high confidence*). {4.3, 4.8.1}
- C.7.3 There is sufficient global capital and liquidity to close global investment gaps, given the size of the global financial system, but there are barriers to redirect capital to climate action both within and outside the global financial sector and in the context of economic vulnerabilities and indebtedness facing developing countries. Reducing financing barriers for scaling up financial flows would require clear signalling and support by governments, including a stronger alignment of public finances in order to lower real and perceived regulatory, cost and market barriers and risks and improving the risk-return profile of investments. At the same time, depending on national contexts, financial actors, including investors, financial intermediaries, central banks and financial regulators can shift the systemic underpricing of climate-related risks, and reduce sectoral and regional mismatches between available capital and investment needs. (*high confidence*) {4.8.1}
- C.7.4 Tracked financial flows fall short of the levels needed for adaptation and to achieve mitigation goals across all sectors and regions. These gaps create many opportunities and the challenge of closing gaps is largest in developing countries. Accelerated financial support for developing countries from developed countries and other sources is a critical enabler to enhance adaptation and mitigation actions and address inequities in access to finance, including its costs, terms and conditions, and economic vulnerability to climate change for developing countries. Scaled-up public grants for mitigation and adaptation funding for vulnerable regions, especially in Sub-Saharan Africa, would be cost-effective and have high social returns in terms of access to basic energy. Options for scaling up mitigation in developing countries include: increased levels of public finance and publicly mobilised private finance flows from developed to developing countries in the context of the USD 100 billion-a-year goal; increased use of public guarantees to reduce risks and leverage private flows at lower cost; local capital markets development; and building greater trust in international cooperation processes. A coordinated effort to make the post-pandemic recovery sustainable over the longer-term can accelerate climate action, including in developing regions and countries facing high debt costs, debt distress and macroeconomic uncertainty. (*high confidence*) {4.8.1}
- C.7.5 Enhancing technology innovation systems can provide opportunities to lower emissions growth, create social and environmental co-benefits, and achieve other SDGs. Policy packages tailored to national contexts and technological characteristics have been effective in supporting low-emission innovation and technology diffusion. Public policies can

⁵⁵ Finance originates from diverse sources: public or private, local, national or international, bilateral or multilateral, and alternative sources. It can take the form of grants, technical assistance, loans (concessional and non-concessional), bonds, equity, risk insurance and financial guarantees (of different types).

⁵⁶ These estimates rely on scenario assumptions.

support training and R&D, complemented by both regulatory and market-based instruments that create incentives and market opportunities. Technological innovation can have trade-offs such as new and greater environmental impacts, social inequalities, overdependence on foreign knowledge and providers, distributional impacts and rebound effects⁵⁷, requiring appropriate governance and policies to enhance potential and reduce trade-offs. Innovation and adoption of low-emission technologies lags in most developing countries, particularly least developed ones, due in part to weaker enabling conditions, including limited finance, technology development and transfer, and capacity building. (*high confidence*) {4.8.3}

- C.7.6 International cooperation is a critical enabler for achieving ambitious climate change mitigation, adaptation, and climate resilient development (*high confidence*). Climate resilient development is enabled by increased international cooperation including mobilising and enhancing access to finance, particularly for developing countries, vulnerable regions, sectors and groups and aligning finance flows for climate action to be consistent with ambition levels and funding needs (*high confidence*). Enhancing international cooperation on finance, technology and capacity building can enable greater ambition and can act as a catalyst for accelerating mitigation and adaptation, and shifting development pathways towards sustainability (*high confidence*). This includes support to NDCs and accelerating technology development and deployment (*high confidence*). Transnational partnerships can stimulate policy development, technology diffusion, adaptation and mitigation, though uncertainties remain over their costs, feasibility and effectiveness (*medium confidence*). International environmental and sectoral agreements, institutions and initiatives are helping, and in some cases may help, to stimulate low GHG emissions investments and reduce emissions (*medium confidence*). {2.2.2, 4.8.2}

⁵⁷ Leading to lower net emission reductions or even emission increases.

PUBLIC SUBMISSION

As of: 7/23/24, 10:35 AM Received: July 19, 2024 Status: Pending_Post Tracking No. lyt-chde-ro2h Comments Due: July 26, 2024 Submission Type: Web
--

Docket: NASA-2024-0002
National Environmental Policy Act; Berkeley Space Center at NASA Research Park

Comment On: NASA-2024-0002-0001
Environmental Impact Statements; Availability, etc.: Berkeley Space Center at NASA Research Park

Document: NASA-2024-0002-DRAFT-0002
Comment on FR Doc # 2024-13756

Submitter Information

Email: kspear@afscme3299.org
Organization: AFSCME Local 3299

General Comment

See attached file(s)

Attachments

AFSCME NOP_NOI Comment Letter_Berkeley Space Center



American Federation of State, County,
and Municipal Employees, AFL-CIO

info@afscme3299.org
afscme3299.org
510. 844. 1160

Sent via Email

July 22, 2024

Shraddha Navalli Patil, Senior Planner
Physical & Environmental Planning
University of California, Berkeley
200 A&E Building
Berkeley, CA 94720
Email: planning@berkeley.edu

Andrés Estrada, NEPA Program Manager
NASA Ames Research Center
M/S 204-15
Moffett Field, CA 94035
Email: andres.v.estrada@nasa.gov

RE: AFSCME 3299 Scoping Comments on the Berkeley Space Center at NASA Research Park

Dear Ms. Navalli Patil and Mr. Estrada:

On behalf of American Federation of State, County, and Municipal Employees Local 3299 (“AFSCME”), we respectfully write to provide the University of California, Berkeley (“UCB”) and the National Aeronautics and Space Administration (“NASA”) with the following scoping comments regarding the preparation of a joint Draft Environmental Impact Report/Environmental Impact Statement (“Draft EIR/EIS”) for the proposed Berkeley Space Center at NASA Research Park (“Project”).

While the Union will pay close attention to the efficacy of the Draft EIR/EIS’s analysis of all potential environmental impacts, AFSCME is particularly concerned by the potential impacts the proposed Project will have on the region’s job and housing imbalance and affordable housing accessibility, and the disproportionate impacts the Project may have on low-income communities and workers specifically. In their roles as public institutions, UCB and NASA maintain a responsibility to prioritize development that benefits the communities surrounding and staffing their expansion activities over the interests of private, corporate actors and the broader affiliate trend to commercialize, financialize, and privatize the missions of our federal and state agencies. AFSCME strongly urges UCB and NASA ensure the EIR/EIS contain thorough analyses of, and sufficient mitigations for, the population, housing, and jobs impacts this Project will have on low-income communities surrounding the Project and the workers therein, and the resultant environmental impacts.

- I. UCB and NASA Must Pursue Developments that Contribute Solutions to, and Sufficiently Mitigate, the Housing Crisis

UC’S LARGEST EMPLOYEE UNION

While the housing crisis continues to plague renters across the country, California is considered particularly burdened by a lack of access to affordable housing and the ever-widening gap between income and housing costs. As of 2022, nearly 30 percent of California renters were severely cost-burdened, spending 50 percent or more of their total income on housing costs.¹ Housing costs vary across the state, but the communities surrounding Silicon Valley and the designated Project site experience the impacts of the crisis most acutely.

The San Jose-Sunnyvale-Santa Clara Metropolitan Statistical Area (“MSA”), where the Project is proposed, is California’s third most expensive area to live in, outranked only by the Santa Cruz and San Francisco metropolitan areas, which either directly border or lay proximate to the Project site’s metropolitan area to the southwest and north, respectively.² Put simply, the Project site is closely surrounded by the three metropolitan areas with the highest housing costs in California. The 2024 fair market rent for a one-bedroom home in Santa Clara County is just under \$2,700 per month. A four-bedroom home in the County costs a family a little under \$4,500 per month to rent.³ A full-time worker living in Santa Clara County would need to earn \$60.23 per hour, or the equivalent of 3.8 minimum wage jobs, to afford rent for a two-bedroom home.⁴ Unsurprisingly, as of 2021, 1 in 4 renters living in Santa Clara County were considered extremely rent-burdened, spending more than 50 percent of their total income on rent.⁵

The significant gaps between income and housing costs implied by such grave examples of economic insecurity are attributable both to insufficient wages and to insufficient access to truly affordable housing. The City of Mountain View, home to the proposed Project, and the City of Sunnyvale, which directly neighbors Mountain View to the east, have seen significant population and job growth since 2010, “outpacing Santa Clara County and the Bay Area overall,” such that the pace of population and job growth has exceeded the growth of housing supply.^{[6][7]} This dynamic leads to a decreased supply of and access to affordable housing and a subsequent upward pressure on housing costs. With around half of all households in the cities renting their homes, low-income families and workers who are at high risk of displacement are disproportionately impacted by such high housing costs.^{[8][9]} As a result of the cities’ current and projected jobs/population-housing imbalance, the Association of Bay Area Government

¹ Eric McGhee, Marisol Cuellar Mejia, and Hans Johnson, “California’s Renters,” Public Policy Institute of California, February 27, 2024. <https://www.ppic.org/blog/californias-renters/>

² National Low Income Housing Coalition, Out of Reach, California, 2024. Accessed July 12, 2024. https://nlihc.org/sites/default/files/oor/2024_OOR-california.pdf

³ The United States Department of Housing and Urban Development (HUD), Office of Policy Development and Research, Datasets, Fair Market Rents (40th Percentile Rents). Accessed July 11, 2024. <https://www.huduser.gov/portal/datasets/fmr.html>

⁴ National Low Income Housing Coalition, Out of Reach, California, 2024. Accessed July 12, 2024. https://nlihc.org/sites/default/files/oor/2024_OOR-california.pdf

⁵ Let’s Talk Housing, Santa Clara County, Housing 101. Accessed July 12, 2024. <https://www.letstalkhousingscc.org/101>

⁶ City of Sunnyvale 6th Cycle Housing Element, 2023-2031. Adopted December 12, 2023. <https://www.sunnyvale.ca.gov/home/showpublisheddocument/4964/638380668142030000>

⁷ City of Mountain View 6th Cycle Housing Element, 2023-2031. Adopted April 11, 2023. <https://www.mountainview.gov/home/showpublisheddocument/6471/638290892983930000>

⁸ Ibid.

⁹ City of Sunnyvale 6th Cycle Housing Element, 2023-2031. Adopted December 12, 2023. <https://www.sunnyvale.ca.gov/home/showpublisheddocument/4964/638380668142030000>

(“ABAG”) allocated the two cities a combined total of 23,101 housing units for the 6th cycle Housing Element, nearly 33 percent of which need to be available to Very-Low or Low income groups.^{[10][11]}

In both Mountain View and Sunnyvale, where jobs-housing ratios result in imbalances that have been historically higher than those in Santa Clara County and the Bay Area as a whole, introducing new jobs to the area without building commensurate housing will only exacerbate this imbalance.^{[12][13]} The Project is likely to produce “considerable employment opportunities, including more than 6,000 advanced R&D positions.”¹⁴ This estimate does not even include the expected growth in service jobs, such as those classified as custodial or ground maintenance, associated with the Project. Meanwhile, the Project as it is currently proposed includes a 141 student/faculty housing development, which will only house approximately 352 students and faculty on a short-term basis (e.g. academic year, summer, etc.).¹⁵ In its current formation, the Project will add significant pressure to an already squeezed and imbalanced housing market while proposing very little to help offset its impacts.

NASA and UCB are both major employers of the region and the job growth resulting from this Project will have clear and serious impacts on their surrounding environs. NASA and UCB’s exemption from contributing land and housing units to their surrounding City’s RHNA goals does not absolve them from working in partnership with local governments and other stakeholders to provide Very-Low- and Low-Income housing to families and workers. AFSCME will pay close attention to the breadth and scope of the environmental analyses’ assessments of the Project’s impacts on surrounding population and job growth, and expects the Joint EIR/EIS to provide comprehensive mitigation measures in the form of affordable housing development to offset those potential impacts.

II. Absent Sufficient Mitigation Measures, the Proposed Project Will Disproportionately Negatively Impact Low-Impact Communities and Workers

The crisis facing the proposed Project’s region is not just a matter of insufficient and unaffordable housing. Stagnant wages in lower-paid positions, often those servicing buildings of the major employers in the region, have failed to keep up with the cost of living and plague areas directly surrounding the proposed Project. The region is celebrated for its enduring job growth; however, it is typically only those employed in high-wage jobs benefiting from such growth.¹⁶

In their joint March 2024 Priority Climate Action Plan (“Climate Action Plan”) submitted to the Environmental Protection Agency (EPA) Climate Pollution Reduction Grant Program, the Counties of Santa Clara and San Benito concede the existence of communities in the MSA that are “exposed to socioeconomic and built environment burdens,” ranging from high unemployment to high traffic routes

¹⁰ Ibid.

¹¹ City of Mountain View 6th Cycle Housing Element, 2023-2031. Adopted April 11, 2023. <https://www.mountainview.gov/home/showpublisheddocument/6471/638290892983930000>

¹² Ibid.

¹³ City of Sunnyvale 6th Cycle Housing Element, 2023-2031. Adopted December 12, 2023.

<https://www.sunnyvale.ca.gov/home/showpublisheddocument/4964/638380668142030000>

¹⁴ UC Berkeley, “UC Berkeley, SKS Partners Unveil Proposed 36-Acre R&D Hub in the Heart of Silicon Valley at NASA’s Ames Research Center,” Berkeley Space Center, October 16, 2023. <https://spacecenter.berkeley.edu/news/uc-berkeley-sks-partners-unveil-proposed-36-acre-rd-hub-heart-silicon-valley-nasa%E2%80%99s-ames>

¹⁵ Berkeley Space Center at NASA Research Park, Notice of Preparation of a Joint Environmental Impact Report/Environmental Impact Statement, June 21, 2024.

¹⁶ City of Mountain View 6th Cycle Housing Element, 2023-2031. Adopted April 11, 2023. <https://www.mountainview.gov/home/showpublisheddocument/6471/638290892983930000>

to barriers to accessing transportation.¹⁷ In Mountain View and Sunnyvale alone, the Climate Action Plan identified four census tracts that qualify as Low-Income and Disadvantaged Communities (“LIDAC”) and an additional four that qualify as “high pollution.” Together, these eight tracts within the Cities of Mountain View and Sunnyvale contain over 40,000 people who are likely to be low-income and disadvantaged, experiencing high rates of unemployment, disproportionately exposed to pollutants, and/or lacking access to major transportation hubs.¹⁸ Living in one of these census tracts may even mean a higher likelihood of air toxin inhalation and the development of chronic asthma.¹⁹

While the development of commensurate affordable housing is one crucial and necessary component to help offset the impact the Project will have on these surrounding communities, providing high quality service jobs that offer a living wage and job security is an additional, crucial mitigation measure. Such a measure is necessary to not only lift the economic standards of the Project’s nearby communities and improve their socioeconomic and built environmental burdens, but also to ensure the Project does not exacerbate those burdens. As public institutions, UCB and NASA have the moral and environmental responsibility to create high quality jobs that reverse Silicon Valley’s decades-long trend of neglect and displacement of low-income communities.²⁰

As of May 2023, the median hourly wage for janitors and cleaners working in the proposed Project’s MSA was \$20.45. For landscapers and groundskeepers, the median hourly wage was \$22.20.²¹ By comparison, the median wages for comparable titles performed by UCB workers in May 2023 was \$23.60 and \$30.18, respectively.²² Absent the secure, family-supporting jobs typical for UC developments, the Project risks creating even more poverty, dead-end positions that will push more workers into living in nearby high-pollutant environments, or will displace them altogether, forcing them to live further and further away from their workplaces. This will exacerbate avoidable environmental impacts, like high traffic congestion, more vehicle miles traveled, and increased greenhouse gas emissions, associated with the displacement and long commute times that stagnant, low-wage jobs inevitably produce.

