

CRD 152 Community Asset Map: Carbon Neutrality

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Introduction

In 2020, UC Davis released over 150 thousand metric tons of carbon emissions to power its campuses (UCOP). These emissions contribute to climate change which has been explicitly linked to disproportionate harm on vulnerable communities. The UC Davis Fossil Free initiative envisions that UC Davis can act as a “global climate leader by ending its use of fossil fuels” (Fossil Free, n.d.).

The UC Carbon Neutrality Initiative is a system wide commitment to achieve Carbon Neutrality on each UC campus by 2025. UC Davis relies on four main strategies to achieve carbon neutrality; green building, energy efficiency, individual behavior, and carbon offsets. We have chosen to orient our community-asset map around the first three strategies because these most closely align with asset-based community development. In Davis, these efforts go beyond the University as the entire city has demonstrated commitment to carbon neutrality through various developments and behaviors which we have selected to feature in our map.

Stop 1: Muir Commons Electric Vehicle Charger Installation

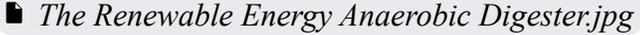
Image:  ([Image source](#))

Address: 2222 Muir Woods Pl, Davis, CA 95616

In 2018, the Davis Muir Commons apartment complex celebrated the installment of the largest multi-unit dwelling electric vehicle charger project in California at the time. Twenty-six level-2 electric vehicle chargers were installed providing one charger per household in the complex. This project began when Eugen Dunlap, a Muir Commons resident, sought to install a charger for her electric vehicle. The apartment complex shares a central lot and thus Dunlap could not simply install one on her own. She created an ad-hoc committee to bring chargers to the entire complex and was joined by additional members Ben Finkelor, Corey Bock, and Laurie Friedman. When the committee began seeking price estimates for electric vehicle chargers, the cost was approximately \$25,000 - \$30,000 per household making the total project cost about \$700,000. Seeking these exorbitant prices, the committee began exploring grant opportunities and applied for PG&E’s Electric Vehicle Charge Network Program and Yolo-Solano Air Quality Management District’s Clean Air Funds Program. Securing the PG&E grant significantly reduced the cost to \$1,150 per household and the Yolo-Solano grant further reduced the price to a final cost of \$550 per household. Muir Commons funded the remaining costs but expressed that the grants were a necessity to cover the technology installation. The level-2 chargers are more expensive but provide more electricity at a faster rate because they are 240-volts as opposed to level-1 chargers being 120 volts. Despite overcoming technology costs, the committee did not face other obstacles as all residents supported the effort. The chargers are now maintained by PG&E and receive energy from the local energy source, Valley Clean Energy (Leahy, 2019). As you will encounter in a future stop, Valley Clean Energy provides greener energy through PG&E

services. Therefore, this project encourages less reliance on fossil fuels and uses greener energy making it a perfect example of a community-based carbon neutrality initiative.

Stop 2: Biodigester

Image:  ([Image source](#))

Address: 28068 Co Rd 98, Davis, CA 95616

To visit the biodigester, head west on Russell Boulevard until Petrick Road. Take a right on Petrick Road, and pass the Primate Center on your right. If the gate is open, take a slight right onto Simian Lane (just past the Primate Center). If not, continue along Petrick Road and view from afar!

The Renewable Energy Anaerobic Digester, or “biodigester” was opened on the UC Davis campus in 2014. The biodigester converts organic waste into usable energy, and was developed by UC Davis professor Ruihong Zhang. This is the largest anaerobic digester on a college campus in the nation (Kerlin, 2014). Not only does the biodigester serve the community by providing renewable energy, it also provides an efficient and sustainable method to dispose of food waste. The biodigester is designed to convert 50 tons of organic waste a day and is used to heat the UC Davis primate center. The biodigester can create 5.6 million kWh per year of clean energy. This saves about 13,500 tons of greenhouse gas emissions a year from being used on campus. The biodigester accepts agricultural feedstock as well as food waste from the dining commons and other local restaurants (Facilities UC Davis, n.d.)

