Introba

UC Santa Barbara

Net Zero and Climate Resilience Gap Analysis

Ambition & Existing Practices Workshop

Thursday, November 16

Agenda

9:00 am Opening Remarks & Introductions

9:10 am Overview of the Clean Energy Master Planning Project, the Net Zero & Climate Resilience Work

9:20 am Activity #1: What UCSB is Already Doing

9:40 am Activity #2: Envisioning a Net Zero and Climate Resilient Campus

10:00 am Activity #3: How UCSB Can Get There

10:20 am Next Steps & Closing Remarks

Workshop Intent

Goals and Objectives

- Share what UC Santa Barbara is **already doing to be a net zero and climate resilient** campus
- Identify any **key initiatives** on campus, and any **gaps or issues** that existing initiatives do not address
- Get initial thoughts on what a net zero and climate resilient UCSB **should look like**
- Identify **strengths and partnerships** that could be leveraged to achieve this vision for campus, as well as any **key barriers or challenges** to implementing this vision
- **Inform the Net Zero and Climate Resilience Gap Analysis** for the Clean Energy Master Plan

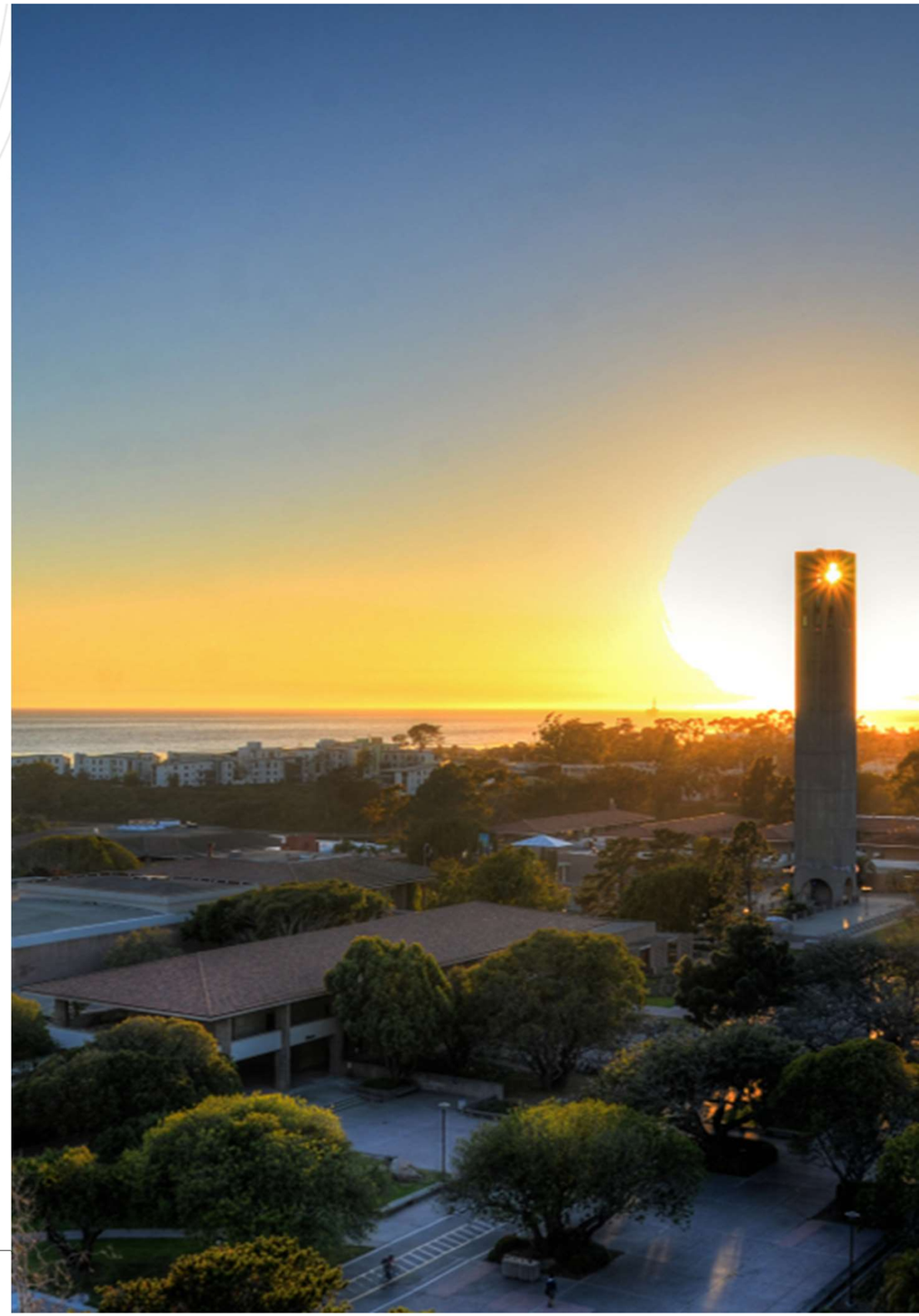
Project Overview

Net Zero and Climate Resilience Scope

Project Overview

UCSB Clean Energy Masterplan

1. Produce a **strategy for a 90% or greater reduction in Scope 1 emissions from fossil gas use** in campus energy systems from a 2019 baseline
2. Provide **high level estimates of total capital and operational costs and savings**, to support funding requests as well as inclusion in the campus or health system's capital financial plan
3. Identify **environmental justice and equity considerations** related to the transition to fossil fuel free infrastructure
4. Document **knowledge gaps, and subsequent studies and analyses** needed to conduct **Net-Zero** planning
5. Identify **climate resilience planning considerations**



Project Overview

Net Zero and Climate Resilience Gap Analysis

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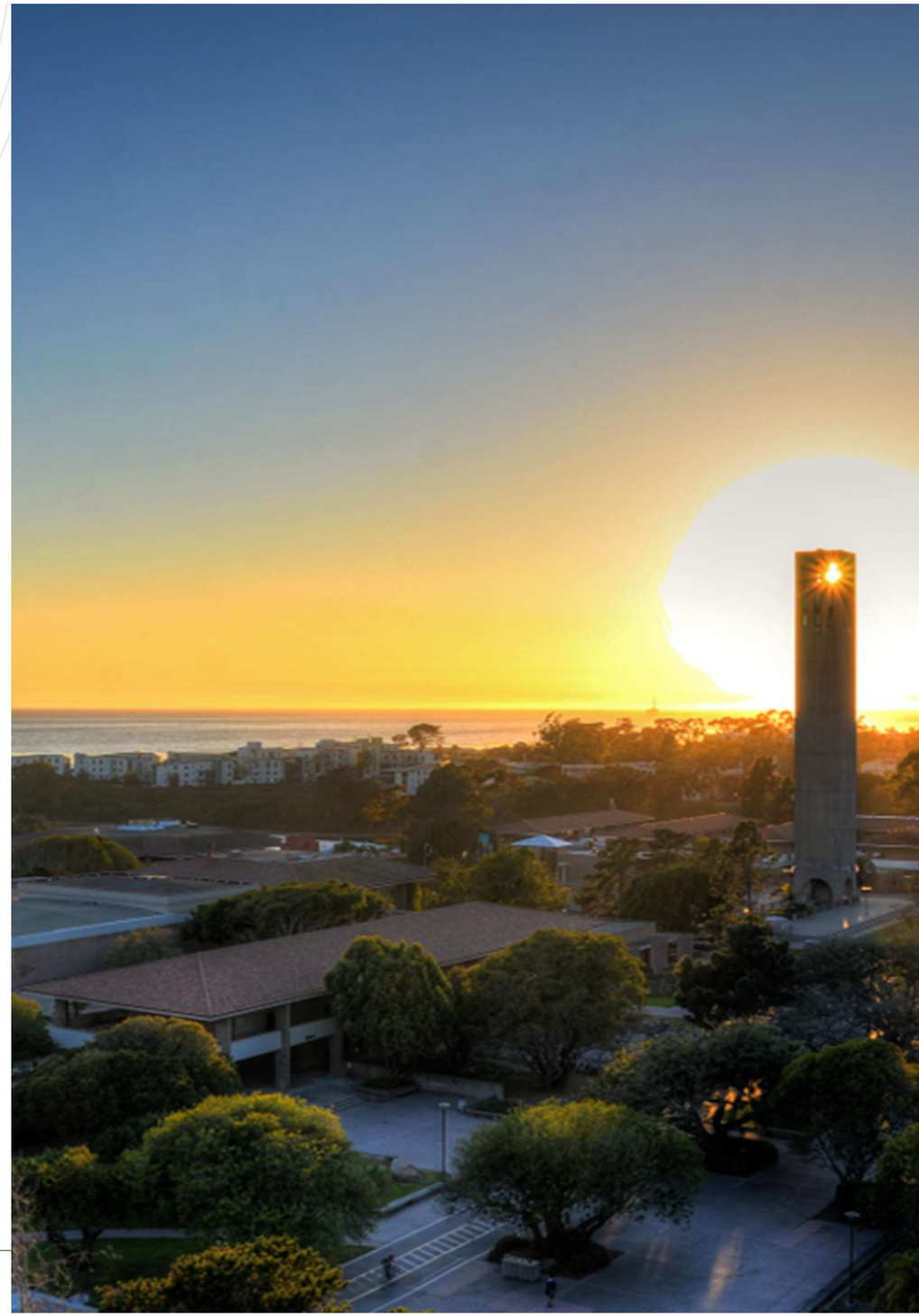
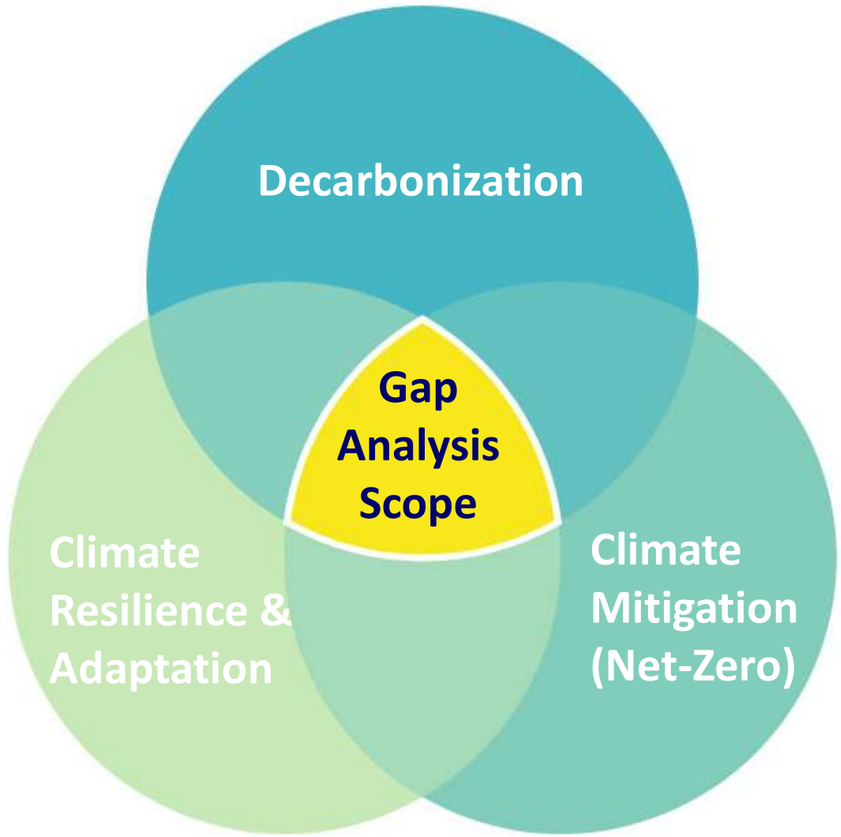


