Sustainability 2028 Planning Workshop: Energy & Water

September 9, 2019, 2:00pm-4:00pm

Meeting Notes

Recorded by Elias Platte-Bermeo

Meeting Attendees

Ellen Dux, Joshua Lee Sierra, Farris Sukkar, Elias Platte-Bermeo, Paul Adler, Martin Howell, Seth Strongin, Zelinda Welch, Karen Reed, Nathaniel Hyman, Nichelle Mitchell-Huizar, Kyle Konis, Pix Verendia, Audra Isadora Bardsley, Vanessa Thompson

Meeting Agenda

1. Introduction
2. Current State
    a. Transitioning from optimum efficiency to next-level goals and initiatives
    b. Approved and funded water / energy projects and how those might be extended (Tier 1)
        i. The primary goal for Tier 1 is project-driven, attempting to finish projects already underway for each vertical. These projects were selected because of their high impact and ROI, and low cost - traditional value measurements. Establishing this baseline performance and cost will allow us to determine how much further we need to go to reach our ultimate goals.
        ii. Next, we'll move to Tier 2 Goals to determine what projects and initiatives to pursue to achieve them. Tier 2 will be goal-driven, with project/initiatives selected that will best attain the goals. ROI may be less of a factor, depending on the importance and performance impact of the projects/initiatives..
        iii. Finally, Tier 3: looking at fundamental changes to campus operations we could make through financial instruments
        iv. Mark will escalate meeting discussion points to higher administration to get cabinet/President feedback after each meeting and every SSC workshop. Feedback will be incorporated into following SSC meetings. This will show full transparency and eliminate surprises for all of our stakeholders.
3. Overview of 2028 Sustainability Planning Process
    a. Goals of business unit meetings vs. SSC workshops
        i. Workshops are for SMEs to discuss completing what we're already doing and Tier 1 goals.
        ii. Full SSC meetings will surface ideas and goals for all verticals; taking what comes out of the unit meetings, 2030 proposal ideas, student survey ideas, SSC brainstorming ideas, and

expanding/contracting on those to find the best project / imitative mix to attain the plan goals

iii. Plan proposal / outline will be presented to Cabinet by December 30
iv. Final plan will be presented to Cabinet in spring 2020
v. The remainder of 2020 will be utilized for approvals and identifying funding sources
vi. Full approved plan will be unveiled in January 2021
vii. Kyle Konis asked if we have considered upcoming Capital Plans across the campus.
    1. The 2028 plan will be built into the university's capital plan. We can sidebar on that if individuals want more background on the capital plan.
    2. Mark has built flexibility into the planning process so that important stakeholders can be brought in whenever necessary
    3. Martin wants to be sure that we involve accounting at some level of the process before unveiling our full proposal

b. Stakeholder roles and responsibilities
    i. Mark emphasized that each person represents a constituency and should bring information back to their respective groups
    ii. Groups who will be paying for these plans will have a large voice at the table because money for these plans ultimately come from these business units

4. Water
    a. Setting the context
        i. Policy drivers
            1. EBEWE Ordinance drives water and energy strategy in Los Angeles
            2. Los Angeles is still under advisement about water conservation. Looking at the cyclical nature of droughts, we have no reason to think this issue won't be important in the future
        ii. Strategic drivers
        iii. High-level goals from city/county/peer universities
            1. The United Nations has prioritized access to clean water
            2. City/County of LA and peer institutions have aggressive goals
    b. Proposed organizational categories/Key Performance Indicators
        i. Efficiency/conservation (physical plant/landscaping)

1. Setting goals will determine what we need to measure. High-level targets and KPIs that are collectively agreed upon.
2. Potable water consumption
    a. Building water efficiency - we have UPC on 3 main meters; upon completion of Karen's Tier 1 metering goal we will have better water usage data
        i. Water is measured in gallons/sqft, gallons/capita

ii. Alternative water sources
1. Amount of recycled water

iii. Stormwater management,
1. Percentile rainfall event for stormwater management. Forecasting for future climates at USC and how to prepare for and manage rainfall from weather events
    a. All new USC buildings for the past 13 years have stormwater management systems that meet city requirements, but we haven't done anything exceptional. UPC water infiltrates whereas HSC water is captured and treated
    b. Karen has made a Tier 3 goal to implement a Large Stormwater Infiltration System
        i. Kyle suggested looking at LA Wetlands Park which integrates stormwater management with other landscape projects. It also integrates K-12 education, creates co-benefits, and avoids the issue of lack of ROI
        ii. Audra mentioned that other co-benefits can include Living Lab components that help USC students learn
    c. Karen believes we lack messaging and visibility for water initiatives, like infiltration basins. Signage and messaging needs to improve to raise awareness--and these are easy fixes
        i. Signage in the format of "Did you know…" with easily digestible metrics
2. Paul Adler mentioned that we need to look into the resiliency of local and regional water systems out of self-preservation if nothing else
    a. Mark reiterated that we will need to concentrate on reducing USC's own impact on the environment

before investing in areas outside USC, keeping USC money at USC.