The biodigester is the result of a decade of research by Zhang and her team. It cost 8.5 million dollars to construct and funding for the project was partially provided by grants from the U.S. Department of Energy and the California Energy Commission (Case, 2014; Fell, 2017). The digester was built and originally owned by CleanWorld, a Sacramento based partner company who operates several other biodigesters in Sacramento (Kerlin, 2014). In 2017, UC Davis purchased the biodigester from CleanWorld. This purchase allows UC Davis to continue research and development of the biodigester, and potentially expand its operation (Fell, 2017). This unique development helps our entire community by reducing carbon emissions by creating renewable energy and reducing emissions from waste in the landfill.

Stop 3: Honda Smart Home

Image:  ([Image source](#))

Address: 299 N Sage St, Davis, CA 95616

*Revisions to the document are marked in **bold** text!*

The Honda Smart Home, a partnership between UC Davis and the private-company, Honda, was launched in 2014 as a “living laboratory” for Green Construction (Monley Cronin, n.d.). The home is located in the UC Davis West Village, nearby the Energy Efficiency Institute. Monley Cronin Construction was heavily involved in the design, construction, and research of the home. The home features solar panels, electric vehicle charging stations, and geothermal radiant heating and cooling (Fell, 2014a). It is also important to note that the solar panels on the home from unobstructed light as there are no houses or large trees surrounding the building. **However, this is likely not an intentional design decision as it was not built in a neighborhood, but rather on a large empty lot owned by UC Davis. The Honda Smart Home is 1,944 square feet, which is slightly larger than the city average of 1,763 (International Living Future Institute, n.d.; Homes.com n.d.). Despite this,** the home uses half of the energy of the typical home in the City of Davis (Fell, 2014a). In 2021, the smart home achieved zero net energy for the first year in the building’s history (Koenig, n.d.).

The home is available to rent for UC Davis staff, faculty and graduate students, and comes with a Honda Fit electric car. Rent for the two-bedroom home is \$1500 dollars a month (Dateline, 2020). UC Davis, Honda, and Pacific Gas and Electric (PG&E) work together on continued research on the home. It is important to note that both Honda and PG&E are significant contributors of greenhouse gas emissions and have each caused significant environmental injustices, so we question whether the partnership with these companies truly provides an asset to the community. **Furthermore, we recognize that, while the Honda Smart Home exemplifies green building and energy efficiency principles, it must be accompanied by the third community driven method of decarbonization, changes to individual behaviors. It would be interesting to explore how living in this home may or may not affect the consumption and sustainability decisions of its occupants.** Nonetheless, the home exemplifies the significant research applications from U.C. Davis scholars and serves as an example of how U.C. Davis can progress carbon neutrality.

Stop 4: U.C. Davis West Village

Image:  ([Image source](#))

Address: 110B Sage St, Davis, CA 95616

U.C. Davis’s West Village is a 180-acre neighborhood housing students, faculty, and staff and featuring educational and research facilities. Generating over 10 megawatts of solar electricity, it is one of the largest planned “zero net energy” communities in the nation (“UC Davis”, n.d.). Throughout the decade-long planning process beginning in 2003, the University faced many obstacles surrounding community environmental concerns and opposition to displacing agricultural lands (Kerlin, 2016). In 2004, a neighborhood group, West Davis Neighbors, filed a lawsuit against the developer claiming that the environmental studies of the

proposal were not adequate. In response, the University held 30 public workshops to receive community input on the proposed neighborhood master plan and Long-Range Development Plan. This feedback resulted in three major changes, 1) the neighborhood size decreased by over 50%, 2) direct street access from the development to nearby city neighborhoods was removed, and 3) campus planners preserved agricultural lands in another area to accommodate for the lost agricultural land (Lapin, 2004). Campus planners note that the slow-growth culture of Davis was a challenge at first, but ultimately it enhanced the project's sustainable focus as planners increasingly heightened green developments to please the community. After engaging with the public, the project was set for construction in 2010. The University already owned the land, so no funding was required to purchase it. However, the actual construction required a public-private partnership as private companies can access tax credit advantages that the University cannot, which ultimately reduces costs. The University invested approximately \$17 million and partnered with Carmel Partners from San Francisco, CA who invested around \$263 million. Outside construction costs, the University invested resources into zero-net energy research to support the project. The University secured \$7.5 million in state and federal planning grants and groups like The Energy and Efficiency Center, The California Lighting Technology Center, and The Western Cooling Efficiency Center supported research efforts (Kerlin, 2016). Evidently, these efforts were worthwhile as West Village is now hailed as a "prototype for innovation in sustainability" and thus serves to promote a step towards carbon neutral development and living.