Net Zero and Climate Resilience Gap Analysis

Objectives of the Gap Analysis

- **Act as a foundation to guide future climate action planning by UCSB**
- **Be an interconnected & streamlined process**
- **Take a strength-based approach**



Gap Analysis Framework

Adaptation Category	Best Practices	Gap Analysis Score	Details	Recommended Next Steps and Adaptation Measures
Climate Resilience Assessment & Adaptation Planning	Complete a campus-wide climate resilience assessment & use results to inform campus planning and management	2	Assessment follows the dominant methodology and was guided by a multidisciplinary subcommittee. Outcomes identified a list of indicators to inform action planning as part of 2023 Climate Change Action Plan (pending). Public summary report is relatively high-level.	• Complete a Climate Context Summary that outlines past and future trends for climate-related hazards facing the campus. • Complete a more detailed Climate Change Vulnerability or Risk Assessment for health and main campus
	Define specific and realistic climate adaptation strategies and actions to address highest climate vulnerabilities and risks	Not Scored	Pending (underway)	• Identify broad strategies in the Climate Change Action Plan that outline next steps for more detailed climate adaptation planning for campus & health. • Develop more specific climate adaptation actions based on outcomes from the detailed climate change vulnerability/risk assessment.
Community Partnerships	Meaningfully engage with diverse groups as part of climate adaptation planni… implementation, … particular focus o… understanding an… needs of key vuln… equity-seeking groups			• Adopt a climate justice, equity, and diversity perspective as part of climate resilience & …siderations into …e Report. …mbership to ensure membership diversity and representative of key vulnerable groups.
	Collaborate with City staff & community organizations on climate adaptation committees & initiatives	3	Main campus is involved in multiple community awareness building initiatives; no current community education programs conducted by health workforce.	• Involve campus in community awareness-building initiatives around the physical and mental health impacts from climate change. • Continue to collaborate with government agencies and local organizations under the Joint Campus-Community Structure.
Campus as a Living Lab	Build staff and student awareness about future climate projections and strategies for improving their own resilience	2	Campus is working to build staff/health worker climate impact awareness. More detail is needed on main campus awareness-building initiatives	• Incorporate climate trend/resilience curricula as part of staff training programs (tailored to different groups e.g., outdoor workers, heath workers, faculty & administration, students). • Establish an on-campus workshop or learning series about climate impacts and resilience. • Distribute educational materials about climate change impacts & personal resilience.

Net Zero and Climate Resilience Gap Analysis

Why is this important?

UCOP Sustainable Practices Policy (2023) update requires:

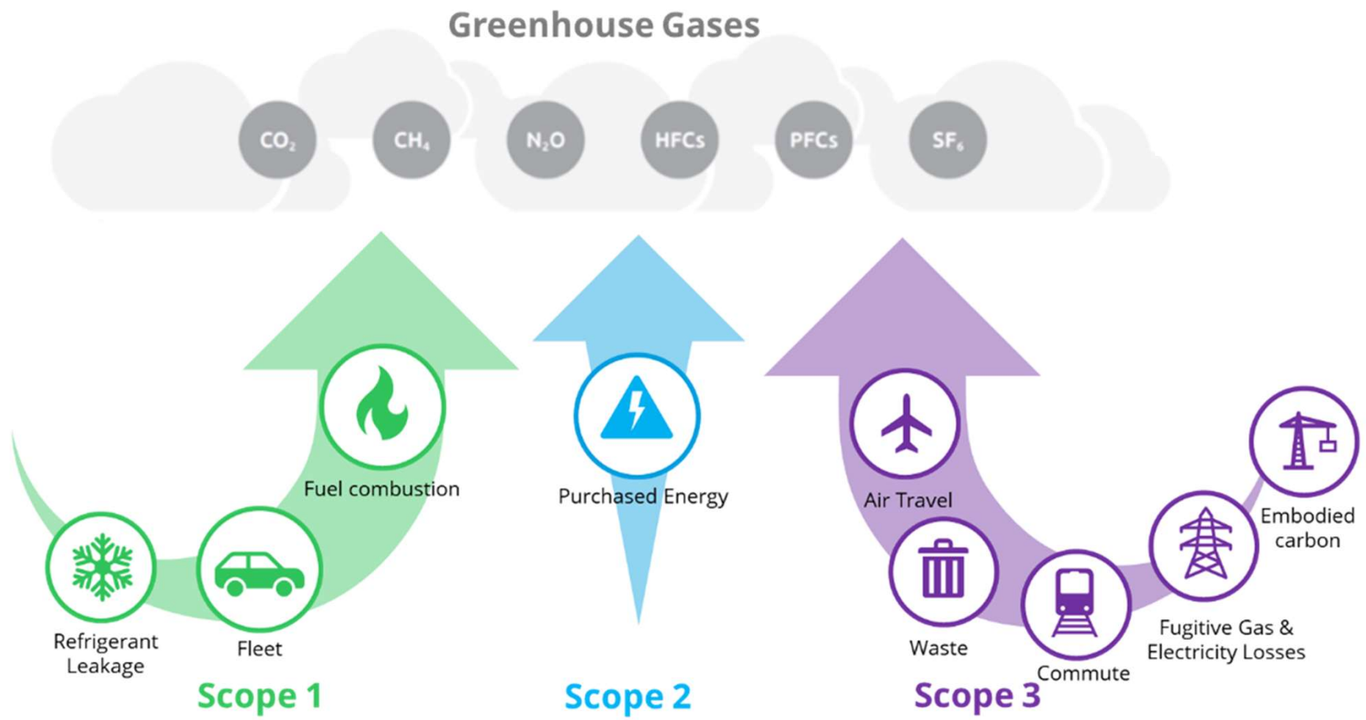
- Updated climate action plans
- Integrate adaptation and resilience considerations
- Integrate UC Framework for Environmental & Climate Justice

Net Zero and Climate Resilience Gap Analysis

Why is this important?