Indeed, community members and major local employers agree that “...people continue to move further away from their jobs due to a mismatch between salaries and rents...the community needs workers at all income levels...it is becoming more difficult to recruit and retain workers.”²³ Survey responses solicited during the development of Sunnyvale’s 6th Cycle Housing Element consistently indicated that the most significant housing issue facing residents was unaffordability specifically for lower-income workers.²⁴ Only high quality jobs, the kind maintained by UC throughout its system that honor its

¹⁷ County of San Benito and County of Santa Clara MSA Priority Action Plan, March 2024.

<https://www.epa.gov/system/files/documents/2024-03/san-benito-and-santa-clara-counties-pcap.pdf>

¹⁸ Ibid.

¹⁹ Ibid.

²⁰ Justine Marcus, “Disruption in Silicon Valley – The Impacts of Displacement on Residents’ Lives,” Urban Displacement Project, October 12, 2018. <https://www.urbandisplacement.org/blog/disruption-in-silicon-valley-the-impacts-of-displacement-on-residents-lives/>

²¹ U.S. Bureau of Labor Statistics, May 2023 Metropolitan and Nonmetropolitan Area Occupational Employment and Wage Estimates, San Jose-Sunnyvale-Santa Clara, CA, accessed July 9, 2024. https://www.bls.gov/oes/current/oes_41940.htm#37-0000

²² University of California Office of the President, Employee Roster, April 2023.

²³ City of Mountain View 6th Cycle Housing Element, 2023-2031. Adopted April 11, 2023. <https://www.mountainview.gov/home/showpublisheddocument/6471/638290892983930000>

²⁴ City of Sunnyvale 6th Cycle Housing Element, 2023-2031. Adopted December 12, 2023. <https://www.sunnyvale.ca.gov/home/showpublisheddocument/4964/638380668142030000>

commitments to economic, racial, and environmental justice and equity, can mitigate the Project's potential socioeconomic and environmental impacts on surrounding communities.

In conclusion, AFSCME will pay close attention to the environmental analyses conducted by both UCB and NASA, and the accompanying mitigations for the proposed Project's anticipated impacts on housing, population growth, socioeconomic insecurity, and resulting environmental impacts. Anything less than the necessary mitigations will not only undermine the area's ability to meet the urgent demand for affordable housing and high-quality service jobs but will also actively contribute to the housing/wage imbalance plaguing the region.

Sincerely,

Kate Spear
Senior Researcher
AFSCME 3299



Sunnyvale

456 West Olive Avenue
Sunnyvale, CA 94088-3707
TDD/TYY 408-730-7501
sunnyvale.ca.gov

SENT BY EMAIL

July 23, 2024

Andrés Estrada, NEPA Program Manager/Natural Resources Manager
NASA Ames Research Center
Attn: Berkeley Space Center at NASA Research Park
M/S 204-15
Moffett Field, CA 94035-0001
andres.v.estrada@nasa.gov

Re: Comments on the Berkeley Space Center at NASA Research Park

Dear Andrés,

Thank you for the opportunity to review the notice of preparation of Environmental Impact Statement and Environmental Impact Report for the Berkeley Space Center at NASA Research Park. The City of Sunnyvale has reviewed the associated project documents and have the following comments for consideration.

General Comments

1. A "Project Location map" is referenced in the notice of preparation but is not attached to the post.
2. Please provide clarity on the number of proposed housing units proposed for both Alternatives 1 and 2.

Water and Sewer Comments

If you have questions on the following water and sewer-related items, please contact Eric Evans, P.E., Senior Environmental Engineer, Environmental Services Department, at EEvans@sunnyvale.ca.gov or 408-730-7783 or Arnold Chu, P.E., Assistant City Engineer, Department of Public Works at achu@sunnyvale.ca.gov or 408-730-7524.

1. Water Pollution Control Plant/Sanitary Sewer Capacity – The City does not have adequate capacity for this proposed development in the Donald M. Somers Water Pollution Control Plant (WPCP). Therefore, they may not be enough capacity within the existing sanitary sewer main infrastructure to convey sewage to the plant.
2. Sanitary Sewer Analysis – Please conduct a sanitary sewer analysis for the two alternatives.

3. Sewer Connection – Please provide clarity on the proposed sewer connection. The City understands NASA was exploring an independent utility system for this development and was going to confirm whether an amendment to the existing agreement with the City would be needed. We also understand NASA was exploring an alternative connection to the Mountain View system in conjunction with the Regional Water Quality Control Board.
4. Flow Estimates - NASA Ames is a City sewer customer, and this project is within Sunnyvale’s existing sewer service area. However, we are not able to comment on potential sewer impacts without first receiving flow estimates. A flow estimate of this project would likely need to be viewed in the context of bigger picture flow estimates of all proposed development at the Ames Research Center.
5. Recycled Water – Please provide clarity on whether recycled water is proposed for the project. There is a concern that recycled water demands could potentially increase if this was included in the project.
6. Water and Stormwater - The City of Sunnyvale does not provide any water or stormwater service to the site. Therefore, the proposed project will have no impacts to the City water and stormwater systems.

Traffic and Transportation Comments

If you have questions on the following traffic related items, please contact Lillian Tsang, Principal Transportation Engineer, Department of Public Works at Itsang@sunnyvale.ca.gov or (408) 730-7556.

1. The existing land use is unclear. Based on the proposed land uses for Build Alternative 1 and Build Alternative 2, we believe this project will trigger a Congestion Management Program (CMP) requirement and a Traffic Impact Analysis (TIA). The City of Sunnyvale requests to review the scope for the TIA.
2. Although intersection level of service is no longer a CEQA requirement, the City of Sunnyvale requests the evaluation of intersections operationally in Sunnyvale using criteria per the VTA TIA Guidelines as a basis. Accordingly, City of Sunnyvale and CMP intersections with ten or more project trips per lane added to any intersection movement should be analyzed. Traffic conditions at the study intersections are typically conducted during the AM (7-10) and PM (4-7) peak hours under existing and future analysis scenarios.
3. The project site is located near the westerly boundary of the City of Sunnyvale. Relevant approved projects within Sunnyvale and other neighboring jurisdictions



need to be included in the study estimates of the Background traffic volumes. This is consistent with the CMP TIA Guidelines. Similarly, pending projects and/or the application of an annual growth rate needs to be incorporated in the Cumulative traffic volume estimates in order to reflect the growth in both the local and regional traffic. A current list of approved and pending development projects in the City of Sunnyvale can be supplied upon request.

4. Evaluation of the alternative modes of transportation should be included in this project's traffic analysis. The VTA CMP Guidelines indicate that traffic analyses must include transit facilities in terms of transit service availability, transit capacity relative to the increased demand, impact of increased traffic delays on the service, and the need for transit access improvements. According to the CMP Guidelines, the traffic analysis must also evaluate bicycle and pedestrian facilities in terms of their availability, project effects on future bike/pedestrian plans, and improvements proposed by the project. Maps and information on existing and planned bicycle facilities within Sunnyvale can be supplied upon request.
5. The TIA should identify the individual and cumulative project operational impacts on Sunnyvale facilities, along with associated feasible improvements. It is important to also include the project's full/pro-rata share financial contributions towards the implementation of these improvements to bring the roadways back to acceptable or no-project operational level of service.
6. The Valley Transportation Plan (VTP) on the VTA web site contains a list of regional improvements which shall be included in the cumulative conditions. Similarly, local improvements within the City of Sunnyvale that are already identified in the City's Capital Improvement Program (CIP) and/or in the Sunnyvale Traffic Impact Fee Study shall be included in the cumulative analysis. When utilizing regional and local road improvements as project mitigations, please clarify construction schedule of these improvements relative to the schedule of the development completion.
7. The proposed project is significant in size and is expected to affect the Sunnyvale street system. Following the CMP guidelines, the City of Sunnyvale requests to review the draft TIA report.
8. The City of Sunnyvale is requesting to review the draft EIS/EIR, in particular, any analysis related to vehicle miles traveled (VMT) and any potential mitigation to address transportation impacts identified. The report should include the project's full/pro-rata share financial contributions towards the implementation of mitigations to mitigate transportation-related impacts.



9. Include any potential Transportation Demand Management (TDM) measures planned to be deployed by the project.
10. Truck routes and construction-related activity impacts on the City of Sunnyvale and regional corridors need to be investigated and mitigated if necessary.
11. All analyses shall be performed at the same level of detail for Build Alternative 1, Build Alternative 2 and No Build.

Thank you for your consideration in this matter. Please contact Jeffrey Cucinotta, Senior Planner, at (408) 730-7424 or jcucinotta@sunnyvale.ca.gov if you have any questions or concerns about items discussed in this letter.

Sincerely,

George Schroeder

George Schroeder
Principal Planner
Community Development Department

Cc: Trudi Ryan, Director, Community Development
Chip Taylor, Director, Public Works
Ramana Chinnakotla, Director, Environmental Services
Shaunn Mendrin, Planning Officer, Community Development
Dennis Ng, Transportation and Traffic Manager, Public Works
Lillian Tsang, Principal Traffic Engineer, Public Works
Jennifer Ng, Assistant Director, Public Works
Arnold Chu, Assistant City Engineer, Public Works
Mansour Nasser, Water & Sewer Systems Manager, Environmental Services
Eric Evans, Senior Environmental Engineer, Environmental Services



REGION 9

SAN FRANCISCO, CA 94105

July 26, 2024

Andrés Estrada
NEPA Program Manager, Natural Resources Manager
National Aeronautics and Space Administration
NASA Ames Research Center M/S 204-15
Moffett Field, California 94035-0001

Subject: Scoping Comments for the Berkeley Space Center at NASA Research Park Draft
Environmental Impact Statement

The United States Environmental Protection Agency has reviewed the Notice of Intent published on June 26, 2024 regarding the National Aeronautics and Space Administration's decision to prepare a Draft Environmental Impact Statement/Environmental Impact Report (Draft EIS/EIR), pursuant to the National Environmental Policy Act and the California Environmental Quality Act, for the proposed research facility at NASA's Ames Research Park. The NOI states that the proposed 36-acre project would consist of first demolishing the existing, mostly vacant 16 one- or two-story buildings totaling approximately 112,000 square feet, and redeveloping the site into nearly 1.99 million square feet of research space and educational facilities. The EPA's review of the NOI is pursuant to the National Environmental Policy Act, Council on Environmental Quality regulations (40 CFR Parts 1500-1508) and our NEPA review authority under Section 309 of the Clean Air Act.

The EPA has prepared the enclosed scoping comments to guide the development of the Draft EIS/EIR. Our comments provide specific recommendations to consider regarding hazardous materials, demolition, environmental justice, stormwater management, air quality, and climate change impacts. We look forward to working with NASA and request an early coordination review of an administrative Draft EIS/EIR and any technical reports related to the enclosed recommendations. Please also notify the EPA when the Draft EIR/EIS is released for public review. For any questions related to the EPA's recommendations, please notify me at (415) 972-3590, or by email at nguyen.martin@epa.gov.

Sincerely,

Martin Nguyen
Environmental Review Section 2

Enclosure: Detailed Scoping Comments for Berkeley Space Center Project

cc: Keith Lichten
Region Program Manager, San Francisco Regional Water Quality Control Board

Alison Kirk
Manager, Planning and Climate Protection Division, Bay Area Air Quality Management District

Hazardous Materials and Waste

The Berkeley Space Center Project (Project) site is co-located on the Middlefield-Ellis-Whisman (MEW) Superfund Study Area¹. This area is undergoing a remedy pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), also known as the Superfund Program. We understand that the public has numerous opportunities to participate and learn about the cleanup through the Superfund remediation process, which is not subject to the National Environmental Policy Act. Given that hazardous contaminants are associated with the site parcels, and that there is an ongoing cleanup happening, it is important for the Draft EIS/EIR for the Project to confirm and provide an overview and discussion consistent with the requirements of NEPA demonstrating that construction and maintenance workers, visitors, future residents, and ecological systems will not be adversely impacted by potential hazards associated with contaminants.

Recommendations:

- Please continue to work with EPA Remedial Project Manager Alana Lee at Lee.Alana@epa.gov or 415-972-3141 regarding the Project's interface with the MEW site cleanup and the ongoing close coordination needed to accurately characterize the status of the cleanup as needed to support analysis, disclosure, and decisionmaking required for the NEPA process.
- Because it may be necessary for NASA to base some Project-related environmental impact analyses and decisionmaking on analyses previously prepared for the separate ongoing CERCLA process, the EPA recommends referring to the Council on Environmental Quality regulations for incorporation by reference which state that agencies "shall cite the incorporated material in the document, briefly describe its content, and briefly explain the relevance of the incorporated material" and that agencies "shall not incorporate material by reference unless it is reasonably available for review." (40 CFR Part 1501.12)
- To assist with disclosure for NEPA, identify in the Draft EIS/EIR the location of residential/research facility structures, and any impacted sensitive receptors, in relation to the cleanup parcels and identify where and when construction, public access, and residential and research facility occupation will be happening simultaneously with the cleanup to disclose this information to the public and to direct the timing and prioritization of any mitigation measures proposed through the NEPA process.
- Discuss how construction activities could come in contact with any contamination that may remain onsite in the context of the timing of the initiation and completion of both the remedy and the Project. At final buildout, if the proposed Project residential, visitor, and research facilities are part of the remedy, disclose this and discuss the institutional controls for each separate land use proposed, including an overview of the short- and long-term monitoring that would occur pursuant to cleanup.

¹ EPA's Record of Decision Amendment for the Vapor Intrusion Pathway (2010), <https://semsub.epa.gov/work/09/1163792.pdf>

Demolition-related Impacts

The NOI states that the Project site consists of mostly vacant buildings that were formerly used as ancillary buildings that supported Navy operations (e.g., office buildings, food service, gas station). The NOI further states that existing buildings onsite will be demolished prior to project site preparation and construction. Executive Order 14057 (December 8, 2021) reestablishes the federal government as a leader in sustainability and directs agencies to prioritize products that can be reused, refurbished, or recycled; purchase products that contain recycled content, are biobased, or are energy and water efficient; and, to the maximum extent practicable, purchase sustainable products and services identified or recommended by the EPA. It would be helpful for the Draft EIR/EIS to address reuse, recycling, and composting in addition to addressing measures to reduce potential health impacts related to demolition.

Recommendations:

- In the Draft EIS/EIR, identify all measures to reduce the impacts from demolition and commit to the reuse of demolition-derived materials. Consider conducting a Deconstruction/Reuse Assessment to determine which materials could be reused/salvaged onsite to support the proposed Project (or other uses in the Project area) and include commitments to building materials reuse as a priority over demolition, as well as recycling actions.
- Identify health and air quality impacts related to the demolition or physical disturbance of structures and facilities, including those that may potentially contain asbestos and identify mitigation to protect health and environmental quality from emissions of asbestos. Please address the project's consistency with the National Emission Standard for Asbestos (40 CFR Part 61.140) and the applicable rule(s) of the Bay Area Air Quality Management District.

Environmental Justice

Executive Order 14096, Revitalizing Our Nation's Commitment to Environmental Justice for All (April 21, 2023), directs Federal agencies to provide opportunities for early and meaningful involvement in the environmental review process for communities with environmental justice concerns potentially affected by a proposed action (E.O. 14096, Section 3(a)(ix)(C)). The CEQ NEPA Implementing Regulations further state that agencies "shall analyze the significance of an action with consideration of the characteristics of a geographic area, such as proximity to unique or sensitive resources or communities with environmental justice concerns", and that one factor to consider regarding the intensity of the effect is "the degree to which the action may adversely affect communities with environmental justice concerns" (40 CFR Part 1501.3(d)). The Draft EIS/EIR provides a forum to describe any environmental justice considerations incorporated into the design, construction, and development associated with the Berkeley Space Center.

