Chancellor's Sustainability Committee Meeting Meeting Minutes
Thursday November 4th 3:00 - 4:30

Attendance:

Committee Members: Julie Maldonado , Mo Lovegreen (Advisor), Renee Bahl, Cali Pfleger, Garry MacPherson,, Jacob Godfrey (Advisor), Julie Hendricks, Kat Lane, Landry Guillen, Lizzy Mau, Mark Brzezinski, Melody Jue, Jewel Persad (Staff)

Other: Katie Maynard, Jordan Sager, Gene Lucas, Andrew Riley, Mark Rousseau, Carl Broderick, Heather Perry, Jennifer Pierce, Isabella Millet

Open Forum/Introductions (3:00 - 3:05):

Announcements (3:05 - 3:10):

A. TGIF Letter of Inquiry due November 12th
B. DEIJ Resilience Workshop on November 17th

Update: (3:10 - 3:20):

A. CSC Subcommittee Configuration -
    a. We will have 3 subcommittees this academic year, Waste & Procurement, Sustainable Transportation, and Energy & Climate

A. Annual Report - Jewel Persad
    a. A draft will be sent out via email for review by the committee, once feedback is incorporated it will go out via email for an electronic vote before being sent to the Chancellor.

B. GCLC Report Back-David Lea
    a. At the meeting we welcomed new leadership, Nathan Brostrom, and Fonna Forman, Associate Professor of Political Science / Director, UCSD Center on Global Justice.
    b. President Drake & the Regents chair both joined the meeting virtually.
    c. During the first half of the meeting we focused on climate justice, Professor Tracy Osbourne kicked off the discussion.
    d. We Toured the UCM campus which is the first UC campus to become Carbon Neutral.
    e. During the afternoon we discussed how to leverage our strengths to be more effective. This includes research partnerships that can pursue large grants from the state for things like electrification. We also decided to restructure how we fund GCLC projects.

Presentation and Discussion (3:20 - 4:20):

A. 2020 GHG Emissions - Jewel Persad

    Our GHG emissions fell significantly in 2020 (see table below)

Scope	1990 (tCO_2e)	2020 (tCO_2e)	% change
Scope 1 (emissions from fuel combustion in boilers, furnaces, & fleet vehicles)	14,290	17,531	23%
Scope 2 (purchased electricity)	35,356	8,255	-77%
2025 Carbon Neutrality	49,646	25,786	-48%
Scope 3 (Commuter emissions)* Significant change due to Covid (5 year pre-covid average = 11,000)	19,166	3,928	-80%
Scope 3 (Air Travel)* Significant change due to Covid (5 year pre-covid average = 5,700)	4,971	791	-84%
Total Scope 3*	24,137	4,719	-80%

The biggest change in 2020 was that we stopped buying power generation from SCE, we purchased the actual generation from the UC clean power program. In 2019, 100% of power supplied to participants became carbon neutral.

B. Climate Neutrality by 2025- Discussion of Action Plan for the year - Mo Lovegreen

Based on our model projections, it looks like we will need to procure 10,000 metric tons of offset come 2025 to cover scope 1 emissions primarily caused by the combustion of natural gas.

Here is a list of our current goals and targets:

- Reduce to 2000 levels by 2014 (achieved in 2012)
- Reduce greenhouse gas emissions to 1990 levels by 2020 (achieved in 2014)
- Achieve Operational Carbon neutrality by 2025
- Achieve complete Carbon neutrality by 2050
- Procure 100% clean electricity by 2025
- By 2025, at least 40% of the natural gas combusted on-site at each campus and health location will be biogas
- By 2025, zero-emission vehicles or hybrid vehicles shall account for at least 50%of all new light-duty vehicle acquisitions.
- Single-occupant vehicle (SOV) reduction requirements

    - By 2025, each location shall strive to reduce its percentage of employees and students commuting by SOV by 10% relative to its 2015 SOV commute rates;
    - By 2050, each location shall strive to have no more than 40% of its employees and no more than 30% of all employees and students commuting to the location by SOV.
- By 2025, each location shall strive to have at least 4.5% of commuter vehicles be ZEV. b. By 2050, each location shall strive to have at least 30% of commuter vehicles be ZEV
- 20 percent better than code or meet the whole-building energy performance targets
- LEED Silver (UCSB uses Gold)
- Natural Gas restrictions for new buildings
- Each location will implement energy efficiency actions in buildings and infrastructure systems to reduce the location's energy use intensity by an average of least 2% annually.

Discussion:

We are right there at a 2% EUI, the challenge with COVID is that we have to run our HVAC at a much higher rate, any thoughts on that? It is definitely a penalty in many places but we have done efficiencies over the last 1.5 years that should offset it.

Really impressed by the impact clean electricity has on our GHG emissions, what remains is stationary combustion. Do we have any kind of action plan for converting this over to electricity? Not broadly as it is pretty expensive, we did a project at PSNB that converted base usage from gas to electricity. New Buildings will be all electric.