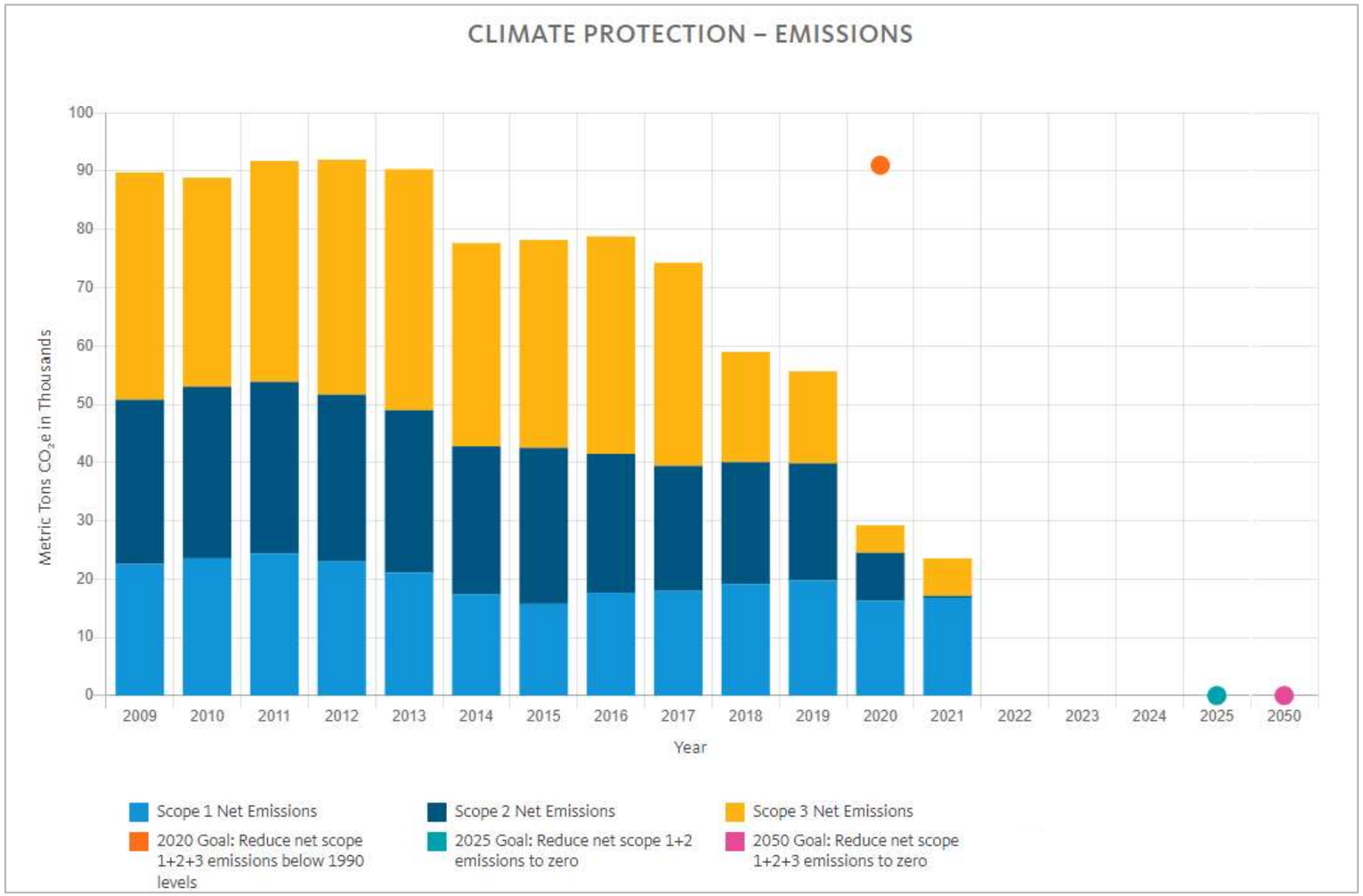
UCOP Sustainable Practices Policy – Climate Action section:

- Each UC location will **reduce GHG emissions from all scopes by 90% by 2045** (with interim targets)
- After 2045, residual emissions will be negated by **carbon removal**



Net Zero and Climate Resilience Gap Analysis

Why is this important?



Net Zero and Climate Resilience Gap Analysis

Why is this important?

UCSB is already recognized as a leader in climate action and resilience planning

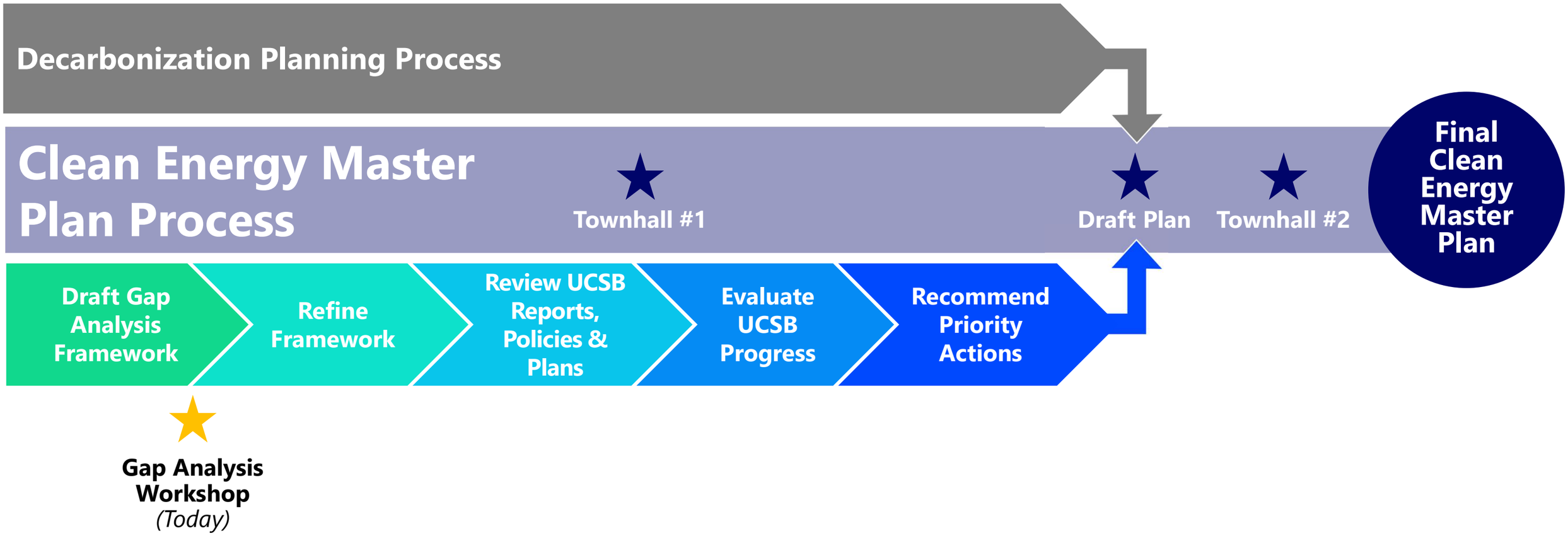
- In the last decade, UC Santa Barbara has **reduced its CO_2e emissions by two-thirds**
- UCSB has the **lowest GHG emissions of all UC** campuses

However, UCSB can still learn from other leading institutions and incorporate best practices into current planning efforts

Introba

Net Zero and Climate Resilience Gap Analysis

How this work integrates with the broader Clean Energy Master Plan



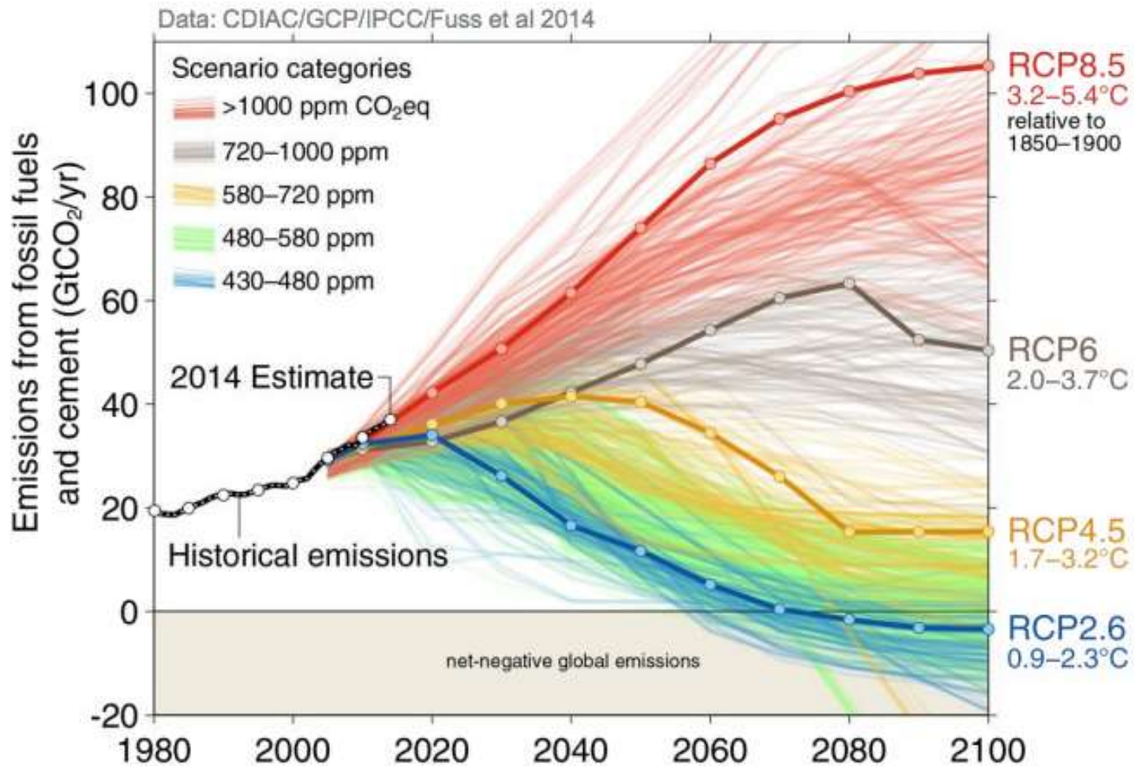
Current State

Where UCSB Stands Today

Core Concepts of Climate Action Planning

Significant warming is already expected

- The climate is already on track to experience over 5.4°F of warming by the year 2100
- However, we are already experiencing the impacts of climate change and will continue to do so