Recommendations:

- In the Draft EIS/EIR, identify any impacts to communities with environmental justice concerns. Per 40 CFR Part 1508.1, "To assist in identifying communities with environmental justice concerns, agencies may use available screening tools, such as the Climate and

Economic Justice Screening Tool and the EJScreen Tool, as appropriate to their activities and programs.”

- Consider the Federal Interagency Working Group on Environmental Justice’s Promising Practices for EJ Methodologies in NEPA Reviews when developing the environmental justice analysis and summarize outreach and engagement efforts that were undertaken and discuss efforts that were made to address potential language and technology barriers to ensure that all potentially affected populations were meaningfully engaged.
- Disclose whether the project would result in disproportionately high and adverse impacts to any communities that may not experience environmental justice as defined in 40 CFR Part 1508.1(m).
- Identify measures to avoid, minimize, and mitigate environmental justice impacts to the fullest extent feasible.

Water Resources and Water Quality

The proposed Project will redevelop significant amounts of previously developed land, potentially affecting stormwater flows into the San Francisco Bay. Under Clean Water Act, 3 U.S.C. § 1318(a), the EPA has an interest in preserving hydrologic flows and protecting the quality for waters of the United States. Protecting San Francisco Bay health will depend on assessing the change in stormwater volume, as well as identifying measures to reduce the total potential contaminant load that may inadvertently route to the Bay. The EPA notes that the contaminants in stormwater flow from the previously developed site and the proposed redevelopment will be similar in terms of composition, but not necessarily in volume.

Recommendations:

- As result of Project construction and future facility operations, analyze the change in stormwater volume, as well as the change in volume of potential contaminants that may mobilize in stormwater flows. In particular, include a map indicating the location and functions of various buildings proposed, and calculate and disclose the increase in impervious surface area that will result from the proposed redevelopment and document and disclose the method of analysis. Identify mitigation measures to reduce pollutants flowing into the Bay.

Air Quality

The project site is located in an area designated nonattainment (moderate) for the 8-hour ozone National Ambient Air Quality Standards (NAAQS) (2015 standard), 24-hour PM_{2.5} NAAQS (2006 standard), and the annual CO NAAQS (1971 standard). The NOI states that both build alternatives would include approximately 141 student/faculty housing units, housing approximately 352 residents, and approximately 99 short-term lodging units, which would accommodate approximately 197 guests. Long-term and short-term residential uses as well as new business and research operations and parking facilities could result in increased adverse air quality impacts due to increased traffic and increased idling if not addressed through project design and mitigation measures.

Recommendations:

- Disclose the NAAQS and nonattainment status for the project site and analyze the potential emissions increases of particulate matter, carbon dioxide, nitrogen oxides, sulfur oxides,

and fugitive dust, from the construction and operations phase of the project. Disclose the method of analysis and any assumptions made.

- Commit to strategies to mitigate construction emissions and identify them in the Draft EIS/EIR. Refer to the recommendations for mitigating air quality and climate impacts from land use development projects as outlined in the CEQA 2022 Guidelines, Chapter 8, Bay Area Air Quality Management District.²
- Identify and disclose mitigation measures to reduce adverse air quality impacts. Such mitigation measures may include, but are not limited to:
 - Usage of high fuel efficiency vehicles or alternative fuels vehicles
 - Commitment to employee, visitor, and residential shuttling to the site to reduce single occupancy vehicle trips
 - Construction controls reducing vehicle idling time
 - Construction controls to reduce fugitive dust
- Analyze the spatial distribution of sensitive receptors, including schools, hospitals, and daycare centers, around the project site. Include a strategy for engaging with the surrounding communities to invite them to assist in informing project alternatives and mitigation measures. Identify a process to alert impacted community to traffic and construction activities, and a process for adjacent community members and future residents and visitors to voice any concerns they may have.
- Disclose a strategy for construction activities to reduce exposure to sensitive receptors, including but not limited to, specific scheduling and strategic trucking routes.

Climate Change Considerations

On January 9, 2023, Council on Environmental Quality published interim guidance³ to assist federal agencies in assessing and disclosing climate change impacts during environmental reviews. CEQ developed this guidance in response to EO 13990, *Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis*. CEQ indicated that agencies should use this interim guidance to inform the NEPA analysis for all new proposed actions and may use it for evaluations in process, as agencies deem appropriate, such as informing the consideration of alternatives or helping address comments raised through the public comment process. Referring to the interim guidance can help insure robust consideration of potential climate impacts, mitigation, and adaptation issues.

Recommendations:

- Discuss the context of climate change impacts to the setting of the Project. Discuss the potential impact of more extreme precipitation and sea level rise in the future and clarify what design measures are warranted.

² https://www.baaqmd.gov/~media/files/planning-and-research/ceqa/ceqa-guidelines-2022/ceqa-guidelines-chapter-8-mitigation_final-pdf

³ https://ceq.doe.gov/guidance/ceq_guidance_nepa-ghg.html

- Include design considerations that enhance the Project’s resilience to expected climate change effects, such as more frequent and intense storm events and more extreme temperatures. Identify building design and traffic management commitments focused on reducing greenhouse gas emissions in such as higher efficiency climate control, renewable energy sources, emissions-conscious building materials and their embodied energy, waste control techniques, integrated transit, and reducing single occupancy vehicle usage.
- Incorporate green spaces in the project design to reduce the heat island effect, and consider drought-resistant, native plant species to provide shade, cooling, and reduce soil erosion in the area.
- Identify sources of CO2 emissions during the constructions and operations phase and estimate the volume of CO2 emitted.
- Commit to building to LEED Platinum, or equivalent third-party green building certification for the proposed facilities. Identify how the proposed construction and operation will meet local, regional, and state commitments to green building, and require compliance with LEED v4 checklist and CALGreen mandatory measures. The EPA notes that NASA has it’s own plan for net zero emissions buildings and operations, and we recommend that the Draft EIS/EIR identify how building and master plan considerations will meet net zero emissions goals.
- Disclose strategies for reducing the carbon footprint for commuting employees, guests, and construction workers. Strategies may include but are not limited to incentivizing a ride share program, establishing an employee transit system, or integrating into existing public transit infrastructure.
- Identify any commitment for zero-emission NASA fleet vehicles and specify the additional zero emissions equipment that may be used for facility-wide maintenance (groundskeeping, etc.).
- Identify the specific energy saving measures NASA is currently committing to and state the specific energy saving project features that NASA will commit to as a part of the renovations proposed. This may include use of renewable energy, solar on rooftops, cool roofs, and battery storage.
- Require zero emission alternatives to back-up when feasible, otherwise require Tier 4 final generators.
- Add low embodied carbon construction materials procurement, targeting reused materials and lower embodied concrete, asphalt, steel, and glass. Refer to the following resources to assist with “green” commitments for the construction and operation of the proposed improvements
 - EPA Indoor Air Quality, <https://www.epa.gov/indoor-air-quality-iaq>

- EPA Lower Embodied Carbon Construction Materials and Products, <https://www.epa.gov/inflation-reduction-act/inflation-reduction-act-programs-fight-climate-change-reducing-embodied>

Subject:

RE: Public Notice: Preparation of a Joint Environmental Impact Report/Environmental Impact Statement for Berkeley Space Center at NASA Research Park

----- Forwarded message -----

From: **Lisjan Nation** <cvltribe@gmail.com>

Date: Fri, Jun 21, 2024 at 1:04 PM

Subject: Re: Public Notice: Preparation of a Joint Environmental Impact Report/Environmental Impact Statement for Berkeley Space Center at NASA Research Park

To: <planning@berkeley.edu>, Quirina Geary <qgeary@tamien.org>

Thank you for your email. This project does not land in our traditional territory, we will defer to Tribal Chairwoman Quirina Geary [@Quirina Geary](mailto:@QuirinaGeary) of the Tamien Nation, also cc'd on this email.

'Uni (Respectfully),

Lucy Gill, Cultural Resource Manager II

Confederated Villages of Lisjan Nation



On Fri, Jun 21, 2024 at 12:22 PM UC Berkeley Capital Strategies <capitalstrategies@berkeley.edu> wrote:

Berkeley
UNIVERSITY OF CALIFORNIA

Capital Strategies

Architects & Engineers Building
Berkeley, CA 94720

capitalstrategies@berkeley.edu

<https://capitalstrategies.berkeley.edu>



Public Notice

Preparation of a Joint Environmental Impact Report/Environmental Impact Statement

June 21, 2024

Project Title: Berkeley Space Center at NASA Research Park

CEQA Lead Agency: The Regents of the University of California

Project Location: The project site is on federal land located in the National Aeronautics and Space Administration Ames Research Center (NASA ARC) adjacent to the Cities of Mountain View and Sunnyvale in Santa Clara County. The project site is within Assessor Parcel Number 116-18-012.

County: Santa Clara County

The University of California, Berkeley (UC Berkeley) and NASA have determined that a joint Environmental Impact Report/Environmental Impact Statement (EIR/EIS) will be prepared for the Berkeley Space Center at NASA Research Park (project or proposed project) (State CEQA Guidelines Section 15222). The Regents of the University of California, acting as the Lead Agency under the California Environmental Quality Act (CEQA), has determined that the proposed project could result in potentially significant environmental impacts and that an EIR is required. NASA, acting as the Lead Agency under the National Environmental Policy Act (NEPA), has determined that an Environmental Impact Statement (EIS) will be prepared for the project. NASA is the entitlement agency for the project.

When the decision to prepare an EIR has already been made, CEQA states that an initial study is not required (State CEQA Guidelines Section 15063(a)). Accordingly, an initial study has not been prepared. This notice of preparation (NOP) has been prepared pursuant to State CEQA Guidelines Sections 15082 and 15083.

UC Berkeley has prepared this NOP to provide responsible and trustee agencies, state, federal agencies involved in approving or funding the project, and other interested parties with a description of the proposed project and information on potential environmental effects of the proposed project, pursuant to State CEQA Guidelines Section 15082(a). The NOP is available for public review on UC Berkeley's Capital Strategies website: <https://capitalstrategies.berkeley.edu/environmental-review>.

Project Location

The project site within the NASA ARC, which is located on approximately 2,000 acres between U.S. 101 and the southwestern edge of San Francisco Bay (refer to the attached Project Location map). The city of Mountain View borders the NASA ARC to the south and west; the city of Sunnyvale borders the NASA ARC to the south and east. The NASA ARC is approximately 33 miles south of the city of San Francisco and 8 miles north of the city of San José. As part of the NASA Ames Development Plan (NADP), which is NASA's vision for development of the NASA ARC, development was considered in four areas commonly referred to as the NASA Research Park (NRP), Eastside / Airfield, Bay View, and Ames Campus. The project site is within the NRP.

The approximately 36-acre triangular project site is currently developed with approximately 16 one- or two-story buildings that total approximately 112,000 square feet, along with surface parking lots, roadways, and utility infrastructure. The existing buildings are mostly vacant and many were formerly used as ancillary buildings that supported Navy operations (e.g., office buildings, food service, gas station).

The project site is bounded by Wescoat Road to the north and Cody Road to the east. The southern boundary of the project site is between Edquiba Road and Girard Road. Northwest of the project site, across Wescoat Road, is Shenandoah Plaza, a linear open space surrounded by buildings. Approximately 0.3 mile northeast of the project site, across from the intersection of Wescoat Road and Cody Road, is Hangar One, one of the largest freestanding structures in the world. Hangar One and many of the buildings, landscapes, and objects north of the project site are part of the Shenandoah Plaza Historic District. East of the project site, across Cody Road, is Moffett Federal Airfield. South of the project site is a planned residential development that would include approximately 2,000 residential units; the planned residential development would be located within the NRP, but is not part of the proposed project.

With respect to hazardous materials, ongoing remediation activities in the vicinity of the project site continue to be implemented under the jurisdictions of the United States Environmental Protection Agency and California Regional Water Quality Control Board.

Background

The project site is within the NRP, which was incorporated into the NASA ARC in 1994 following the closure of the former Naval Air Station Moffett Field. In 2002, a programmatic EIS (PEIS) was prepared pursuant to NEPA and was completed with a Record of Decision that provided environmental review for the implementation of the NADP. Since 2002, NASA (or other authorized parties) has redeveloped portions of the NASA ARC with entitled uses under the terms of several ground leases. The project site is one of the parcels considered for redevelopment in the 2002 PEIS. In 2019, NASA invited UC Berkeley, on behalf of the University of California system and its constituent campuses, to explore the feasibility of developing the project site for public and private sector research, professional education, and housing. In May 2021, the Regents authorized UC Berkeley to enter into a joint venture with SKSP NRP, LLC to create Moffett Partners, LLC for the proposed project.

Description of the Project

Moffett Partners, LLC is proposing the project. The proposed project would redevelop the project site with academic and research facilities, including office, laboratories, and research and development (collectively, “research and office uses”); conference and amenity facilities, including a gym, lobbies, and other amenities (collectively, “active uses”); student/faculty housing; short-term lodging; transportation networks; and public open spaces as well as landscaped spaces, to create a state-of-the-art research and education hub that shapes the future of technology and innovation and to advance UC Regents' educational, scientific research, charitable, and other exempt purposes (within the meaning of Section 501(c)(3) of the United States Internal Revenue Code).

The following project alternatives will be analyzed in the joint EIR/EIS:

- **Build Alternative 1:** Build Alternative 1 would create approximately 2.3 million square feet of research uses, a conference center, active uses, student/faculty housing, and short-term lodging for visitors and conference attendees. Build Alternative 1 would include approximately 1.99 million square feet (87 percent) research and office uses; 22,000 square feet (1 percent) conference center uses; 89,000 square feet (4 percent) active uses; 126,000 square feet (5 percent) student/faculty housing; and 73,000 square feet (3 percent) short-term lodging uses. Build Alternative 1 is considered the proposed project under CEQA and the Proposed Action under NEPA.
- **Build Alternative 2:** Build Alternative 2 would create approximately 1.4 million square feet of research uses, a conference center, active uses, student/faculty housing, and short-term lodging for visitors and conference attendees. Compared to Build Alternative 1, Build Alternative 2 would provide the same types of uses and the same square footage for most uses, with the exception that Build Alternative 2 would provide less space for research and office uses. Build Alternative 2 would include approximately 1.09 million square feet (78 percent) research and office uses; 22,000 square feet (2 percent) conference center uses; 89,000 square feet (6 percent) active uses; 126,000 square feet (9 percent) student/faculty housing; and 73,000 square feet (5 percent) short-term lodging uses. Build Alternative 2 is considered one of the alternatives to the proposed project under CEQA; it is also one of the alternatives under NEPA. Build Alternative 2 will be evaluated at the same level of detail as Build Alternative 1 in the joint EIR/EIS.
- **No Project/No Action Alternative:**
 - No Project Alternative: For the purposes of CEQA, under the No Project Alternative, Moffett Partners, LLC would not construct and operate the proposed project at the project site.
 - No Action Alternative: For the purposes of NEPA, under the No Action Alternative, the project would not be approved by NASA, and would not be constructed and operated at the project site.

As discussed below, Build Alternative 1 and Build Alternative 2 would have the same general site layout; the same maximum building heights; the same conference center, active uses, student/faculty housing, short-term lodging, and open space; the same amount of student/faculty housing; the same amount of short-term lodging; the same utility infrastructure and roadways; and the same ratio of parking spaces.