Can you talk about the use of Biogas and where it is coming from?

UCOP has contracted out for two biogas projects, one captures biogas from a landfill. The second project is a big dairy operation. Collectively these two projects meet about 10 to 15% of the UCs natural gas demands. We are committed to 40% biogas by 2025 and are actively soliciting new projects, however we do not think we will get there with the price the UC participants agreed to.

It would be beneficial to get people out of vehicles and electric bikes could be a great opportunity.

Cali, our Grad student rep, has surveyed grad students and transportation is one of the major issues they mentioned.

C. Building Project Updates - Julie Hendricks & Jordan Sager
    A. Interactive Learning Pavilion (Classroom Building)

        90,000 GSF - 2000 seating capacity, sited by the library and

bioengineering. Designing a facility that is broken up so there is a lot of exterior space.

One characteristic of the building is that the cooling loads are more significant than the heating loads, the penthouse above the 4th floor is where the two air handlers are, this building is all electric and we will have water to water heat pumps. The building will have simultaneous heating and cooling, what makes this possible is the campus chilled water loop. We have ten chillers that cover most of the major labs, classroom, and academic buildings on the main campus; there are 40 buildings connected to the chilled water loop. The classroom building will have a supply and return connection to the chilled water loop, the cool thing about the building is that when it goes to heating mode it basically reverses the cycle and extracts heat from the return line.

Other Sustainability Features:

- Largest all electric building on our campus
- 40% water reduction compared to other buildings on campus.
- Tracking 90% waste diversion
- Furnishings will be 100% low or no VOC
- All lighting will be LED.
- The EUI of this building is 56 kbtu/sf/year, about half as much as other similar buildings on our campus

B. Munger Hall

1.6 Million GSF 11 story student housing. Will be able to house 4,600 students. Occupancy is expected in 2025. The building will be sited at what is currently called the Yard.

Cooling and Heating Needs - this is mostly core so we do not have a lot of opportunity for natural ventilation. Cooling requirements are a lot higher in this space than heating. This building also has a massive hot water demand for showers.

What is being proposed for this building is a remote central cooling plant (sited in the Eucalyptus grove). We will have the ability to build onto this plant when we need to retire old chillers.

The building will include a heat pump with heat recovery chillers that will act as sources of chilled water for the main campus and a source of hot water for the building. The building will have a large storage facility for hot water on the first floor and hot water will be produced and stored during the day when there is a demand for cooling on the rest of campus.

Ventilation - no recirculated air, 100% fresh air supply to bedrooms and suites from dedicated air handling units.

Other features:

- 53% water use reduction
- 95% construction waste diversion
- 27 kbtu/square foot/year
- near zero carbon building (operations) - do have gas for laundry and cooking
- Construction off site - almost all precast concrete, very resistant to thermal change
- access to building is by foot, no single occupancy vehicles

Discussion & Questions:

Because you don't have the option for natural ventilation? What kind of redundancy is built into design? We are going to use what is called a fan wall. What typically fails is the motor; a fan wall has a series of fans in case one goes down, all other fans continue to run. There is also a backup generator for this building.

Cali, as the GSA rep shared the concerns of graduate students on campus which include:

- The lack of natural light & the mental impact on students

The article just released in the Current tries to address some of these concerns, Gene Locus also offering a walkthrough on Friday at 1:30 PM

Link to Q&A sent by campus:
https://www.news.ucsb.edu/2021/020455/munger-hall-qa?

We need to take a holistic approach when thinking about the sustainability of the building. Depriving students of natural light is not sustainable.

What about the life cycle emissions of the Cement building? Jordan said he could look into what the life cycle carbon emissions of the building were.

Back-up power for the building. What kind will it be? Diesel generators like the rest of campus. Could we look at generators that are not diesel? Diesel generators are horrible for the environment.

What does the fire drill look like for a building of this scale? And what is the calculation for how many amenities to provide in proportions to the student bedrooms? It was noted the price per bed for this building is extremely high (around 300k)

It is a concrete building and the furniture is fire resistant. The building is

sprinklered and alarmed. Use stairwells as exit points. In all of our models these look good so far. Evacuation times look good.

Cost per bed - this is the first-time effort for a modular construction. Suites are 3 dimensional pods and it is like a huge Lego project and the learning curve has been huge. The cost will come down as this design concept goes forward. Gym and Rec room on11th floor being designed to not copy things that are in RecCen. Thought has been given to what is on campus already.

Concerns were expressed about the potential for the price of a room being unaffordable for students, or fees for the cost of the building being passed onto students. Is the price comparable to doubles etc? Where does the burden of cost go and what could the fee structure be?

The rooms will be priced similar to the apartments. No anticipation of a student fee to help pay for the building at this time. We have a Donor that is covering a significant portion of the costs. They are looking at comps both on campus and in Isla Vista. Currently there aren't any singles that are affordable for students and most live in doubles or triples.

The goal is to offer a single bed that is comparable to what it would be to have a double and to get students out of triple bed facilities.