Core Concepts of Climate Action Planning

Impacts of a changing climate are already occurring

Some hazards of concern now or in the future for UCSB include:

- Extreme heat
- Drought
- Wildfire smoke and regional impacts of wildfires
- Extreme precipitation and urban stormwater flooding
- Riverine flooding
- Coastal flooding and sea level rise
- Extreme storms and high winds
- Regional impacts of landslides
- Water and vector-borne diseases and pests

Excessive heat warning issued for Santa Barbara County through Wednesday night

Santa Maria Times Staff Report Aug 28, 2023

UCSB cancels classes; Santa Barbara County issues flash flood warning, immediate evacuation orders amid heavy rain

Evacuation Orders, Flood Watch, School Closures Issued for Santa Barbara County Ahead of Yet Another Atmospheric Storm System

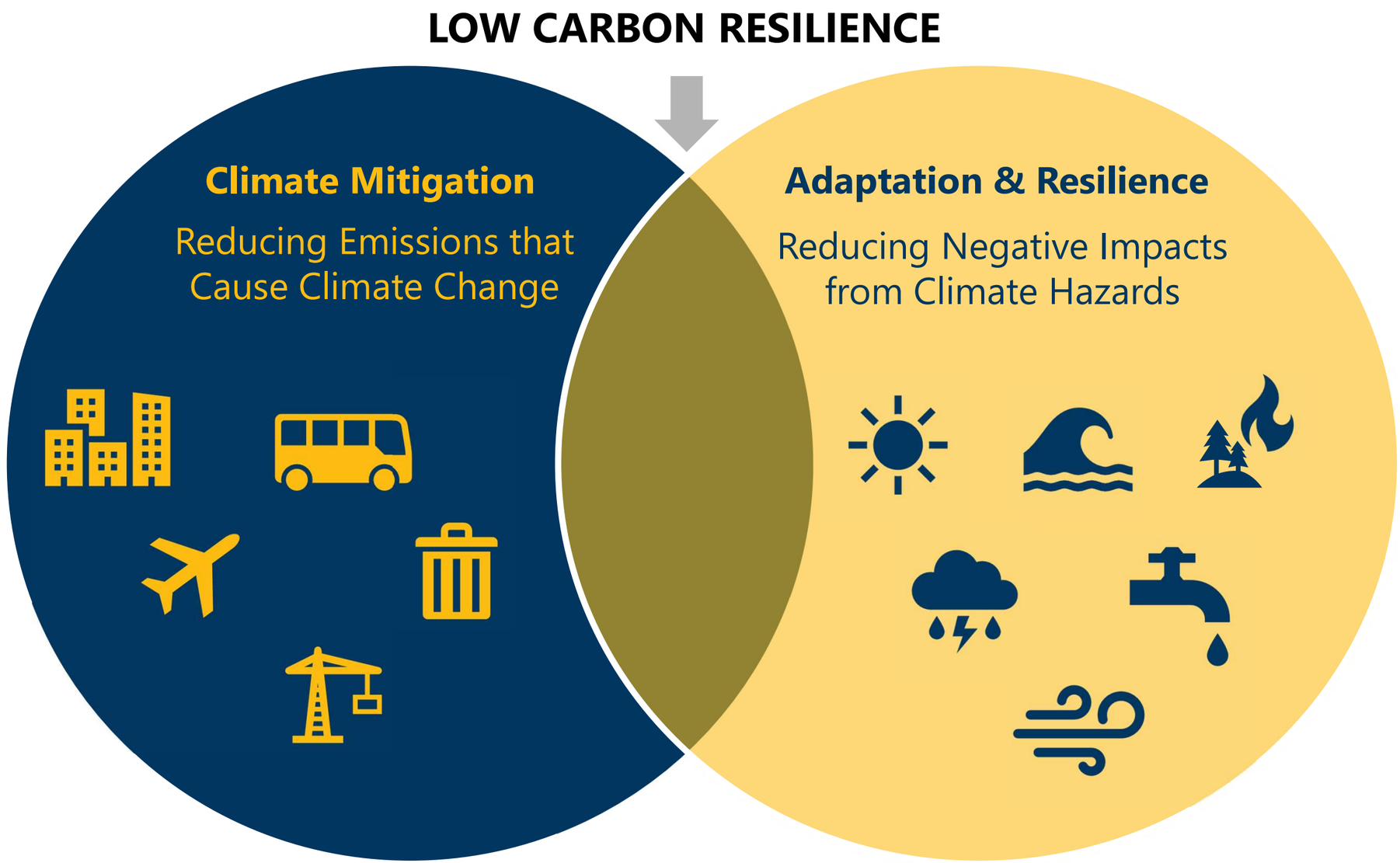
Excessive Rainfall Expected All Day on Tuesday with Heavy Rains Continuing Through Wednesday Morning

Despite Historic Rainfall, More Wet Years Needed to Replenish Santa Barbara County's Drought-Stricken Basins

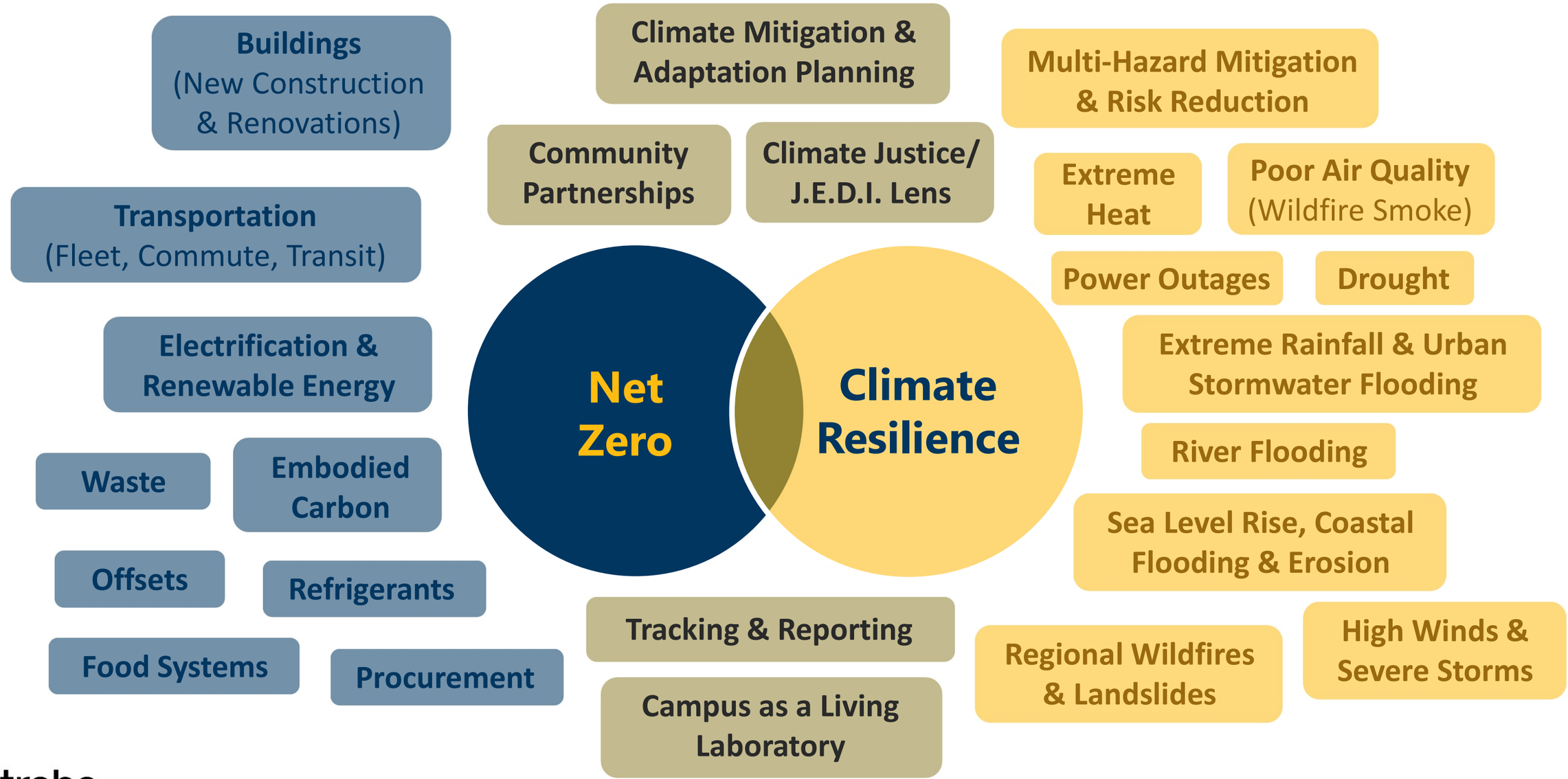
County Supervisors Delve into Discussion of Groundwater Basins to Kick Off New Water Year