- **Site Layout:** Both build alternatives would include buildings that would be oriented around a large open space in the center of the project site, the Central Green. This area would include retail and amenity uses. The proposed research uses would be located along the perimeter of the project site. The proposed student/faculty housing, short-term lodging uses, and conference center would be located in the southwestern corner of the project site. The proposed parking garages would be located in the southwestern and southeastern corners of the project site. Vehicular access would be provided along Wescoat Road, the realigned Cody Road, and the realigned Girard Road (refer to the discussion of Utility Infrastructure and Roadways for more details on roadway realignments).
- **Maximum Building Heights:** Under both build alternatives, maximum structure heights would be 80 feet, with an exceedance allowed of up to 25 feet for mechanical screens and equipment.
- **Conference Center, Active Uses, Student/Faculty Housing, Short-term Lodging Uses, and Open Space:** Both build alternatives would include an approximately 20,000-square-foot conference center, approximately 92,000 square feet of active uses, and approximately 199,000 square feet of student/faculty housing and short-term lodging. In addition, both build alternatives would include approximately 10.9 acres of open space, including pathways, active uses (e.g., occupied areas that pedestrians could access via sidewalks or pathways), and passive uses (e.g., open lawns, patios). Landscaping would include a mix of native, climate-adaptive, and drought-resistant plant materials.
- **Student/Faculty Housing:** Both build alternatives would include approximately 141 student/faculty housing units, which would house approximately 352 residents. The proposed student/faculty housing would be used by students or faculty on a short-term basis (i.e., academic calendar year, semester, summer).
- **Short-term Lodging:** Both build alternatives would include approximately 99 short-term lodging units, which would accommodate approximately 197 guests. The proposed short-term lodging would be used as temporary lodging for staff, researchers, academics, tenants, and their families visiting the project site for conferences, meetings, research projects, and other short-term events affiliated with or at NASA ARC.
- **Utility Infrastructure and Roadways:** Both build alternatives would include building-level air source heat pumps for all heating, package air conditioning units for cooling at buildings without office or lab space, and water-cooled chillers for cooling at buildings with office and/ or lab spaces. In addition, both build alternatives would have the same infrastructure for utilities (i.e., wet and dry utilities) installed offsite and the same utility connection points to those utilities. Existing NASA critical infrastructure would remain within the project site. Both build alternatives would realign Girard Road north to form the southern boundary of the project site and construct a new connector road between the realigned Girard Road and Wescoat Road along the southwestern corner of the project site. Both build alternatives would also realign Cody Road east to align with centerline of Hanger One, incorporating the design intent from the NADP, which was evaluated in the 2002 PEIS.
- **Ratio of Parking Spaces:** Parking would be located off the realigned Girard Road within parking structures and/or podium parking at designated areas. While Build Alternative 1 would have more parking spaces than Build Alternative 2 because it would include more space for research and office uses, both build alternatives would have the same parking ratios for each land use, establishing a blended parking ratio of approximately 1.43 parking spots per 1,000 square feet.

As discussed below, the primary differences between Build Alternative 1 and Build Alternative 2 would be the square footage of the research uses, the number of employees, the number of students, and the number of parking spaces.

- **Research and Office Uses:** Build Alternative 1 would include approximately 1.99 million square feet for research and office uses, whereas Build Alternative 2 would include approximately 1.09 million square feet for research and office uses.
- **Employees:** Build Alternative 1 would result in approximately 5,789 employees, whereas Build Alternative 2 would result in approximately 3,260 employees. Build Alternative 1 would result in more employees because it would include more space for research and office uses.
- **Students:** Build Alternative 1 would accommodate up to approximately 177 students at a time, whereas Build Alternative 2 would accommodate up to approximately 96 students at a time. Build Alternative 1 would accommodate more students because it would include more space for research and office uses.
- **Parking Spaces:** Build Alternative 1 would include approximately 3,290 parking spaces, whereas Build Alternative 2 would include approximately 2,009 parking spaces.

The future sub-tenant users for the proposed research space are not yet known and because the project would be constructed over a period of years, the exact configuration of certain project elements has not yet been determined. Thus, the joint EIR/EIS will evaluate the potential environmental impacts of the project based on conservative, worst case assumptions regarding certain aspects of the project design within specific areas of the project site (referred to as subareas). Specifically, it is anticipated that variations to the following project design elements could occur within seven subareas in the project site: the number and configuration of buildings, the design of the buildings, the allocation of permitted uses among or within the buildings, and the specific locations of mechanical equipment. On the other hand, it is anticipated that the following project elements would be known at the time the joint EIR/EIS is prepared: types of permitted uses, maximum square footage by use and in total, maximum building heights, parking ratios by use, locations of access roads, types and general locations of mechanical equipment, and other project parameters. This approach to the analysis will ensure that the joint EIR/EIS will evaluate the proposed project's maximum potential impact based on potential future building design and configuration to accommodate specific future sub-tenants of the proposed research and office space.

Prior to construction of the proposed project, all of the existing buildings and utilities infrastructure within the project site would be demolished except for the existing NASA critical infrastructure that would remain.

Probable Environmental Effects

UC Berkeley has determined that Public Resources Code Section 21080.09 requires an EIR be prepared for the proposed project. Therefore, as allowed under State CEQA Guidelines Section 15060 (Title 14 Cal. Code Regs.), UC Berkeley has not prepared an initial study and will instead begin work directly on the joint EIR/EIS process.

As required, the joint EIR/EIS will focus on the significant effects of the proposed project and will document the reasons for concluding that other effects will be less-than-significant. Where significant or potentially significant environmental impacts are identified, the joint EIR/EIS will also discuss feasible mitigation measures to avoid or reduce these impacts, and a reasonable range of potentially feasible alternatives.

The joint EIR/EIS will evaluate the probable environmental effects, including cumulative effects, of the proposed project, in the following environmental issue areas:

- **Aesthetics and Visual Resources:** The joint EIR/EIS will evaluate temporary and long-term impacts to scenic vistas and scenic resources, conflicts with applicable regulations governing scenic quality, and whether implementation of the project would result in a source of substantial light or glare impacting nighttime views.
- **Air Quality:** The joint EIR/EIS will evaluate the project's consistency with applicable air quality plans and potential impacts associated with temporary increases in criteria pollutant emissions from construction and long-term increases in criteria pollutant emissions from project operations and associated vehicular trips, and potential exposure impacts associated with exposure of sensitive receptors to air pollutants during construction or project operations. In addition, a health risk analysis will be prepared for the project.
- **Biological Resources:** The joint EIR/EIS will evaluate the potential for implementation of the project to result in substantial adverse effects on biological resources, including sensitive habitats and species, wetlands, and waters, as well as potential conflicts with applicable policies or ordinances protecting biological resources, or with applicable conservation plans.
- **Cultural Resources:** The joint EIR/EIS will evaluate the potential for implementation of the project to result in a substantial adverse change in the significance of known or unknown archaeological or historical resources, or disturbance of human remains.
- **Energy:** The joint EIR/EIS will evaluate potential impacts related to energy use for construction and operation of the project or conflicts with applicable plans for renewable energy or energy efficiency.
- **Geology, Soils, and Paleontological Resources:** The joint EIR/EIS will evaluate the potential for implementation of the project to result in substantial adverse effects associated with seismic risks, soil erosion, geologic hazards, or to destroy a unique paleontological resource or site or unique geologic feature.
- **Greenhouse Gas Emissions:** The joint EIR/EIS will evaluate potential impacts from temporary increases in greenhouse gas (GHG) emissions associated with mobile-source exhaust from construction worker commute trips, truck haul trips, and equipment (e.g., excavators, graders); and long-term increases in GHG emissions associated with project operations, including stationary and mobile sources. The joint EIR/EIS will also evaluate the project's potential to conflict with applicable plans, policies, or regulations for reducing GHG emissions.

- **Hazards and Hazardous Materials:** The joint EIR/EIS will evaluate the potential for construction and operational activities associated with the project create a significant hazard to the public or the environment associated with routine transport, use or disposal, or the accidental release of, of hazardous materials. The joint EIR/EIS will evaluate the potential for the project to result in a safety hazard or excessive noise for people residing or working in the project area due to the proximity to the Moffett Federal Airfield. The joint EIR/EIS will also evaluate the potential for implementation of the project to physically interfere with or impair implementation of an adopted emergency response or evacuation plans, or the potential for the project to expose people or structures to significant risks associated with wildland fires.
- **Hydrology and Water Quality:** The joint EIR/EIS will evaluate the potential for implementation of the project to violate any water quality standards or waste discharge requirements, substantially degrade surface or ground water quality, decrease groundwater supplies, substantially alter existing drainage patterns, or result in any flood or inundation hazards. during construction and operation. The joint EIR/EIS will also evaluate the potential for the project to conflict with applicable water quality control plans.
- **Land Use and Planning:** The joint EIR/EIS will evaluate the potential for implementation of the project to physically divide an established community or cause a significant environmental effect due to a conflict with applicable land use plans and policies adopted for the purpose of reducing or avoiding environmental impacts.
- **Noise:** The joint EIR/EIS will evaluate potential impacts from temporary increases in noise (including off-site, vehicle traffic noise) and vibration levels during construction; and long-term increases in noise and vibration from project operation, including stationary and mobile sources.
- **Population and Housing:** The joint EIR/EIS will evaluate the potential for implementation of the project to induce (directly or indirectly) unplanned substantial population growth or displace substantial housing or residents.
- **Public Services:** The joint EIR/EIS will evaluate potential impacts on public services.
- **Recreation:** The joint EIR/EIS will evaluate potential impacts on recreation facilities.
- **Transportation and Traffic:** The joint EIR/EIS will evaluate the potential for implementation of the project to increase vehicle miles traveled (VMT) locally and in the region and whether such increases would conflict with applicable plans, policies, or regulations related to the effectiveness of the local/regional circulation system. The joint EIR/EIS will also include a discussion of emergency access adequacy, and potential transportation hazards from implementation of the project.
- **Tribal Cultural Resources:** The joint EIR/EIS will evaluate the potential for implementation of the project to result in a substantial adverse change in the significance of known or unknown tribal cultural resources.
- **Utilities and Service Systems:** The joint EIR/EIS will evaluate the potential for implementation of the project to increase demand for water, transmission, and treatment; demand for wastewater transmission and treatment; use of recycled water; demand for electricity and natural gas; and the potential need to increase the capacity of existing infrastructure.

No significant impacts with respect to agriculture and forestry resources or mineral resources or wildfire are anticipated, and these issue areas will not be evaluated in detail as part of the joint EIR/EIS.

Cortese List Notice

Pursuant to Public Resources Code 21092.6(a), the project site is located on a site included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 (California Department of Toxic Substances Control list of various hazardous sites). The proposed project would be required to follow existing soil and groundwater remediation protocols. Details regarding the required remediation would be coordinated with the United States Environmental Protection Agency and Responsible Parties in charge of ongoing remediation efforts.

Public Review and Comment Period

UC Berkeley invites comments on the scope and content of the joint Draft EIR/EIS and appreciates your prompt review of this NOP. Written comments should focus on the scope and content of the environmental information to be included in the joint Draft EIR/EIS for the Berkeley Space Center at NASA Research Park, germane to agencies having statutory responsibilities associated with the proposed project, as well as public interest in the proposed project. All comments on environmental issues received during the public comment period will be considered in the joint Draft EIR/EIS. Due to the time limits mandated by State law, this NOP will be circulated for a 30-day review period, which will extend from June 21, 2024, to July 22, 2024. Responses to this NOP must

be received by 5:00 p.m. on July 22, 2024. Please send your written or electronic responses, with appropriate contact information, to the following address:

Shraddha Navalli Patil, Ph.D., Senior Planner
Physical & Environmental Planning
University of California, Berkeley
200 A&E Building, Berkeley, CA 94720-1382
Email: planning@berkeley.edu

Please include a subject line indicating Scoping Comments: Berkeley Space Center at NASA Research Park.

Public Scoping Meetings

UC Berkeley and NASA will hold two joint online public scoping meetings to inform interested parties about the project, and to provide agencies and the public with an opportunity to provide oral and written comments on the scope and content of the joint EIR/EIS. The scoping meetings will be held exclusively through Zoom videoconference. The information for the meetings is as follows:

Scoping Meeting No. 1

Wednesday, July 10, 2024

Time: 6:00 – 7:30 p.m.

Meeting Link: <https://capitalstrategies.berkeley.edu/public-meetings>

Scoping Meeting No. 2

Monday, July 15, 2024

Time: 6:00 – 7:30 p.m.

Meeting Link: <https://capitalstrategies.berkeley.edu/public-meetings>

For instructions to access and participate in the Zoom meetings by telephone or from a PC, Mac, iPad, iPhone, or Android device, please visit: <https://capitalstrategies.berkeley.edu/public-meetings>.

To request a paper copy of this notice or if you have questions concerning this NOP, scoping session, or associated environmental review for the project, please contact Physical & Environmental Planning, at (510) 495-5786 or planning@berkeley.edu.

Download: [Public Notice with Location Map \(PDF\)](#)

Project Inquiries: (510) 495-5786 or planning@berkeley.edu

About us:

[Capital Strategies](#) provides a full suite of planning, design, real estate, construction, and development services to UC Berkeley. Capital Strategies is part of the [Administrative Division](#) and includes real estate professionals, architects, planners, engineers, construction managers, and administrative specialists, working together to serve the campus community.

Media contact:

Kyle Gibson, Director of Communications

kyle.gibson@berkeley.edu

(510) 495-5786

UC Berkeley Capital Strategies | A&E Building | Berkeley, CA 94720 US

[Unsubscribe](#) | [Update Profile](#) | [Constant Contact Data Notice](#)



Try email marketing for free today!

--

+++++

Physical and Environmental Planning
300 A&E Building
UC Berkeley

website: capitalstrategies.berkeley.edu
phone: (510) 643-4793
email: planning@berkeley.edu

--

Shraddha Navalli Patil, Ph.D.
Senior Planner, Physical & Environmental Planning
UC Berkeley Capital Strategies
200 A&E Building, Berkeley, CA-94720
(650) 223-3433 Cell
shraddha@berkeley.edu

NATIVE AMERICAN HERITAGE COMMISSION

June 21, 2024

Shraddha Navalli Patil, Ph.D
The Regents of the University of California
200 A&E Building
Berkeley CA 94720-1382

Re: 2024060942, Berkeley Space Center at NASA Research Park Project, Santa Clara County

Dear Ms. Navalli Patil:

The Native American Heritage Commission (NAHC) has received the Notice of Preparation (NOP), Draft Environmental Impact Report (DEIR) or Early Consultation for the project referenced above. The California Environmental Quality Act (CEQA) (Pub. Resources Code §21000 et seq.), specifically Public Resources Code §21084.1, states that a project that may cause a substantial adverse change in the significance of a historical resource, is a project that may have a significant effect on the environment. (Pub. Resources Code § 21084.1; Cal. Code Regs., tit.14, § 15064.5 (b) (CEQA Guidelines § 15064.5 (b)). If there is substantial evidence, in light of the whole record before a lead agency, that a project may have a significant effect on the environment, an Environmental Impact Report (EIR) shall be prepared. (Pub. Resources Code §21080 (d); Cal. Code Regs., tit. 14, § 5064 subd.(a)(1) (CEQA Guidelines § 15064 (a)(1)). In order to determine whether a project will cause a substantial adverse change in the significance of a historical resource, a lead agency will need to determine whether there are historical resources within the area of potential effect (APE).