3. Ellen and Mark mentioned that this body will need to manage the boundaries of what we are planning for and strategically manage how much we include concepts like resiliency and social justice

c. Brainstorming new initiatives/projects
   i. Little consistency in KPIs and timeframes for goals of peer universities and governments, but most push for a reduction from a baseline water usage
   ii. Karen believes the timeline we set will be different from other entities because the fact that USC will receive recycled water in 2025 will be the largest factor in the sustainability plan.
      1. Karen suggests the goal of reducing potable water use per capita by 22.5% from the 2014 baseline by 2028 to align with City Sustainability pLAn 2019
      2. We will need to outline the geographic scope of our goal--changing this scope will drastically change the “progress” toward whatever goal is set. The data can be manipulated to look better or worse depending on what is included.
      3. We will need to look at building types and how they are changing
   iii. The Tier 1 Fixture Replacement project was previously projected to decrease potable water usage by 19%. However, the vast majority of fixtures have been replaced but water reduction has only decreased by 8%
   iv. Kyle recommends integrating visual and community-collaborative components into goal of replacing ornamental landscaping with Drought tolerant landscaping -- creating “Operative Landscaping” like LA Wetlands Park.
      1. Mark brought up that amount of space eligible for this is a minute percentage of university space, scattered across the campuses.
      2. These more aggressive initiatives could be incorporated into Tier 3 goals; partnering with the city to look off-campus and convert spaces
   v. Possible project: collecting condensate from air conditioning units in buildings and using this decentralized system to irrigate adjacent areas.
      1. Arup is working with UCLA to look into this.

2. Karen believes USC hasn't looked into this because USC will soon be using recycled water and when it arrives in 2025, all new buildings will be required to use this recycled water.

vi. Kyle recommends that Arup works with Karen's team to provide the committee with a range of attainable goals based on gallons per capita and gallons per square foot from looking at peer institutions. This will allow us to know how heavily to invest in water reduction

vii. Mark and Ellen agreed to establish this baseline for the next meeting

5. Energy
    a. Setting the context
        i. California has long been a leader in energy efficiency. California state mandate says that by 2045, 100% of electricity will be supplied by renewable sources.
        ii. Local policy like EBEWE makes LA a leader as well
        iii. Increasing push towards electrification (also sometimes referred to as decarbonization) which can then utilize renewable energy as these powers become more available
        iv. Peer institutions, City of LA, and County of LA all have aggressive plans for exceeding building goals for new construction, on energy efficiency and new sources of energy, and energy storage
        v. USC's goals should be aspirational and feed into on-the-ground projects, but shouldn't be limited by what's currently feasible and ready to be undertaken.
            1. ARUP believes we should have clear, measurable goal(s)
            2. Goals may be different for new construction vs. existing buildings
    b. Proposed organizational categories
        i. Conservation in existing assets
        ii. Efficiency in design/construction projects
            1. Zelinda brought up that as we wait to increase efficiency, we get lower returns on reduction in GHGs because the power LADWP will provide in the future will be cleaner and from non-carbon sources.
            2. Need to take into account associated costs utilities will incur when having to develop such large scale electrification infrastructure to deal with EV charging
            3. "Grid-Optimal Projects" should be considered
        iii. Renewable energy and storage

1. Zelinda believes storage projects will be important but only have returns in terms of GHG reduction if they're tied into renewable energy production. These projects also need to consider the life cycle impacts of batteries and storage systems

iv. Carbon

c. Brainstorming new initiatives/projects
   i. Kyle wants to see a goal based broadly on electricity that could be plugged into other goals
   ii. TherMOOstat Project at UC Davis - identifying retrofitting opportunities across the campus while at the same time including an engagement component. Students use smartphones to report over-cooling in buildings, then FMS identifies thermostat setpoints and where they could be optimized. Good Example of "Living Lab" approach
      1. USC has a setpoint policy but not much feedback on whether it's followed
   iii. In terms of campus optics surrounding sustainability, is it detrimental to not include on-campus renewable generation (ie solar PV) in tier 1 goals? This creates a psychological problem similar to the issue of lack of messaging around existing water projects
      1. Arup pointed out that optics are important for community psychology regarding sustainability
      2. Could include a solar PV feasibility study/Solar Master Plan as a tier 1 goal. Would first look into the details of on-campus solar generation options and then look into off-campus options to determine phase 1, 2, and 3 solar projects that could be pursued
         a. Kyle has relationships with faculty (Larry Scarpa, School of Architecture) who might be able to provide this. Could also be done by students
         b. Any renewable energy feasibility study would also need to incorporate energy demand as well
   iv. Most buildings are metered but design standards for building meters have been value-engineered out of many projects
   v. The data from Energy Dashboards could potentially inform other initiatives

6. Open Discussion

a. Kyle would like to see a range of goals with timelines from Arup on energy (and carbon) and water from (1) achievable goals to (2) ambitious goals to (3) visionary goals