New Report Says Santa Barbara Could See Significant Impacts Of Sea Level Rise In As Soon As A Decade

Core Concepts of Climate Action Planning



Examples of Overarching Action Areas

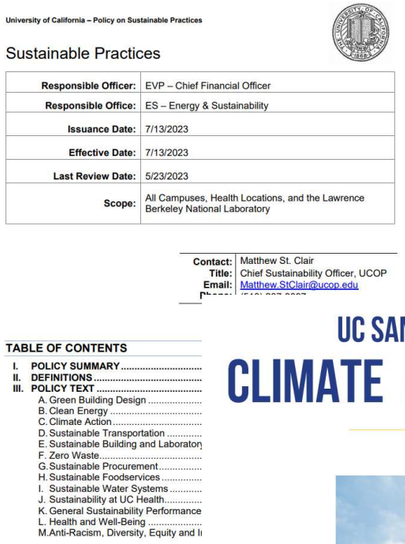


UC Santa Barbara Initiatives – Net Zero & Climate Resilience

We know that UCSB has already taken the following actions towards becoming a net zero and climate resilient campus:

Initiating net zero and climate resilience-related planning

- UCOP Policy on Sustainable Practices
- UCSB Climate Action Plan
- Campus Sustainability Plan
- Green Lab Action Plan
- Water Action Plan
- Zero Waste Plan and Waste Diversion Plan
- Sea Level Rise Adaptation Strategy
- Emergency Operations and Emergency Management Plans


University of California – Policy on Sustainable Practices

Sustainable Practices

Responsible Officer:	EVP – Chief Financial Officer
Responsible Office:	ES – Energy & Sustainability
Issuance Date:	7/13/2023
Effective Date:	7/13/2023
Last Review Date:	5/23/2023
Scope:	All Campuses, Health Locations, and the Lawrence Berkeley National Laboratory

Contact:	Matthew St. Clair
Title:	Chief Sustainability Officer, UCOP
Email:	Matthew.StClair@ucop.edu

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H. Sustainable Foodservices
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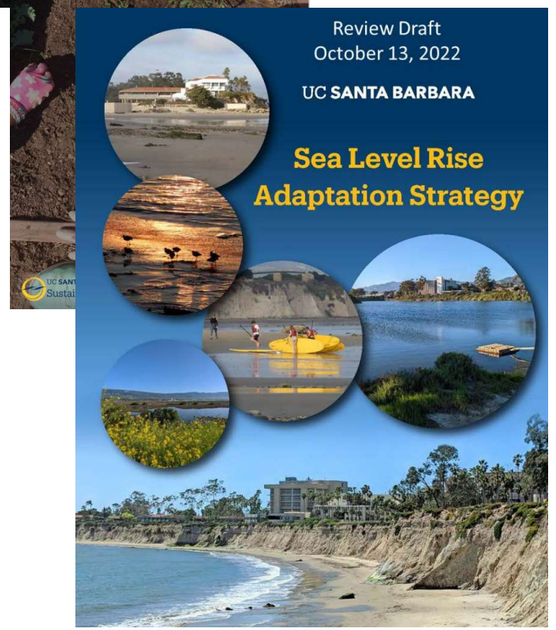
J. Sustainability at UC Health
K. General Sustainability Performance
L. Health and Well-Being
M. Anti-Racism, Diversity, Equity and I

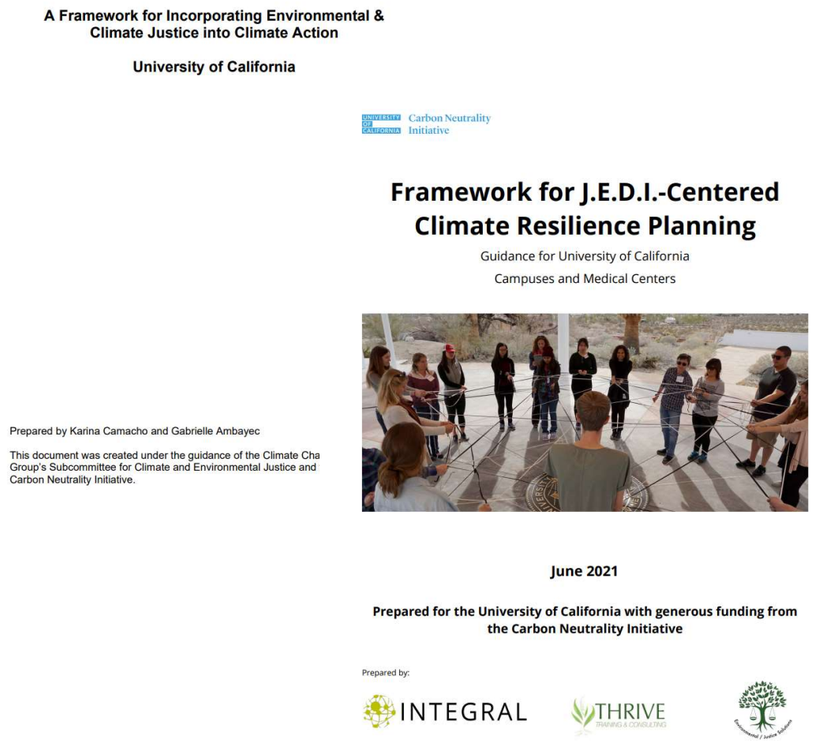


UC Santa Barbara Initiatives – Net Zero & Climate Resilience

We know that UCSB has already taken the following actions towards becoming a net zero and climate resilient campus:

Implementing a climate justice/Justice, Equity, Diversity and Inclusion (JEDI) lens

- UCOP Framework for Incorporating Environmental and Climate Justice into Climate Action
- UCOP Framework for J.E.D.I.-Centered Climate Resilience Planning


A Framework for Incorporating Environmental & Climate Justice into Climate Action

University of California

Carbon Neutrality Initiative

Framework for J.E.D.I.-Centered Climate Resilience Planning

Guidance for University of California Campuses and Medical Centers

Prepared by Karina Camacho and Gabrielle Ambayec

This document was created under the guidance of the Climate Cha Group's Subcommittee for Climate and Environmental Justice and Carbon Neutrality Initiative.

June 2021

Prepared for the University of California with generous funding from the Carbon Neutrality Initiative

Prepared by:

INTEGRAL THRIVE TRAINING & CONSULTING

UC Santa Barbara Initiatives – Net Zero & Climate Resilience

We know that UCSB has already taken the following actions towards becoming a net zero and climate resilient campus:

Integrating net zero and climate resilience priorities as part of campus infrastructure and buildings

- Green Building Design policies
- Sustainable Infrastructure Practices – Bicycle Paths and Parking Areas Policy
- LEED Platinum buildings such as Bren Hall, BioEngineering and KITP Residences

14 Platinum, 41 Gold, 15 Silver and 2 Certified

– Total number of LEED certifications

BioEngineering building. Credit: Tony Mastres

105

EV charging ports

UC Santa Barbara Initiatives – Net Zero & Climate Resilience

We know that UCSB has already taken the following actions towards becoming a net zero and climate resilient campus:

Investing in energy efficiency and renewable energy

- Participant in the Statewide Energy Partnership (invested over $18 million in energy efficiency projects on campus to date)
- On-campus renewable energy generation installations

Campus Parking Structure II Solar Panels Being Cleaned

Cheadle Hall Goes Solar

Parking Lot 38 - 2 Megawatt Solar Installation

Robertson Gym Rooftop Solar Installation

UC Santa Barbara Initiatives – Net Zero & Climate Resilience

We know that UCSB has already taken the following actions towards becoming a net zero and climate resilient campus:

Acting as a 'Living Laboratory' by supporting and promoting net zero and climate resilience-related research, innovation and leadership

- Campus Sustainability Department student internship program
- Greenhouse and Garden Project
- Edible Campus Program
- Ecosystem management through Cheadle Center for Biodiversity and Ecological Restoration

UC Santa Barbara Initiatives – Net Zero & Climate Resilience

We know that UCSB has already taken the following actions towards becoming a net zero and climate resilient campus:

Tracking and reporting progress

- Annual Report on Sustainable Practices
- Climate Registry Emissions Reporting
- Participating in the Sustainability Tracking, Assessment & Rating System (STARS) program
- Commuter Surveys and Mode Split Reporting

stars
a program of aashe

The Sustainability Tracking, Assessment & Rating System

(STARS) is a transparent, self-reporting framework for colleges and universities to measure their sustainability performance.