CEQA was amended significantly in 2014. Assembly Bill 52 (Gatto, Chapter 532, Statutes of 2014) (AB 52) amended CEQA to create a separate category of cultural resources, "tribal cultural resources" (Pub. Resources Code §21074) and provides that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment. (Pub. Resources Code §21084.2). Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource. (Pub. Resources Code §21084.3 (a)). **AB 52 applies to any project for which a notice of preparation, a notice of negative declaration, or a mitigated negative declaration is filed on or after July 1, 2015.** If your project involves the adoption of or amendment to a general plan or a specific plan, or the designation or proposed designation of open space, on or after March 1, 2005, it may also be subject to Senate Bill 18 (Burton, Chapter 905, Statutes of 2004) (SB 18). **Both SB 18 and AB 52 have tribal consultation requirements.** If your project is also subject to the federal National Environmental Policy Act (42 U.S.C. § 4321 et seq.) (NEPA), the tribal consultation requirements of Section 106 of the National Historic Preservation Act of 1966 (154 U.S.C. 300101, 36 C.F.R. §800 et seq.) may also apply.

The NAHC recommends consultation with California Native American tribes that are traditionally and culturally affiliated with the geographic area of your proposed project as early as possible in order to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources. Below is a brief summary of portions of AB 52 and SB 18 as well as the NAHC's recommendations for conducting cultural resources assessments.

Consult your legal counsel about compliance with AB 52 and SB 18 as well as compliance with any other applicable laws.



CHAIRPERSON
Reginald Pagaling
Chumash

VICE-CHAIRPERSON
Buffy McQuillen
Yokayo Pomo, Yuki,
Nomlaki

SECRETARY
Sara Dutschke
Miwok

PARLIAMENTARIAN
Wayne Nelson
Luiseño

COMMISSIONER
Isaac Bojorquez
Ohlone-Costanoan

COMMISSIONER
Stanley Rodriguez
Kumeyaay

COMMISSIONER
Laurena Bolden
Serrano

COMMISSIONER
Reid Milanovich
Cahuilla

COMMISSIONER
Bennae Calac
Pauma-Yuima Band of
Luiseño Indians

EXECUTIVE SECRETARY
**Raymond C.
Hitchcock**
Miwok, Nisenan

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov

AB 52 has added to CEQA the additional requirements listed below, along with many other requirements:

- 1. Fourteen Day Period to Provide Notice of Completion of an Application/Decision to Undertake a Project:** Within fourteen (14) days of determining that an application for a project is complete or of a decision by a public agency to undertake a project, a lead agency shall provide formal notification to a designated contact of, or tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, to be accomplished by at least one written notice that includes:

 - a. A brief description of the project.
 - b. The lead agency contact information.
 - c. Notification that the California Native American tribe has 30 days to request consultation. (Pub. Resources Code §21080.3.1 (d)).
 - d. A "California Native American tribe" is defined as a Native American tribe located in California that is on the contact list maintained by the NAHC for the purposes of Chapter 905 of Statutes of 2004 (SB 18). (Pub. Resources Code §21073).

- 2. Begin Consultation Within 30 Days of Receiving a Tribe's Request for Consultation and Before Releasing a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report:** A lead agency shall begin the consultation process within 30 days of receiving a request for consultation from a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project. (Pub. Resources Code §21080.3.1, subds. (d) and (e)) and prior to the release of a negative declaration, mitigated negative declaration or Environmental Impact Report. (Pub. Resources Code §21080.3.1(b)).

 - a. For purposes of AB 52, "consultation shall have the same meaning as provided in Gov. Code §65352.4 (SB 18). (Pub. Resources Code §21080.3.1 (b)).

- 3. Mandatory Topics of Consultation If Requested by a Tribe:** The following topics of consultation, if a tribe requests to discuss them, are mandatory topics of consultation:

 - a. Alternatives to the project.
 - b. Recommended mitigation measures.
 - c. Significant effects. (Pub. Resources Code §21080.3.2 (a)).

- 4. Discretionary Topics of Consultation:** The following topics are discretionary topics of consultation:

 - a. Type of environmental review necessary.
 - b. Significance of the tribal cultural resources.
 - c. Significance of the project's impacts on tribal cultural resources.
 - d. If necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend to the lead agency. (Pub. Resources Code §21080.3.2 (a)).

- 5. Confidentiality of Information Submitted by a Tribe During the Environmental Review Process:** With some exceptions, any information, including but not limited to, the location, description, and use of tribal cultural resources submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public, consistent with Government Code §6254 (r) and §6254.10. Any information submitted by a California Native American tribe during the consultation or environmental review process shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public. (Pub. Resources Code §21082.3 (c)(1)).

- 6. Discussion of Impacts to Tribal Cultural Resources in the Environmental Document:** If a project may have a significant impact on a tribal cultural resource, the lead agency's environmental document shall discuss both of the following:

 - a. Whether the proposed project has a significant impact on an identified tribal cultural resource.
 - b. Whether feasible alternatives or mitigation measures, including those measures that may be agreed to pursuant to Public Resources Code §21082.3, subdivision (a), avoid or substantially lessen the impact on the identified tribal cultural resource. (Pub. Resources Code §21082.3 (b)).

- 7. Conclusion of Consultation:** Consultation with a tribe shall be considered concluded when either of the following occurs:
- a.** The parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or
 - b.** A party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached. (Pub. Resources Code §21080.3.2 (b)).
- 8. Recommending Mitigation Measures Agreed Upon in Consultation in the Environmental Document:** Any mitigation measures agreed upon in the consultation conducted pursuant to Public Resources Code §21080.3.2 shall be recommended for inclusion in the environmental document and in an adopted mitigation monitoring and reporting program, if determined to avoid or lessen the impact pursuant to Public Resources Code §21082.3, subdivision (b), paragraph 2, and shall be fully enforceable. (Pub. Resources Code §21082.3 (a)).
- 9. Required Consideration of Feasible Mitigation:** If mitigation measures recommended by the staff of the lead agency as a result of the consultation process are not included in the environmental document or if there are no agreed upon mitigation measures at the conclusion of consultation, or if consultation does not occur, and if substantial evidence demonstrates that a project will cause a significant effect to a tribal cultural resource, the lead agency shall consider feasible mitigation pursuant to Public Resources Code §21084.3 (b). (Pub. Resources Code §21082.3 (e)).
- 10. Examples of Mitigation Measures That, If Feasible, May Be Considered to Avoid or Minimize Significant Adverse Impacts to Tribal Cultural Resources:**
- a.** Avoidance and preservation of the resources in place, including, but not limited to:
 - i.** Planning and construction to avoid the resources and protect the cultural and natural context.
 - ii.** Planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.
 - b.** Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:
 - i.** Protecting the cultural character and integrity of the resource.
 - ii.** Protecting the traditional use of the resource.
 - iii.** Protecting the confidentiality of the resource.
 - c.** Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.
 - d.** Protecting the resource. (Pub. Resource Code §21084.3 (b)).
 - e.** Please note that a federally recognized California Native American tribe or a non-federally recognized California Native American tribe that is on the contact list maintained by the NAHC to protect a California prehistoric, archaeological, cultural, spiritual, or ceremonial place may acquire and hold conservation easements if the conservation easement is voluntarily conveyed. (Civ. Code §815.3 (c)).
 - f.** Please note that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated. (Pub. Resources Code §5097.991).
- 11. Prerequisites for Certifying an Environmental Impact Report or Adopting a Mitigated Negative Declaration or Negative Declaration with a Significant Impact on an Identified Tribal Cultural Resource:** An Environmental Impact Report may not be certified, nor may a mitigated negative declaration or a negative declaration be adopted unless one of the following occurs:
- a.** The consultation process between the tribes and the lead agency has occurred as provided in Public Resources Code §21080.3.1 and §21080.3.2 and concluded pursuant to Public Resources Code §21080.3.2.
 - b.** The tribe that requested consultation failed to provide comments to the lead agency or otherwise failed to engage in the consultation process.
 - c.** The lead agency provided notice of the project to the tribe in compliance with Public Resources Code §21080.3.1 (d) and the tribe failed to request consultation within 30 days. (Pub. Resources Code §21082.3 (d)).

The NAHC's PowerPoint presentation titled, "Tribal Consultation Under AB 52: Requirements and Best Practices" may be found online at: http://nahc.ca.gov/wp-content/uploads/2015/10/AB52TribalConsultation_CalEPAPDF.pdf

SB 18

SB 18 applies to local governments and requires local governments to contact, provide notice to, refer plans to, and consult with tribes prior to the adoption or amendment of a general plan or a specific plan, or the designation of open space. (Gov. Code §65352.3). Local governments should consult the Governor's Office of Planning and Research's "Tribal Consultation Guidelines," which can be found online at: https://www.opr.ca.gov/docs/09_14_05_Updated_Guidelines_922.pdf.

Some of SB 18's provisions include:

1. Tribal Consultation: If a local government considers a proposal to adopt or amend a general plan or a specific plan, or to designate open space it is required to contact the appropriate tribes identified by the NAHC by requesting a "Tribal Consultation List." If a tribe, once contacted, requests consultation the local government must consult with the tribe on the plan proposal. **A tribe has 90 days from the date of receipt of notification to request consultation unless a shorter timeframe has been agreed to by the tribe.** (Gov. Code §65352.3 (a)(2)).
2. No Statutory Time Limit on SB 18 Tribal Consultation. There is no statutory time limit on SB 18 tribal consultation.
3. Confidentiality: Consistent with the guidelines developed and adopted by the Office of Planning and Research pursuant to Gov. Code §65040.2, the city or county shall protect the confidentiality of the information concerning the specific identity, location, character, and use of places, features and objects described in Public Resources Code §5097.9 and §5097.993 that are within the city's or county's jurisdiction. (Gov. Code §65352.3 (b)).
4. Conclusion of SB 18 Tribal Consultation: Consultation should be concluded at the point in which:
 - a. The parties to the consultation come to a mutual agreement concerning the appropriate measures for preservation or mitigation; or
 - b. Either the local government or the tribe, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached concerning the appropriate measures of preservation or mitigation. (Tribal Consultation Guidelines, Governor's Office of Planning and Research (2005) at p. 18).

Agencies should be aware that neither AB 52 nor SB 18 precludes agencies from initiating tribal consultation with tribes that are traditionally and culturally affiliated with their jurisdictions before the timeframes provided in AB 52 and SB 18. For that reason, we urge you to continue to request Native American Tribal Contact Lists and "Sacred Lands File" searches from the NAHC. The request forms can be found online at: <http://nahc.ca.gov/resources/forms/>.

NAHC Recommendations for Cultural Resources Assessments

To adequately assess the existence and significance of tribal cultural resources and plan for avoidance, preservation in place, or barring both, mitigation of project-related impacts to tribal cultural resources, the NAHC recommends the following actions:

1. Contact the appropriate regional California Historical Research Information System (CHRIS) Center (https://ohp.parks.ca.gov/?page_id=30331) for an archaeological records search. The records search will determine:
 - a. If part or all of the APE has been previously surveyed for cultural resources.
 - b. If any known cultural resources have already been recorded on or adjacent to the APE.
 - c. If the probability is low, moderate, or high that cultural resources are located in the APE.
 - d. If a survey is required to determine whether previously unrecorded cultural resources are present.
2. If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
 - a. The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum and not be made available for public disclosure.
 - b. The final written report should be submitted within 3 months after work has been completed to the appropriate regional CHRIS center.

3. Contact the NAHC for:
 - a. A Sacred Lands File search. Remember that tribes do not always record their sacred sites in the Sacred Lands File, nor are they required to do so. A Sacred Lands File search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with the geographic area of the project's APE.
 - b. A Native American Tribal Consultation List of appropriate tribes for consultation concerning the project site and to assist in planning for avoidance, preservation in place, or, failing both, mitigation measures.

4. Remember that the lack of surface evidence of archaeological resources (including tribal cultural resources) does not preclude their subsurface existence.
 - a. Lead agencies should include in their mitigation and monitoring reporting program plan provisions for the identification and evaluation of inadvertently discovered archaeological resources per Cal. Code Regs., tit. 14, § 15064.5(f) (CEQA Guidelines § 15064.5(f)). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American with knowledge of cultural resources should monitor all ground-disturbing activities.
 - b. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the disposition of recovered cultural items that are not burial associated in consultation with culturally affiliated Native Americans.
 - c. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the treatment and disposition of inadvertently discovered Native American human remains. Health and Safety Code § 7050.5, Public Resources Code § 5097.98, and Cal. Code Regs., tit. 14, § 15064.5, subdivisions (d) and (e) (CEQA Guidelines § 15064.5, subds. (d) and (e)) address the processes to be followed in the event of an inadvertent discovery of any Native American human remains and associated grave goods in a location other than a dedicated cemetery.

If you have any questions or need additional information, please contact me at my email address:
Cody.Campagne@NAHC.ca.gov.

Sincerely,

Cody Campagne

Cody Campagne
Cultural Resources Analyst

cc: State Clearinghouse



Yana Garcia
Secretary for
Environmental Protection



Department of Toxic Substances Control

Meredith Williams, Ph.D.
Director
8800 Cal Center Drive
Sacramento, California 95826-3200



Gavin Newsom
Governor

SENT VIA ELECTRONIC MAIL

July 2, 2024

Shraddha Navalli Patil, Ph.D.

Senior Planner

University of California, Berkeley

Physical & Environmental Planning

200 A &E Building

Berkeley, CA 94720

planning@berkeley.edu

RE: NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL IMPACT REPORT FOR THE BERKELEY SPACE CENTER AT NASA RESEARCH PARK PROJECT DATED JUNE 14, 2024, STATE CLEARINGHOUSE NUMBER [2024060942](#)

Dear Shraddha Navalli Patil,

The Department of Toxic Substances Control (DTSC) received a Notice of Preparation (NOP) of a Draft Environmental Impact Report (DEIR) for the Berkeley Space Center at Nasa Research Park project (project). Moffett Partners, LLC is proposing to redevelop the project site with academic and research facilities, including office, laboratories, and research and development (collectively, “research and office uses”); conference and amenity facilities, including a gym, lobbies, and other amenities (collectively, “active uses”); student/faculty housing; short-term lodging; transportation networks; and public open spaces as well as landscaped spaces, to create a state-of-the-art research and education hub that shapes the future of technology and innovation and to advance UC Regents' educational, scientific research, charitable, and other exempt purposes. The

following project alternatives will be analyzed in the joint Environmental Impact Report/Environmental Impact Statement (EIR/EIS): Build Alternative 1 would create approximately 2.3 million square feet of research uses, a conference center, active uses, student/faculty housing, and short-term lodging for visitors and conference attendees. Build Alternative 2 would create approximately 1.4 million square feet of research uses, a conference center, active uses, student/faculty housing, and short-term lodging for visitors and conference attendees. For the purposes of CEQA, under the No Project Alternative, Moffett Partners, LLC would not construct and operate the proposed project at the project site. After reviewing the project, DTSC recommends and requests consideration of the following comments:

1. As stated in the NOP, "Pursuant to Public Resources Code 21092.6(a), the project site is located on a site included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 (California Department of Toxic Substances Control list of various hazardous sites). The proposed project would be required to follow existing soil and groundwater remediation protocols. Details regarding the required remediation would be coordinated with the United States Environmental Protection Agency and Responsible Parties in charge of ongoing remediation efforts". The San Francisco Bay Regional Water Quality Control Board (RWQCB) maintains oversight on the above-mentioned hazardous materials sites and DTSC recommends Moffett Partners, LLC coordinate with San Francisco Bay RWQCB for all future activities on the proposed site. Additionally, DTSC recommends Moffett provide further information on the project site and areas that may fall under San Francisco Bay RWQCB's oversight within the Draft EIR.
2. If buildings or other structures are to be demolished on any project sites included in the proposed project, surveys should be conducted for the presence of lead-based paints or products, mercury, asbestos containing materials, and polychlorinated biphenyl caulk. Removal, demolition, and disposal of any of the above-mentioned chemicals should be conducted in compliance with California environmental regulations and policies. In addition, sampling near current and/or

former buildings should be conducted in accordance with [DTSC's Preliminary Endangerment Assessment \(PEA\) Guidance Manual](#).