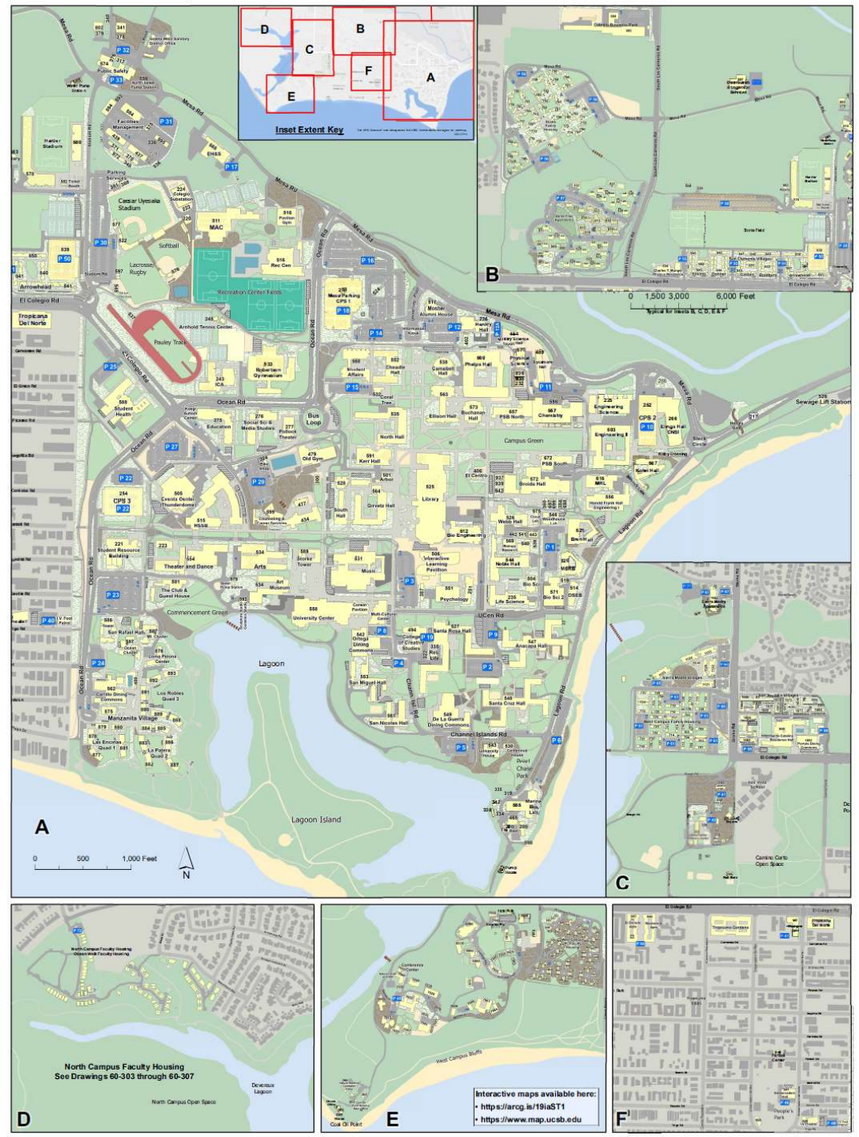
University of California, Santa Barbara

Santa Barbara, CA, US

Activity #1 – What UCSB is already doing

Instructions

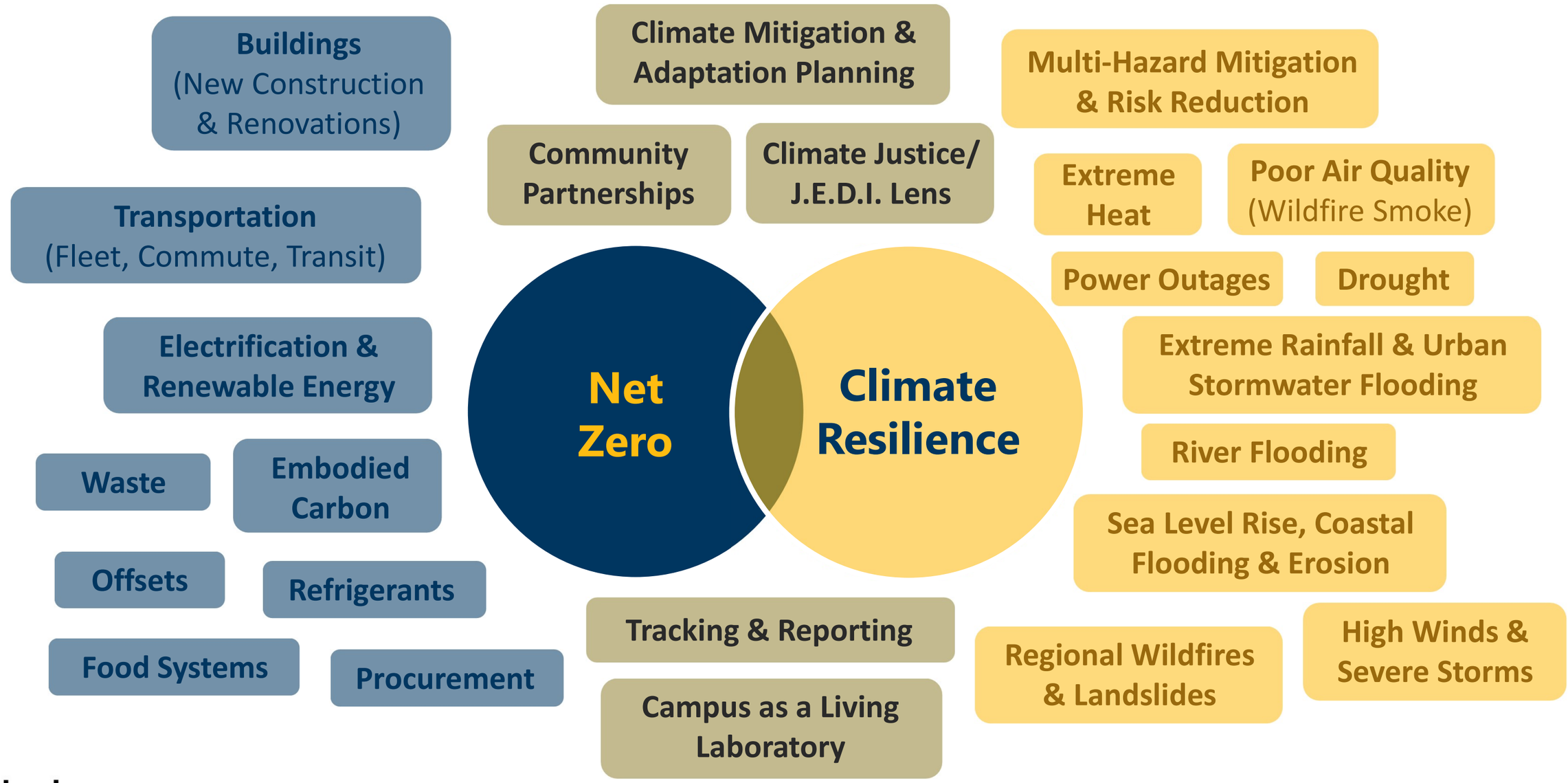
1. **Take a look at the map of the UCSB Campus** in front of you and think about examples of what UCSB is doing well with regards to net zero or climate resilience priorities and where it could do better.
2. **Write down on a sticky note at least 1 idea for <u>what UCSB is doing well</u> and 1 idea for <u>where it can improve</u>** and place it on the map near the relevant building or location on campus.
3. **Think about any other campus strategic directions (e.g. plans or policies), case studies or examples, or other documents** related to net zero or climate resilience that we haven't mentioned and add them on a sticky note.



Envisioning

a Net Zero and Climate Resilient Campus

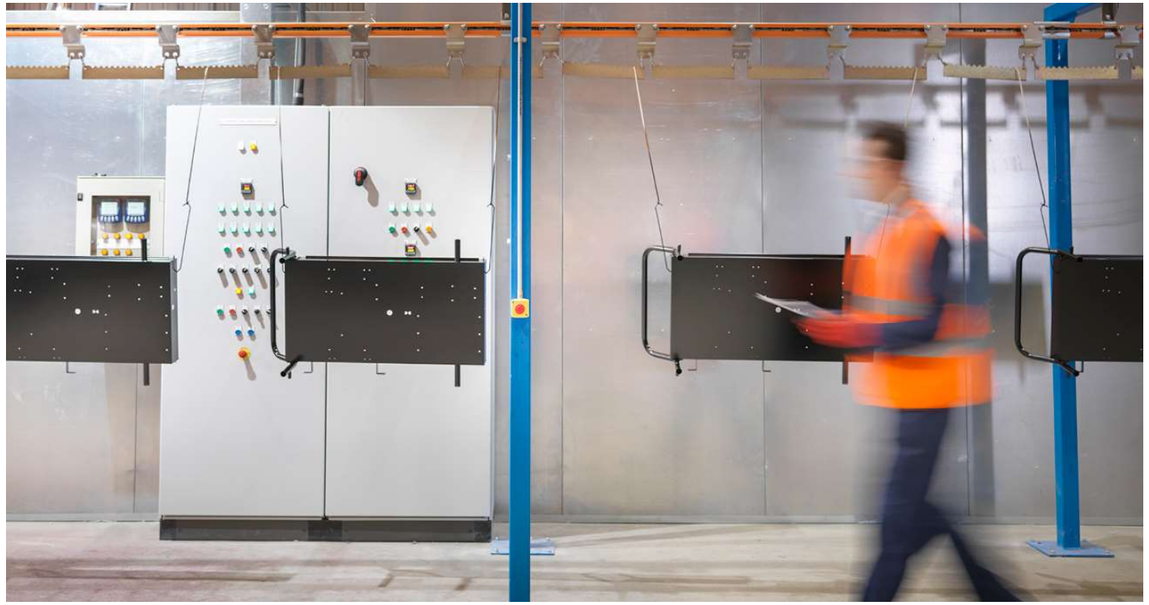
Examples of Overarching Action Areas



What Reducing Emissions Can Look Like

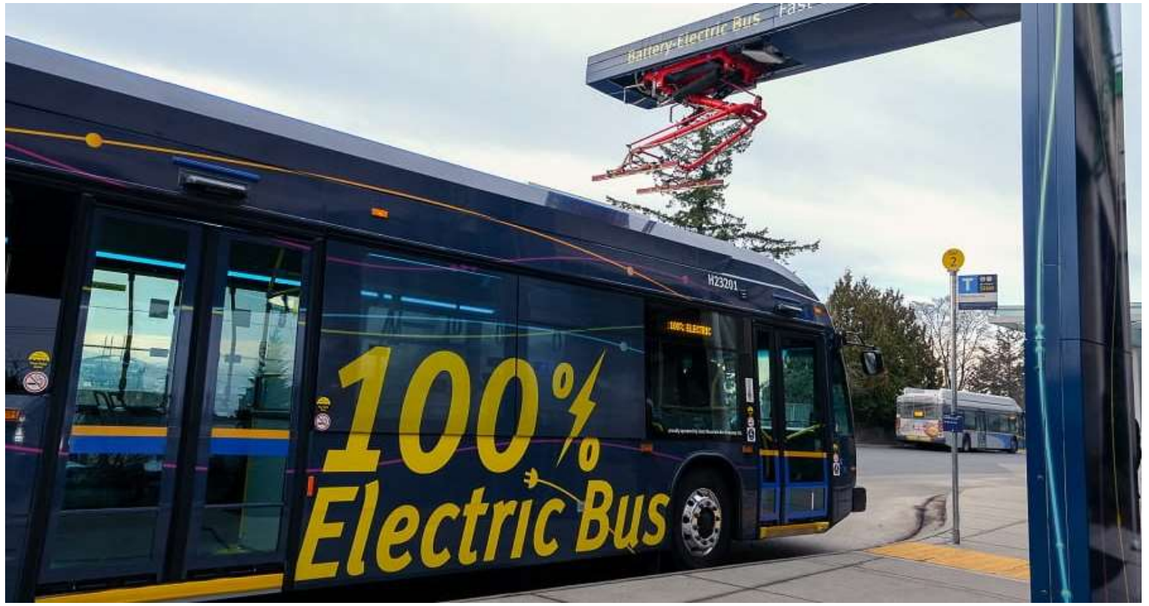
BUILDINGS

- Establish standards for all new buildings to be **all-electric**
- Conduct ongoing **energy efficiency retrofits** of existing buildings



TRANSPORTATION

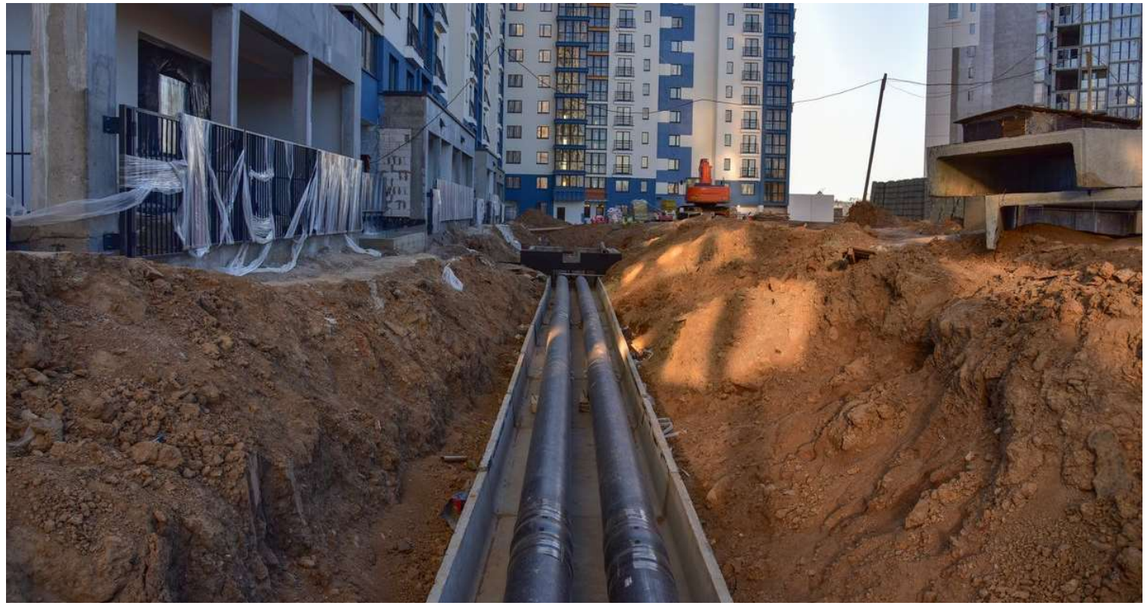
- **Electrify transit bus fleet** and replace all university vehicles with EV's
- **Install charging infrastructure** for electric vehicles



What Reducing Emissions Can Look Like

ELECTRIFICATION

- **Electrify District Energy System** with geo-exchange/heat recovery
- **Replace gas-fired hot water heaters** with heat pump water heaters



WASTE

- Use composting to **divert 80%+ waste**
- Establish standards for **reduction and recycling of construction-related waste**

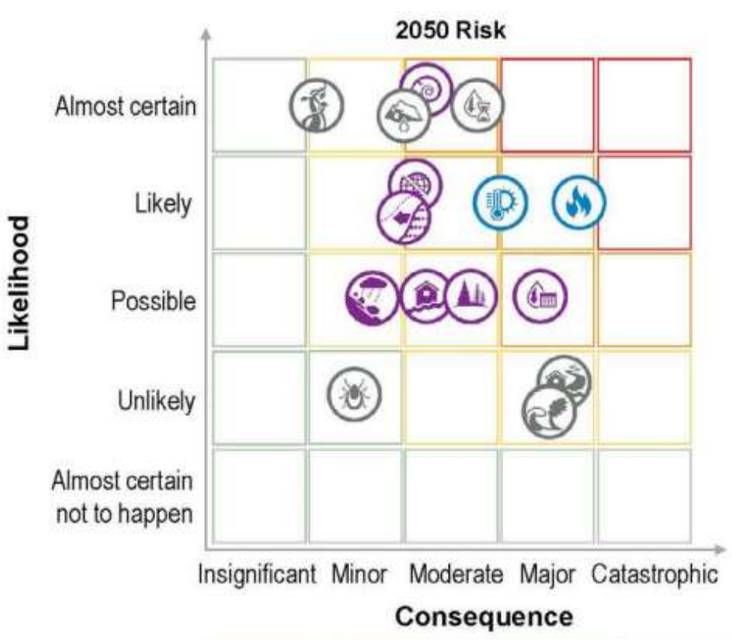
What Being Resilient & Adapting to Climate Change Can Look Like

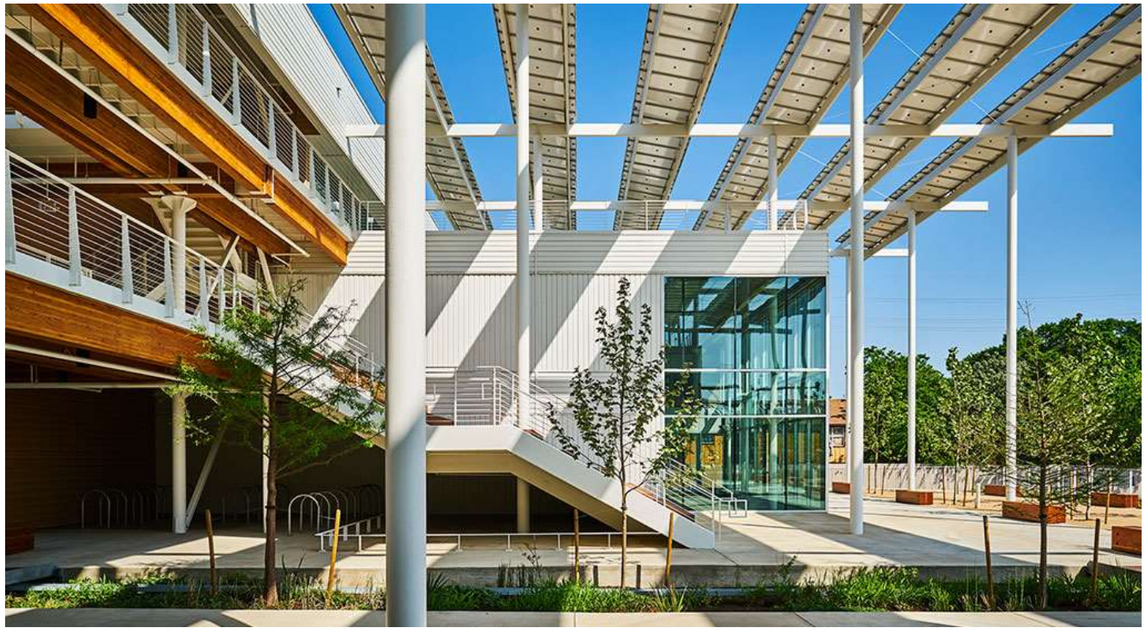
CLIMATE ADAPTATION PLANNING

- Complete a **campus-wide climate risk and resilience assessment**
- Build climate resilience into **campus policies and plans**