3. DTSC recommends that all imported soil and fill material should be tested to assess any contaminants of concern meet screening levels as outlined in the [PEA Guidance Manual](#). Additionally, DTSC advises referencing the [DTSC Information Advisory Clean Imported Fill Material Fact Sheet](#) if importing fill is necessary. To minimize the possibility of introducing contaminated soil and fill material there should be documentation of the origins of the soil or fill material and, if applicable, sampling be conducted to ensure that the imported soil and fill material are suitable for the intended land use. The soil sampling should include analysis based on the source of the fill and knowledge of the prior land use. Additional information can be found by visiting [DTSC's Human and Ecological Risk Office \(HERO\) webpage](#).

DTSC appreciates the opportunity to comment on the NOP of a DEIR for the Berkeley Space Center at Nasa Research Park project. Thank you for your assistance in protecting California's people and environment from the harmful effects of toxic substances. If you have any questions or would like any clarification on DTSC's comments, please respond to this letter or via [email](#) for additional guidance.

Sincerely,



Tamara Purvis

Associate Environmental Planner

HWMP - Permitting Division – CEQA Unit

Department of Toxic Substances Control

Tamara.Purvis@dtsc.ca.gov

Shraddha Navalli Patil, Ph.D.

July 02, 2024

Page 4

cc: (via email)

Governor's Office of Planning and

Research State Clearinghouse

State.Clearinghouse@opr.ca.gov

Dave Kereazis

Associate Environmental Planner

HWMP-Permitting Division – CEQA Unit

Department of Toxic Substances Control

Dave.Kereazis@dtsc.ca.gov

Scott Wiley

Associate Governmental Program Analyst

HWMP - Permitting Division – CEQA Unit

Department of Toxic Substances Control

Scott.Wiley@dtsc.ca.gov

**OFFICE OF THE COUNTY COUNSEL
COUNTY OF SANTA CLARA**

County Government Center
70 West Hedding Street
East Wing, 9th Floor
San José, California 95110-1770

(408) 299-5900
(408) 292-7240 (FAX)



**Tony LoPresti
COUNTY COUNSEL**

**Kavita Narayan
CHIEF ASSISTANT COUNTY COUNSEL**

**Robert M. Coelho
Michaela L. Lewis
Steve Mitra
Elizabeth G. Pianca
Douglas M. Press
Relic Sun
Gita C. Suraj
ASSISTANT COUNTY COUNSEL**

July 19, 2024

VIA U.S. MAIL & EMAIL

Shraddha Navalli Patil, Ph.D., Senior Planner
Physical & Environmental Planning
University of California, Berkeley
200 A&E Building
Berkeley, CA 94720-1382

Re: Scoping Comments: Berkeley Space Center at NASA Research Park

Dear Shraddha Navalli Patil:

The County of Santa Clara (“County”) appreciates the opportunity to submit comments on the Notice of Preparation (NOP) for the joint Environmental Impact Report/Environmental Impact Statement (“EIR/EIS”) to be prepared for the Berkeley Space Center at NASA Research Park (“Project”). The County is most concerned about the EIR/EIS providing a complete and adequate project description, as well as a thorough discussion of the Project’s potential impacts and mitigation measures related to the following environmental resource areas: Public Services, Utilities and Service Systems, Land Use, and Transportation. Although the NOP states that the EIR/EIS will address these areas, the County has identified certain areas that are of heightened concern.

Project Description

The Project site is currently in unincorporated Santa Clara County. The project description in the EIR/EIS should clearly explain how the Project and related actions by NASA and the University of California, Berkeley (“UC Berkeley”) will affect local land use jurisdiction over the Project site. For example, does NASA intend to pursue annexation of all or part(s) of

Letter to Shraddha Navalli Patil

Re: Scoping Comments: Berkeley Space Center at NASA Research Park

Date: July 19, 2024

Page 2

the Project site by the Cities of Mountain View and/or Sunnyvale? What land use jurisdiction, if any, is the County expected to have over the Project site?

Public Services

The EIR/EIS should identify which providers are expected to provide all of the necessary public services to the Project site, including but not limited to law enforcement and fire protection. We are not aware of any fire department or special district that currently provides fire protection services to the Project site. Does UC Berkeley plan to request that the County Sheriff provide law enforcement services for the Project site? In addition, the EIR/EIS should identify whether the Project will include public facilities, such as public parks, and if so, which providers are expected to service those facilities.

Utilities and Service Systems

The County does not have the capability to provide municipal services (e.g., public water, public sewer) to the Project site. The EIR/EIS should identify which providers are expected to provide such services and evaluate any potential physical impacts to the environment from any system extensions or expansions.

Land Use

The evaluation of land use impacts includes evaluating whether the Project would cause a significant environmental impact due to conflicts with any applicable land use plan, policy, or regulation. The EIR/EIS should clearly describe the land use jurisdictional issues and identify the applicable federal, state, and/or local plans, policies, and regulations that would apply to the Project.

Transportation

The Project site is in an area that already experiences significant traffic congestion. The EIR/EIS should identify what traffic-reducing measures and facilities would be incorporated into the Project to reduce vehicle miles traveled (e.g., new transit facilities, local shuttles, bicycle and pedestrian facilities).

County Role

The EIR/EIS should explain whether the County would be a responsible agency for the Project pursuant to section 15381 of the CEQA Guidelines.

//

//

//

Letter to Shraddha Navalli Patil

Re: Scoping Comments: Berkeley Space Center at NASA Research Park

Date: July 19, 2024

Page 3

Conclusion

Thank you for considering the County's comments. We look forward to working with NASA and UC Berkeley to ensure that this Project can have positive outcomes for Santa Clara County residents. Please contact me if you have any questions about these comments.

Very truly yours,

TONY LOPRESTI

County Counsel

DocuSigned by:

Jamila Benkato

0B3B875484CC431...

JAMILA BENKATO

Deputy County Counsel



State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
Bay Delta Region
2825 Cordelia Road, Suite 100
Fairfield, CA 94534
(707) 428-2002
www.wildlife.ca.gov

GAVIN NEWSOM, Governor
CHARLTON H. BONHAM, Director



July 19, 2024

Shraddha Navalli Patil, Senior Planner
University of California, Berkeley
Physical and Environmental Planning
200 A&E Building
Berkeley, CA, 94720
planning@berkeley.edu

Subject: Berkeley Space Center at NASA Research Park, Notice of Preparation of a Draft Environmental Impact Report, SCH No. 2024060942, City of Mountain View, Santa Clara County

Dear Dr. Patil:

The California Department of Fish and Wildlife (CDFW) received a Notice of Preparation (NOP) of a Draft Environmental Impact Report (EIR) from the University of California, Berkeley (Lead Agency) for the Berkeley Space Center at NASA Research Park (Project) pursuant to the California Environmental Quality Act (CEQA) and CEQA Guidelines.¹

Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Project that may affect California fish and wildlife. Likewise, we appreciate the opportunity to provide comments regarding those aspects of the Project that CDFW, by law, may be required to carry out or approve through the exercise of its own regulatory authority under the Fish and Game Code.

CDFW ROLE

CDFW is California's **Trustee Agency** for fish and wildlife resources and holds those resources in trust by statute for all the people of the state. (Fish & G. Code, §§ 711.7, subd. (a) & 1802; Pub. Resources Code, § 21070; CEQA Guidelines § 15386, subd. (a)). CDFW, in its trustee capacity, has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species. (*Id.*, § 1802.) Similarly, for purposes of CEQA, CDFW is charged by law to provide, as available, biological expertise during public agency environmental review efforts, focusing specifically on projects and related activities that have the potential to adversely affect fish and wildlife resources.

¹ CEQA is codified in the California Public Resources Code in section 21000 et seq. The "CEQA Guidelines" are found in Title 14 of the California Code of Regulations, commencing with section 15000.

Shraddha Navalli Patil
University of California, Berkeley
July 19, 2024
Page 2

CDFW is also submitting comments as a **Responsible Agency** under CEQA. (Pub. Resources Code, § 21069; CEQA Guidelines, § 15381). CDFW expects that it may need to exercise regulatory authority over the Project pursuant to the Fish and Game Code. For example, the Project may be subject to CDFW's Lake and Streambed Alteration (LSA) regulatory authority, if the Project impacts the bed, channel or bank of any river, stream or lake within the State (Fish & G. Code, § 1600 et seq.). Likewise, to the extent the Project may result in "take" as defined by state law of any species protected under the California Endangered Species Act (CESA) (Fish & G. Code, § 2050 et seq.), the Project proponent may seek related take authorization as provided by the Fish and Game Code.

REGULATORY REQUIREMENTS

California Endangered Species Act

A CESA Incidental Take Permit (ITP) must be obtained from CDFW if the Project has the potential to result in "take" of plants or animals listed under CESA, either during construction or over the life of the Project. Under CESA, "take" means "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." (Fish & G. Code, § 86). CDFW's issuance of an ITP is subject to CEQA and to facilitate permit issuance, any Project modifications and mitigation measures must be incorporated into the CEQA document analysis, discussion, and mitigation monitoring and reporting program. If the Project will impact CESA listed species, early consultation is encouraged, as significant modification to the Project and mitigation measures may be required in order to obtain a CESA Permit.

CEQA requires a mandatory finding of significance if a project is likely to substantially impact threatened or endangered species. Pub. Resources Code, §§ 21001, subd. (c) & 21083; CEQA Guidelines, §§ 15380, 15064 & 15065). In addition, pursuant to CEQA, the Lead Agency cannot approve a project unless all impacts to the environment are avoided or mitigated to less-than-significant levels, or the Lead Agency makes and supports Findings of Overriding Consideration (FOC) for impacts that remain significant despite the implementation of all feasible mitigation. FOC under CEQA, however, does not eliminate the Project proponent's obligation to comply with the Fish and Game Code.

Lake and Streambed Alteration

CDFW requires an LSA Notification, pursuant to Fish and Game Code section 1600 et seq., for Project activities affecting rivers, lakes or streams and associated riparian habitat. Notification is required for any activity that may substantially divert or obstruct the natural flow; change or use material from the bed, channel, or bank (including associated riparian or wetland resources); or deposit or dispose of material where it may pass into a river, lake, or stream. Work within ephemeral streams, drainage

Shraddha Navalli Patil
University of California, Berkeley
July 19, 2024
Page 3

ditches, washes, watercourses with a subsurface flow, and floodplains is generally subject to notification requirements. In addition, infrastructure installed beneath such aquatic features, such as through hydraulic directional drilling, is also generally subject to notification requirements. Therefore, any impact to the mainstems, tributaries, or floodplains or associated riparian habitat caused by the proposed Project will likely require an LSA Notification.

Migratory Birds and Raptors

CDFW has authority over actions that may result in the disturbance or destruction of active bird nest sites or the unauthorized take of birds. Fish and Game Code sections protecting birds, their eggs, and nests include section 3503 (regarding unlawful take, possession, or needless destruction of the nests or eggs of any bird), section 3503.5 (regarding the take, possession, or destruction of any birds-of-prey or their nests or eggs), and section 3513 (regarding unlawful take of any migratory nongame bird). Migratory birds are also protected under the federal Migratory Bird Treaty Act.

Fully Protected Species

Several Fully Protected Species (Fish & G. Code § 3511 and 4700) have the potential to occur within or adjacent to the Project area.

Project activities described in the draft EIR should be designed to completely avoid any fully protected species that have the potential to be present within or adjacent to the Project area. Fully protected species may not be taken or possessed at any time and no licenses or permits may be issued for their take except as follows:

Take is for necessary scientific research;

- Efforts to recover a fully protected, endangered, or threatened species, live capture and relocation of a bird species for the protection of livestock; or
- They are a covered species whose conservation and management is provided for in a Natural Community Conservation Plan (Fish & G. Code, §§ 3511, 4700, 5050, & 5515).

Specified types of infrastructure projects may be eligible for an ITP for unavoidable impacts to fully protected species if certain conditions are met (Fish & G. Code §2081.15).

CDFW also recommends the draft EIR analyze potential adverse impacts to fully protected species due to habitat modification, loss of foraging habitat, and/or interruption of migratory and breeding behaviors. CDFW recommends that the Lead Agency include in the analysis how appropriate avoidance, minimization and mitigation measures will

Shraddha Navalli Patil
University of California, Berkeley
July 19, 2024
Page 4

reduce indirect impacts to fully protected species. Project proponents should consult with CDFW early in the Project planning process.

PROJECT DESCRIPTION SUMMARY

Proponent: University of Berkeley

Objective: The Project site is on federal land within the National Aeronautics and Space Administration Ames Research Center. The 36-acre triangular Project site is currently developed with approximately 16 one- or two-story buildings that total approximately 112,000 square feet, along with surface parking lots, roadways, and utility infrastructure. The proposed Project would redevelop the Project site with academic and research facilities, including office, laboratories, and research and development (collectively, “research and office uses”); conference and amenity facilities, including a gym, lobbies, and other amenities (collectively, “active uses”); student/faculty housing; short-term lodging; transportation networks; and public open spaces as well as landscaped spaces.

Location: Wescoat Road/Cody Road/Edquiba Road/Girard Road, city of Mountain View (City), Santa Clara County (County). The coordinates for the approximate center of the Project are 37°24'35.8"N latitude 122°03'15.7"W longitude (NAD 83 or WGS 84). The Assessor's Parcel Number is 116-18-012.

Timeframe: Not noted in the NOP.

COMMENTS AND RECOMMENDATIONS

CDFW offers the comments and recommendations below to assist the Lead Agency in adequately identifying and/or mitigating the Project's significant, or potentially significant, direct and indirect impacts on fish and wildlife (biological) resources.

The draft EIR should define the threshold of significance for each impact and describe the criteria used to determine whether the impacts are significant (CEQA Guidelines, § 15064, subd. (f)). The draft EIR relies on General Plan policies and on requirements that subsequent Projects, if necessary, obtain appropriate permits but does not sufficiently describe how these policies will reduce impacts to less than significant.

ENVIRONMENTAL SETTING

Sufficient information regarding the environmental setting is necessary to understand any potentially significant impacts on the environment of the proposed Project (CEQA Guidelines, §§15063 & 15360). CDFW recommends that a full list or table is included in the updated Biological Resources Section of the draft EIR that notes species common name, scientific name, state and federal listing status (as applicable), habitat type

Shraddha Navalli Patil
University of California, Berkeley
July 19, 2024
Page 5

preference and determination on presence, for all special-status species with the potential to occur within the Project area.

CDFW recommends the draft EIR provide baseline habitat assessments for special-status plant, fish and wildlife species located and potentially located within the Project area and surrounding lands, including all rare, threatened, and endangered species (CEQA Guidelines, §15380). The draft EIR should describe aquatic habitats, such as wetlands or waters of the U.S. or State, and any sensitive natural communities or riparian habitat occurring on or adjacent to the Project area (for sensitive natural communities see:

<https://wildlife.ca.gov/Data/VegCAMP/NaturalCommunities#sensitive%20natural%20communities>), and any stream or wetland set back distances the City or County may require.