HAZARD MITIGATION

- Design buildings and infrastructure **to be resilient to future climate conditions**
- **Prioritize nature-based and low-carbon approaches** for managing climate risk





What Being Resilient & Adapting to Climate Change Can Look Like

COMMUNITY PARTNERSHIPS

- **Collaborate with City staff & community organizations** on climate adaptation committees and initiatives

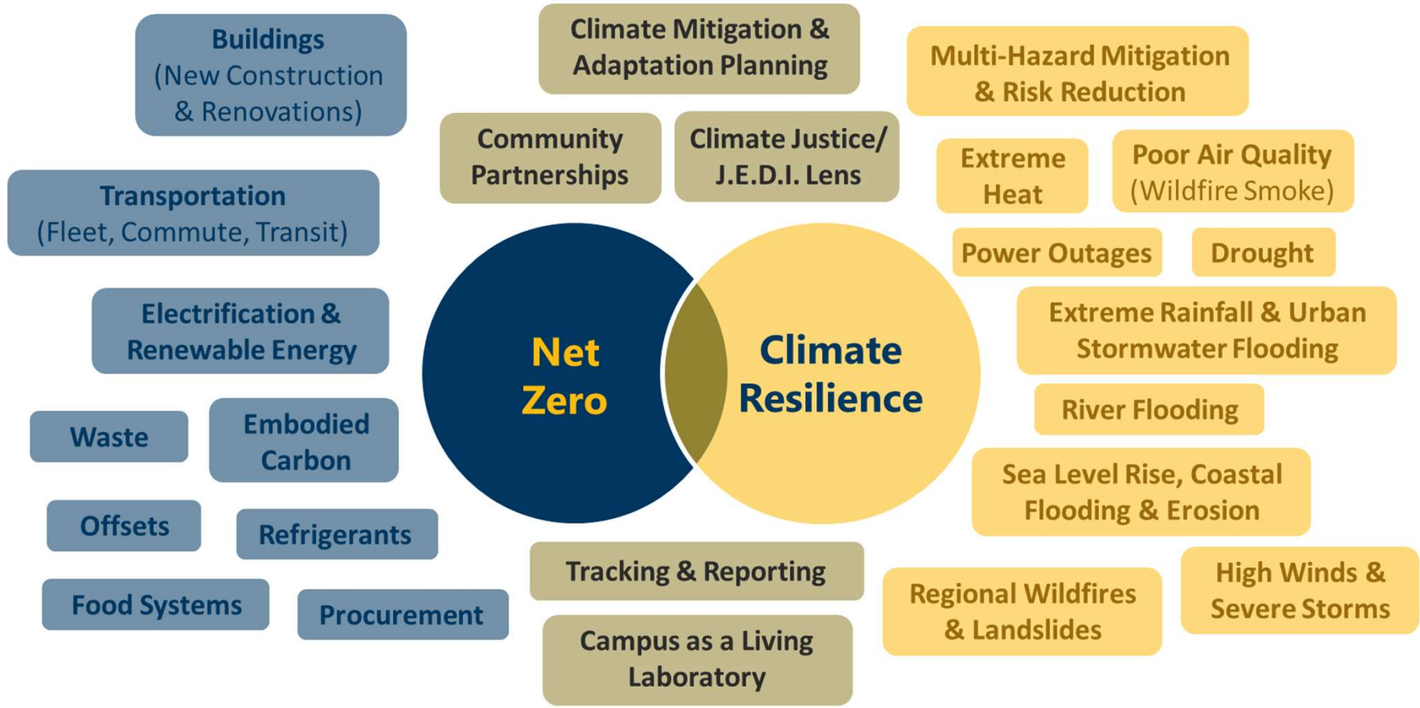
CAMPUS AS A LIVING LABORATORY

- Build on local **climate change research & academic leadership**
- Integrate climate change **into course curricula & living labs**

Activity #2 – Envisioning a Net Zero and Climate Resilient Campus

Instructions

1. **Take 5 minutes to think on your own** about **what a Net Zero and/or Climate Resilient UCSB should look like**. What more could we be doing?
2. **Write down your thoughts on sticky notes** – one for each idea!
3. After 5 minutes, everyone can **place their sticky notes on the poster** and share with the table a highlight of what they wrote.
4. **Spend the remaining time as a group brainstorming examples** of innovative actions or initiatives (e.g., from other leading institutions) that advance these visions and place them on the poster.



You can use these example action areas to help brainstorm

Getting There

How to Move Towards a Net Zero and Climate Resilient Campus

Activity #3 – Getting to a Net Zero & Climate Resilient UCSB

Instructions

1. Walk around the room and take a **look at the priorities identified by other tables**.

2. **Place a sticky dot on your top 3 priorities** for a net zero and climate resilient campus. These could be priorities that are the most important to you or what you think is best for the campus as a whole.

3. **Write down any barriers or challenges on sticky notes** that could get in the way of achieving these priorities, **or any strengths or partnerships** that could support them. (*You can do this for your top 3 priorities or any others!)* Place these next to the corresponding priority.

Next Steps

And Closing

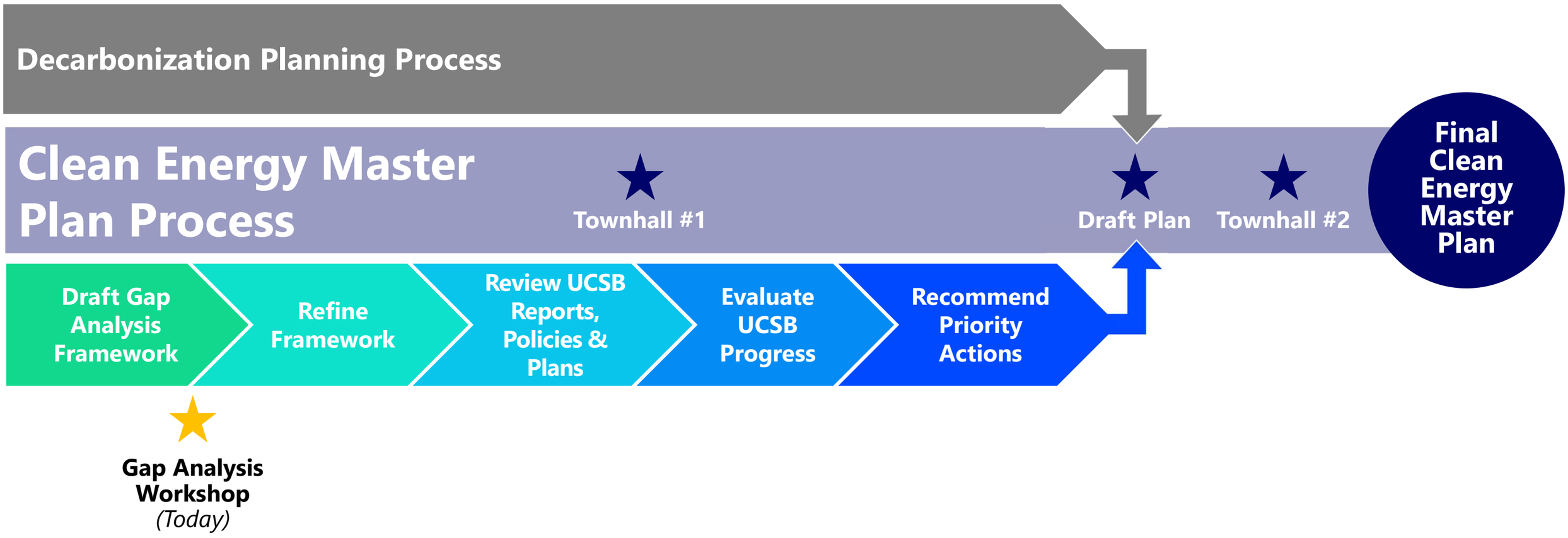
Next Steps

Completing the Gap Analysis

- **Revise the gap analysis framework** to **integrate visioning priorities** into key categories of actions and best practices
- Collect any **additional plans, policies or initiatives** from today's workshop
- Complete **detailed review** of all relevant documents to **identify additional examples of actions** UCSB is taking that address net zero and climate resilience priorities
- Evaluate **how well UCSB is doing against** net zero and climate resilience **best practices**
- **Identify recommendations** for additional measures and **next steps** to incorporate into Clean Energy Master Plan

Net Zero and Climate Resilience Gap Analysis

How this work integrates with the broader Clean Energy Master Plan



Introba

Thank you