CDFW recommends that the California Natural Diversity Database (CNDDDB), as well as previous studies performed in the area, be consulted to assess the potential presence of sensitive species and habitats. A nine United States Geologic Survey 7.5-minute quadrangle search is recommended to determine what may occur in the region, larger if the Project area extends past one quad (See *Data Use Guidelines* on the Department webpage, www.wildlife.ca.gov/Data/CNDDDB/Maps-and-Data). Please review the webpage for information on how to access the database to obtain current information on any previously reported sensitive species and habitat, including Significant Natural Areas identified under Chapter 12 of the Fish and Game Code, in the vicinity of the Project. CDFW recommends that CNDDDB Field Survey Forms be completed and submitted to CNDDDB to document survey results. Online forms can be obtained and submitted at: <https://www.wildlife.ca.gov/Data/CNDDDB/Submitting-Data>.

Please note that CDFW's CNDDDB is not exhaustive in terms of the data it houses, nor is it an absence database. CDFW recommends that it be used as a starting point in gathering information about the *potential presence* of species within the general area of the Project site. Other sources for identification of species and habitats near or adjacent to the Project area should include, but may not be limited to, state and federal resource agency lists, California Wildlife Habitat Relationship System, California Native Plant Society Inventory, agency contacts, environmental documents for other projects in the vicinity, academics, and professional or scientific organizations. Only with sufficient data and information can the Lead Agency adequately assess which special-status species are likely to occur in the Project vicinity.

According to Biogeographic Information and Observation System (BIOS) records, the Project site contains positive detections of several special-status species and has the potential to support numerous special-status species and their associated habitat. Species with potential to occur on-site include, but are not limited to, those listed in Attachment 1.

Shraddha Navalli Patil
University of California, Berkeley
July 19, 2024
Page 6

I. Environmental Setting and Related Impact Shortcoming

Would the Project have a substantial adverse effect, either directly or through habitat modification, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or US Fish and Wildlife Service (USFWS)?

COMMENT 1: Nesting Bird Surveys

The Project area includes over a dozen mature trees. The NOP does not identify the number of trees that will be removed or the potential impacts to birds. The Project has the potential to disturb special-status species and nesting habitat for birds and raptors; however, the NOP does not state that baseline data will be collected if active nests are discovered.

To evaluate and avoid for potential impacts to nesting bird species, CDFW recommends incorporating the following mitigation measures, and that these measures be made conditions of approval for the Project:

- **Nesting Bird Surveys.** If Project-related work is scheduled during the nesting season (typically February 15 to August 30 for small bird species such as passerines; January 15 to September 15 for owls; and February 15 to September 15 for other raptors), a professional biologist experienced with the applicable species and habitat shall conduct two surveys for active nests of such birds within 14 days prior to the beginning of Project construction, with a final survey conducted within 48 hours prior to construction. Appropriate minimum survey radii surrounding the work area are typically the following: i) 250 feet for passerines; ii) 500 feet for small raptors such as accipiters; and iii) 1,000 feet for larger raptors such as buteos. Surveys shall be conducted at the appropriate times of day and during appropriate nesting times.
- **Nesting Bird Buffers:** CDFW recommends a minimum no-disturbance buffer of 250 feet around active nests of non-listed bird species and a 500-foot no-disturbance buffer around active nests of non-listed raptors. These buffers are advised to remain in place until the breeding season has ended or until a qualified biologist has determined that the birds have fledged and are no longer reliant upon the nest or on-site parental care for survival.

COMMENT 2: Bats

The Project area includes over a dozen mature trees. The NOP does not identify the number of trees that will be removed or the potential impacts to bats. The Project has the potential to disturb bat habitat. In order to determine the extent to which impacts may occur to bats and determine where habitat loss may occur from the removal of

Shraddha Navalli Patil
University of California, Berkeley
July 19, 2024
Page 7

trees, the draft EIR should propose measures to conduct a bat habitat assessment of suitable bat roosting habitat.

The habitat assessment shall include a visual inspection of features within the work area for potential roosting features including trees, crevices, and hollow areas (bats need not be present). The draft EIR should also include a section that discusses the results of the suitable habitat assessment and if any bats or signs of bats (feces or staining at entry/exit points) are discovered. The surveys should occur at least two seasons in advance of Project initiation. The draft EIR should include:

- Bat Habitat Monitoring by a qualified biologist of suitable habitat from March 1 to April 1 or August 31 to October 15 prior to construction activities. If the focused survey reveals the presence of roosting bats, then the appropriate exclusionary or avoidance measures will be implemented prior to construction during the period between March 1 to April 15 or August 31 to October 15; and
- Bat Project Avoidance: If active bat roosts are observed during environmental assessments or during construction, at any time, all Project activities should stop until a qualified biologist develops a bat avoidance plan to be implemented at the Project site. The bat avoidance plan should utilize seasonal avoidance, phased construction as well as temporary and permanent bat housing structures developed in coordination with CDFW.

COMMENT 3: Crotch's bumble bee

Crotch's bumble bee (*Bombus crotchii*) are candidate species under CESA (CEQA Guidelines, §15380, subds. (c)(1)). The draft EIR does not address whether the proposed Project could result in impacts to Crotch's bumble bee. Crotch's bumble bee occurrences have been documented within the vicinity of the Project area and historic observations occur elsewhere in the County (CDFW 2023, County). The Project location is within the Crotch's bumble bee range (<https://wildlife.ca.gov/Conservation/CESA>) and grassland within and adjacent to the Project area may contain potential habitat for Crotch's bumble bee.

The Project includes construction activities such as buildings, parking lots, and roads that may occur within ruderal grass and herbaceous vegetation and that may be potential Crotch's bumble bee nesting and foraging habitat. Potential impacts include direct mortality through crushing or filling of active bee colonies and hibernating bee cavities, reduced reproductive success, loss of suitable breeding and foraging habitats, loss of native vegetation that may support essential foraging habitat.

Shraddha Navalli Patil
University of California, Berkeley
July 19, 2024
Page 8

To evaluate and avoid for potential impacts to nesting bird species, CDFW recommends incorporating the following mitigation measures, and that these measures be made conditions of approval for the Project:

- **Habitat Assessment.** A habitat assessment shall be conducted by a qualified entomologist knowledgeable with the life history and ecological requirements of Crotch's bumble bee. The habitat assessment shall include all suitable nesting, overwintering, and foraging habitats within the Project area and surrounding areas. Potential nest habitat (February through October) could include that of other *Bombus* species such as bare ground, thatched grasses, abandoned rodent burrows or bird nests, brush piles, rock piles, and fallen logs. Overwintering habitat (November through January) could include that of other *Bombus* species such as soft and disturbed soil or under leaf litter or other debris. The habitat assessment shall be conducted during peak bloom period for floral resources on which Crotch's bumble bee feed. Further guidance on habitat surveys can be found within *Survey Considerations for California Endangered Species Act (CESA) Candidate Bumble Bee Species* (<https://wildlife.ca.gov/Conservation/CESA>).
- **Survey Plan:** If Crotch's bumble bee habitat is present within the Project area, a pre-construction survey plan shall be developed and be submitted to CDFW for review and approval. Surveys shall be conducted by a qualified entomologist familiar with the behavior and life history of Crotch's bumble bee. If CESA candidate bumble bee will be captured or handled, surveyors should obtain a 2081(a) Memorandum of Understanding (MOU) from CDFW. Surveys shall be conducted during the colony active period (i.e. April through August) and when floral resources are in peak bloom. Bumble bees move nests sites each year, therefore, surveys shall be conducted each year that Project work activities will occur. Further guidance on presence surveys can be found within *Survey Considerations for California Endangered Species Act (CESA) Candidate Bumble Bee Species* referenced above.
- **Crotch's Bumble Bee Avoidance or Take Authorization:** If Crotch's bumble bee are detected during pre-construction surveys, a Crotch's bumble bee avoidance plan shall be developed and provided to CDFW for review prior to work activities involving ground disturbance or vegetation removal. If full take avoidance is not feasible, CDFW strongly recommends that the Project proponent apply to CDFW for take authorization under an ITP.

COMMENT 4: Western Burrowing Owl

Burrowing owl is designated by CDFW as a State Species of Special Concern (SSC) due to population decline and breeding range retraction. The species has also

Shraddha Navalli Patil
University of California, Berkeley
July 19, 2024
Page 9

experienced a severe population decline in the County. Known populations of burrowing owl occur within and adjacent to the Project area, including at Moffett Federal Airfield, the Golf Club at Moffett Field, Sunnyvale Baylands County Park, the grasslands along the City of Sunnyvale's Water Pollution Control Plant, Shoreline Golf Links, and other suitable habitat.

The Project includes construction activities such as buildings, parking lots, and roads that may occur within ruderal grass and herbaceous vegetation that may be potential burrowing owl habitat. Direct mortality could occur through crushing of adults or young within burrows, loss of nesting burrows, loss of nesting habitat, loss of foraging habitat resulting in reduced nesting success (loss or reduced health or vigor of eggs or young), nest abandonment, and reduced frequency or duration of care for young resulting in reduced health or vigor of young.

To evaluate and avoid for potential impacts to nesting bird species, CDFW recommends incorporating the following mitigation measures, and that these measures be made conditions of approval for the Project:

- **Habitat Assessment and Surveys:** The draft EIR should include a thorough habitat assessment of potential burrowing owl habitat within and adjacent to the Project area. A professional biologist experienced with burrowing owl and their habitat should conduct a field assessment that includes all areas that could be directly or indirectly impacted by the Project and include data such as vegetation type, vegetation structure and presence of burrows. Specific information on habitat assessment, burrowing owl survey methods, buffer distances and mitigation is provided in the CDFW Staff Report on Burrowing Owl Mitigation, dated March 7, 2012, and available at <https://wildlife.ca.gov/Conservation/Survey-Protocols#377281284-birds>.

ENVIRONMENTAL DATA

CEQA requires that information developed in environmental impact reports and negative declarations be incorporated into a database which may be used to make subsequent or supplemental environmental determinations. (Pub. Resources Code, § 21003, subd. (e)). Accordingly, please report any special-status species and natural communities detected during Project surveys to the CNDDDB. The CNDDDB field survey form can be filled out and submitted online at the following link: <https://wildlife.ca.gov/Data/CNDDDB/Submitting-Data>. The types of information reported to CNDDDB can be found at the following link: <https://www.wildlife.ca.gov/Data/CNDDDB/Plants-and-Animals>.

Shraddha Navalli Patil
University of California, Berkeley
July 19, 2024
Page 10

ENVIRONMENTAL DOCUMENT FILING FEES

The Project, as proposed, would have an impact on fish and/or wildlife, and assessment of environmental document filing fees is necessary. Fees are payable upon filing of the Notice of Determination by the Lead Agency and serve to help defray the cost of environmental review by CDFW. Payment of the environmental document filing fee is required in order for the underlying project approval to be operative, vested, and final. (See Cal. Code Regs, tit. 14, § 753.5; Fish & G. Code, § 711.4; Pub. Resources Code, § 21089.)

CONCLUSION

CDFW appreciates the opportunity to comment on the draft EIR to assist the Lead Agency in identifying and mitigating Project impacts on biological resources.

Questions regarding this letter or further coordination should be directed to Marcus Griswold, Senior Environmental Scientist (Specialist), at (707) 815-6451 or Marcus.Griswold@wildlife.ca.gov; or Jason Faridi, Senior Environmental Scientist (Supervisory) at Jason.Faridi@wildlife.ca.gov.

Sincerely,

DocuSigned by:

Erin Chappell

B77E9A6211EF486...

Erin Chappell
Regional Manager
Bay Delta Region

Attachment 1: Special-Status Species and Commercially/Recreationally Important Species

ec: Office of Planning and Research, State Clearinghouse (SCH No. 2024060942)
Craig Weightman, CDFW Bay Delta Region – Craig.Weightman@wildlife.ca.gov

REFERENCES

California Department of Fish and Wildlife (CDFW). 2024. Biogeographic Information and Observation System (BIOS). <https://www.wildlife.ca.gov/Data/BIOS>. Accessed July 15, 2024.

Shraddha Navalli Patil
 University of California, Berkeley
 July 19, 2024
 Page 11

ATTACHMENT 1: Special-Status Species

Species	Status
Fish and Invertebrates	
Crotch's bumble bee (<i>Bombus crotchii</i>)	State candidate (SC)
Birds	
burrowing owl (<i>Athene cunicularia</i>)	State Species of Special Concern (SSC)
Swainson's hawk (<i>Buteo swainsoni</i>)	State Threatened (ST)
white-tailed kite (<i>Elanus leucurus</i>)	State Fully Protected (FP)
Mammals	
San Francisco dusky-footed woodrat (<i>Neotoma fuscipes annectens</i>)	SSC
Townsend's big-eared bat (<i>Corynorhinus townsendii</i>)	SSC
western mastiff bat (<i>Eumops perotis californicus</i>)	SSC
Plants	
Congdon's tarplant (<i>Centromadia parryi</i> ssp. <i>congdonii</i>)	S2, 1B.1



American Federation of State, County,
and Municipal Employees, AFL-CIO

info@afscme3299.org
afscme3299.org
510. 844. 1160

Sent via Email

July 22, 2024

Shraddha Navalli Patil, Senior Planner
Physical & Environmental Planning
University of California, Berkeley
200 A&E Building
Berkeley, CA 94720
Email: planning@berkeley.edu

Andrés Estrada, NEPA Program Manager
NASA Ames Research Center
M/S 204-15
Moffett Field, CA 94035
Email: andres.v.estrada@nasa.gov

RE: AFSCME 3299 Scoping Comments on the Berkeley Space Center at NASA Research Park

Dear Ms. Navalli Patil and Mr. Estrada:

On behalf of American Federation of State, County, and Municipal Employees Local 3299 (“AFSCME”), we respectfully write to provide the University of California, Berkeley (“UCB”) and the National Aeronautics and Space Administration (“NASA”) with the following scoping comments regarding the preparation of a joint Draft Environmental Impact Report/Environmental Impact Statement (“Draft EIR/EIS”) for the proposed Berkeley Space Center at NASA Research Park (“Project”).

While the Union will pay close attention to the efficacy of the Draft EIR/EIS’s analysis of all potential environmental impacts, AFSCME is particularly concerned by the potential impacts the proposed Project will have on the region’s job and housing imbalance and affordable housing accessibility, and the disproportionate impacts the Project may have on low-income communities and workers specifically. In their roles as public institutions, UCB and NASA maintain a responsibility to prioritize development that benefits the communities surrounding and staffing their expansion activities over the interests of private, corporate actors and the broader affiliate trend to commercialize, financialize, and privatize the missions of our federal and state agencies. AFSCME strongly urges UCB and NASA ensure the EIR/EIS contain thorough analyses of, and sufficient mitigations for, the population, housing, and jobs impacts this Project will have on low-income communities surrounding the Project and the workers therein, and the resultant environmental impacts.

- I. UCB and NASA Must Pursue Developments that Contribute Solutions to, and Sufficiently Mitigate, the Housing Crisis

UC’S LARGEST EMPLOYEE UNION

While the housing crisis continues to plague renters across the country, California is considered particularly burdened by a lack of access to affordable housing and the ever-widening gap between income and housing costs. As of 2022, nearly 30 percent of California renters were severely cost-burdened, spending 50 percent or more of their total income on housing costs.¹ Housing costs vary across the state, but the communities surrounding Silicon Valley and the designated Project site experience the impacts of the crisis most acutely.

The San Jose-Sunnyvale-Santa Clara Metropolitan Statistical Area (“MSA”), where the Project is proposed, is California’s third most expensive area to live in, outranked only by the Santa Cruz and San Francisco metropolitan areas, which either directly border or lay proximate to the Project site’s metropolitan area to the southwest and north, respectively.² Put simply, the Project site is closely surrounded by the three metropolitan areas with the highest housing costs in California. The 2024 fair market rent for a one-bedroom home in Santa Clara County is just under \$2,700 per month. A four-bedroom home in the County costs a family a little under \$4,500 per month to rent.³ A full-time worker living in Santa Clara County would need to earn \$60.23 per hour, or the equivalent of 3.8 minimum wage jobs, to afford rent for a two-bedroom home.⁴ Unsurprisingly, as of 2021, 1 in 4 renters living in Santa Clara County were considered extremely rent-burdened, spending more than 50 percent of their total income on rent.⁵

The significant gaps between income and housing costs implied by such grave examples of economic insecurity are attributable both to insufficient wages and to insufficient access to truly affordable housing. The City of Mountain View, home to the proposed Project, and the City of Sunnyvale, which directly neighbors Mountain View to the east, have seen significant population and job growth since 2010, “outpacing Santa Clara County and the Bay Area overall,” such that the pace of population and job growth has exceeded the growth of housing supply.^{[6][7]} This dynamic leads to a decreased supply of and access to affordable housing and a subsequent upward pressure on housing costs. With around half of all households in the cities renting their homes, low-income families and workers who are at high risk of displacement are disproportionately impacted by such high housing costs.^{[8][9]} As a result of the cities’ current and projected jobs/population-housing imbalance, the Association of Bay Area Government

¹ Eric McGhee, Marisol Cuellar Mejia, and Hans Johnson, “California’s Renters,” Public Policy Institute of California, February 27, 2024. <https://www.ppic.org/blog/californias-renters/>

² National Low Income Housing Coalition, Out of Reach, California, 2024. Accessed July 12, 2024. https://nlihc.org/sites/default/files/oor/2024_OOR-california.pdf

³ The United States Department of Housing and Urban Development (HUD), Office of Policy Development and Research, Datasets, Fair Market Rents (40th Percentile Rents). Accessed July 11, 2024. <https://www.huduser.gov/portal/datasets/fmr.html>

⁴ National Low Income Housing Coalition, Out of Reach, California, 2024. Accessed July 12, 2024. https://nlihc.org/sites/default/files/oor/2024_OOR-california.pdf

⁵ Let’s Talk Housing, Santa Clara County, Housing 101. Accessed July 12, 2024. <https://www.letstalkhousingscc.org/101>

⁶ City of Sunnyvale 6th Cycle Housing Element, 2023-2031. Adopted December 12, 2023.

<https://www.sunnyvale.ca.gov/home/showpublisheddocument/4964/638380668142030000>

⁷ City of Mountain View 6th Cycle Housing Element, 2023-2031. Adopted April 11, 2023.

<https://www.mountainview.gov/home/showpublisheddocument/6471/638290892983930000>

⁸ Ibid.

⁹ City of Sunnyvale 6th Cycle Housing Element, 2023-2031. Adopted December 12, 2023.

<https://www.sunnyvale.ca.gov/home/showpublisheddocument/4964/638380668142030000>

(“ABAG”) allocated the two cities a combined total of 23,101 housing units for the 6th cycle Housing Element, nearly 33 percent of which need to be available to Very-Low or Low income groups.^{[10][11]}

In both Mountain View and Sunnyvale, where jobs-housing ratios result in imbalances that have been historically higher than those in Santa Clara County and the Bay Area as a whole, introducing new jobs to the area without building commensurate housing will only exacerbate this imbalance.^{[12][13]} The Project is likely to produce “considerable employment opportunities, including more than 6,000 advanced R&D positions.”¹⁴ This estimate does not even include the expected growth in service jobs, such as those classified as custodial or ground maintenance, associated with the Project. Meanwhile, the Project as it is currently proposed includes a 141 student/faculty housing development, which will only house approximately 352 students and faculty on a short-term basis (e.g. academic year, summer, etc.).¹⁵ In its current formation, the Project will add significant pressure to an already squeezed and imbalanced housing market while proposing very little to help offset its impacts.

NASA and UCB are both major employers of the region and the job growth resulting from this Project will have clear and serious impacts on their surrounding environs. NASA and UCB’s exemption from contributing land and housing units to their surrounding City’s RHNA goals does not absolve them from working in partnership with local governments and other stakeholders to provide Very-Low- and Low-Income housing to families and workers. AFSCME will pay close attention to the breadth and scope of the environmental analyses’ assessments of the Project’s impacts on surrounding population and job growth, and expects the Joint EIR/EIS to provide comprehensive mitigation measures in the form of affordable housing development to offset those potential impacts.

II. Absent Sufficient Mitigation Measures, the Proposed Project Will Disproportionately Negatively Impact Low-Impact Communities and Workers

The crisis facing the proposed Project’s region is not just a matter of insufficient and unaffordable housing. Stagnant wages in lower-paid positions, often those servicing buildings of the major employers in the region, have failed to keep up with the cost of living and plague areas directly surrounding the proposed Project. The region is celebrated for its enduring job growth; however, it is typically only those employed in high-wage jobs benefiting from such growth.¹⁶

In their joint March 2024 Priority Climate Action Plan (“Climate Action Plan”) submitted to the Environmental Protection Agency (EPA) Climate Pollution Reduction Grant Program, the Counties of Santa Clara and San Benito concede the existence of communities in the MSA that are “exposed to socioeconomic and built environment burdens,” ranging from high unemployment to high traffic routes

¹⁰ Ibid.

¹¹ City of Mountain View 6th Cycle Housing Element, 2023-2031. Adopted April 11, 2023. <https://www.mountainview.gov/home/showpublisheddocument/6471/638290892983930000>

¹² Ibid.

¹³ City of Sunnyvale 6th Cycle Housing Element, 2023-2031. Adopted December 12, 2023.

<https://www.sunnyvale.ca.gov/home/showpublisheddocument/4964/638380668142030000>

¹⁴ UC Berkeley, “UC Berkeley, SKS Partners Unveil Proposed 36-Acre R&D Hub in the Heart of Silicon Valley at NASA’s Ames Research Center,” Berkeley Space Center, October 16, 2023. <https://spacecenter.berkeley.edu/news/uc-berkeley-sks-partners-unveil-proposed-36-acre-rd-hub-heart-silicon-valley-nasa%E2%80%99s-ames>

¹⁵ Berkeley Space Center at NASA Research Park, Notice of Preparation of a Joint Environmental Impact Report/Environmental Impact Statement, June 21, 2024.

¹⁶ City of Mountain View 6th Cycle Housing Element, 2023-2031. Adopted April 11, 2023. <https://www.mountainview.gov/home/showpublisheddocument/6471/638290892983930000>

to barriers to accessing transportation.¹⁷ In Mountain View and Sunnyvale alone, the Climate Action Plan identified four census tracts that qualify as Low-Income and Disadvantaged Communities (“LIDAC”) and an additional four that qualify as “high pollution.” Together, these eight tracts within the Cities of Mountain View and Sunnyvale contain over 40,000 people who are likely to be low-income and disadvantaged, experiencing high rates of unemployment, disproportionately exposed to pollutants, and/or lacking access to major transportation hubs.¹⁸ Living in one of these census tracts may even mean a higher likelihood of air toxin inhalation and the development of chronic asthma.¹⁹

While the development of commensurate affordable housing is one crucial and necessary component to help offset the impact the Project will have on these surrounding communities, providing high quality service jobs that offer a living wage and job security is an additional, crucial mitigation measure. Such a measure is necessary to not only lift the economic standards of the Project’s nearby communities and improve their socioeconomic and built environmental burdens, but also to ensure the Project does not exacerbate those burdens. As public institutions, UCB and NASA have the moral and environmental responsibility to create high quality jobs that reverse Silicon Valley’s decades-long trend of neglect and displacement of low-income communities.²⁰

As of May 2023, the median hourly wage for janitors and cleaners working in the proposed Project’s MSA was \$20.45. For landscapers and groundskeepers, the median hourly wage was \$22.20.²¹ By comparison, the median wages for comparable titles performed by UCB workers in May 2023 was \$23.60 and \$30.18, respectively.²² Absent the secure, family-supporting jobs typical for UC developments, the Project risks creating even more poverty, dead-end positions that will push more workers into living in nearby high-pollutant environments, or will displace them altogether, forcing them to live further and further away from their workplaces. This will exacerbate avoidable environmental impacts, like high traffic congestion, more vehicle miles traveled, and increased greenhouse gas emissions, associated with the displacement and long commute times that stagnant, low-wage jobs inevitably produce.

Indeed, community members and major local employers agree that “...people continue to move further away from their jobs due to a mismatch between salaries and rents...the community needs workers at all income levels...it is becoming more difficult to recruit and retain workers.”²³ Survey responses solicited during the development of Sunnyvale’s 6th Cycle Housing Element consistently indicated that the most significant housing issue facing residents was unaffordability specifically for lower-income workers.²⁴ Only high quality jobs, the kind maintained by UC throughout its system that honor its

¹⁷ County of San Benito and County of Santa Clara MSA Priority Action Plan, March 2024.

<https://www.epa.gov/system/files/documents/2024-03/san-benito-and-santa-clara-counties-pcap.pdf>

¹⁸ Ibid.

¹⁹ Ibid.

²⁰ Justine Marcus, “Disruption in Silicon Valley – The Impacts of Displacement on Residents’ Lives,” Urban Displacement Project, October 12, 2018. <https://www.urbandisplacement.org/blog/disruption-in-silicon-valley-the-impacts-of-displacement-on-residents-lives/>

²¹ U.S. Bureau of Labor Statistics, May 2023 Metropolitan and Nonmetropolitan Area Occupational Employment and Wage Estimates, San Jose-Sunnyvale-Santa Clara, CA, accessed July 9, 2024. https://www.bls.gov/oes/current/oes_41940.htm#37-0000

²² University of California Office of the President, Employee Roster, April 2023.

²³ City of Mountain View 6th Cycle Housing Element, 2023-2031. Adopted April 11, 2023. <https://www.mountainview.gov/home/showpublisheddocument/6471/638290892983930000>

²⁴ City of Sunnyvale 6th Cycle Housing Element, 2023-2031. Adopted December 12, 2023. <https://www.sunnyvale.ca.gov/home/showpublisheddocument/4964/638380668142030000>

commitments to economic, racial, and environmental justice and equity, can mitigate the Project's potential socioeconomic and environmental impacts on surrounding communities.

In conclusion, AFSCME will pay close attention to the environmental analyses conducted by both UCB and NASA, and the accompanying mitigations for the proposed Project's anticipated impacts on housing, population growth, socioeconomic insecurity, and resulting environmental impacts. Anything less than the necessary mitigations will not only undermine the area's ability to meet the urgent demand for affordable housing and high-quality service jobs but will also actively contribute to the housing/wage imbalance plaguing the region.

Sincerely,

Kate Spear
Senior Researcher
AFSCME 3299



CARPENTERS LOCAL UNION 405

SERVING SANTA CLARA & SAN BENITO COUNTIES

July 22, 2024

Attn: Shraddha Navalli Patil, Ph.D., Senior Planner

Email: planning@berkeley.edu

Re: Notice of Preparation of a joint Environmental Impact Report/Environmental Impact Statement (EIR/EIS) for the Berkeley Space Center at NASA Research Park

Dear Ms. Shraddha Navalli Patil,

The members and officers of Carpenters Union Local 405 (“Local 405”) appreciate the opportunity to comment regarding the Notice of Preparation of a joint Environmental Impact Report/Environmental Impact Statement (EIR/EIS) for the Berkeley Space Center at NASA Research Park.

Our members have a direct interest in securing high-road job opportunities and investment in their local communities. Local 405 is proud to count many Santa Clara County residents among its membership ranks, including those who live and/or work in the vicinity of the project. This project will create sustainable work for our members, whose skills will contribute towards robust, cutting-edge development.

We request that we be put on the list of interested parties who receive notices regarding the issuance of environmental review documents or project-related public hearings.

The proposed project contains tremendous economic opportunities for local communities. To maximize these local community benefits while mitigating environmental harms, Local 405 strongly advocates that **future construction activity related to this development comply with local hire and responsible bidder requirements**. The utility of these requirements should be acknowledged within the project’s final EIR analysis, as well as incorporated into the project’s eventual prequalification and procurement processes for its construction phase.

Local 405 intends to participate in the CEQA process and beyond to ensure that the University of California complies with CEQA’s mandate to minimize the proposed project’s avoidable environmental impacts while maximizing benefits for the community and skilled trades workers. Illustratively, Local 405 requests that the University of California analyze all impacts required by CEQA, including, but not limited to, the following:

- Emission Impacts resulting from construction-related employment
- Environmental impacts on the proposed project’s construction workers

1. Emission impacts resulting from construction-related employment

The Notice of Preparation (NOP) identifies that environmental impacts related to greenhouse gas emissions will be one area of focus for the eventual EIR. To account for greenhouse gas emissions during the construction phase of this project, the EIR should analyze how employers will manage and mitigate the environmental impact of the construction workforce's commuting patterns. Indeed, the NOP acknowledges "exhaust from construction worker commute trips" as one source of pollution necessary to mitigate. **One way to meet this objective is for the EIR to advocate for a local hire policy for construction activity associated with the proposed project.**

The scope of the University of California's eventual EIR should compare the economic and environmental impacts of the proposed project with and without measures that encourage a local hiring preference.

It is Local 405's view that such an analysis will conclude that a local employment preference requirement for the project's construction activity will *reduce vehicle emissions* from worker commutes to and from project sites, while providing economic benefits to workers from the local community. Unfortunately, Local 405 is aware that many projects in Santa Clara County have been constructed by low-wage, out-of-area workers. This compromises meaningful training opportunities for the local community's future construction workforce, while also unnecessarily increasing inbound transportation emissions into local communities.

2. Environmental Impacts on the proposed project's construction workers

The proposed project will likely necessitate mitigation steps to lessen the construction workforce's exposure to hazards and hazardous materials. The NOP identifies the presence of hazards and hazardous materials as an area for analysis within the EIR. To fully account for the harms associated with potential hazards/hazardous conditions on the project site, the EIR should examine both direct harms to workers, as well as other indirect costs associated with this potential hazard.

In terms of the latter, hazards that prevent a safe jobsite, impose a clear burden on taxpayers when factoring in injury-related calls for funds from the State's workers' compensation system. Recent research cited by the Department of Labor has advocated for **responsible bidder provisions**¹ as an "insurance" policy for taxpayers. This same research demonstrates that construction projects with responsible contractors were 19% less likely to have OSHA violations when compared to projects that failed to require responsible contractors.

A lack of a clear prequalification or procurement policy on these issues jeopardizes the University of California's ability to enforce adherence to the eventual provisions of its EIR. To facilitate the necessary cooperation between the University of California and contractors

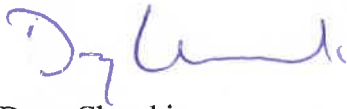
¹ The Impact of Unions On Construction Worksite Health and Safety: Evidence From OSHA Inspections, Illinois Economic Policy Institute and Illinois Labor and Employment, November, 2023.

regarding worker exposure to environmental hazards, having clear provisions for responsible contractors will be necessary as part of the project's eventual prequalification and procurement processes for its construction phase. The EIR's final language should advocate for such a policy outcome so that stakeholders uphold the mitigation measures it ultimately identifies.

Conclusion

Local 405 hopes that the University of California uses the CEQA process to minimize the proposed project's negative environmental impacts while maximizing the economic benefits presented to local communities and workers. We look forward to reviewing the Draft EIR, including its engagement with the issues we have raised in this letter.

Sincerely,



Doug Chesshire
Senior Field Representative
Carpenters Local 405