Stop 5: The UC Davis Energy and Efficiency Institute

Image:  ([Image source](#))

Address: 1605 Tilia St #100, Davis, CA 95616

The UC Davis Energy and Efficiency Institute (EEI), formally known as the Energy Efficiency Center (EEC), is a program that started in 2006 and was funded by the then governor of California Arnold Schwarzenegger after winning a competitive grant process for the program. The university received a \$1 million grant from the California Clean Energy Fund (CalCEF) to build a center focused on speeding up the transfer of new energy-saving products and services into the homes and lives of Californians (Kerlin, 2006). CalCEF awarded UC Davis for their exceptional commitment to developing and bringing energy efficient technologies to the marketplace. The talk of increasing energy efficiency on an institutional level has been a part of the conversation of carbon neutrality for years. PG&E also played a key role in the development of the EEI as we know it to be today. The corporation pledged a substantial amount of funding support for the new center for the initial startup of the center over the next 5 years (Kerlin, 2006).

In 2017, the EEC became known as the EEI which not only changed the center's name, but broadened their mandate to accelerate sustainable energy systems. The name change from center to institute reflected their change in mission to expand and include the integration of

additional areas of achieving carbon neutrality by addressing new strategies. Since its inception, the EEC has expanded into several different centers that all take on a part of the energy sustainability research: The California Lighting Technology Center, The Western Cooling Efficiency Center, The Center for Water–Energy Efficiency, and The Plug-in Hybrid & Electric Vehicle Research Center. The institute now serves as a hub for the University's energy-related efforts and strives to develop and commercialize energy solutions all throughout California thus promoting carbon neutrality in our Davis community and broader state (Chung, 2020).

Stop 6: Central Heating and Cooling Plant

Image:  ([Image source](#))

Address: 100 Dairy Road, Davis, CA 95616

The UC school system has made great strides within the last 15 years to become carbon neutral and lower their energy usage. This sentiment was not always held by the University of California system during their construction of the campuses. UC Davis was built over 75 years ago and underneath the campus laid miles of pipes that supplied the buildings with steam to heat them up. This way of producing heat is not only inefficient but relies heavily on fossil fuels; therefore, the University was in desperate need of transforming the old heating system. In 2003, the regents of the University of California committed to institutional sustainability which later led to the adoption of a Presidential Policy on Green Building Design and Clean Energy Standards (Chung, 2013). The university received the funding for this project through the UC's Energy Efficiency Partnerships. The projects received an estimated \$100 million in incentive payments and expected 46 new energy efficiency projects to be completed by 2021 (Chung, 2020). Due to unforeseen circumstances the transition from fossil fuels to renewable energy was delayed. However, after a meeting held by the regents on January 20, 2022, the funding for the next stage of the Big Shift was approved. The Big Shift plan is a lay out of how our campus is transitioning from the use of fossil fuels to renewable electricity in the Heating and Cooling Plant thus representing an asset that helps progress our campus towards a decarbonized future. To visit the Heating and Cooling Plant, travel north on Dairy Road and it will appear on the right side of the street. It's underwhelming in appearance, but one of the most substantial changes in how our campus is heated and cooled is taking place right within those walls! Unfortunately entry into the building is limited however the image provided should give an idea of what the old system looks like.

Stop 7: Energy Conservation Office (Thermostat)

Image:  ([Image source](#))

Address: 1 Shields Ave, Davis, CA 95616

To visit the UC Davis Facility Management: Energy Conservation Office, travel north on Crocker Lane then turn right and the building will be on your left. The building is around the Academic surge and the Earth and physical science building. The team of engineers that work closely with the energy conservation office offered to work collaboratively on finding ways to save energy at the building levels so the campus can meet the carbon neutrality goals and practice sustainable behaviors (Chung, 2020). The Thermostat was built by the team in the ECO as a way to allow students on campus to self regulate the on-campus buildings' temperature by submitting feedback when a building is too warm, cool, or just right. The feedback is kept and analyzed to ensure a balance of comfort and energy conservation (Chung, 2020). The conservation of energy is a main tenant of achieving energy efficiency. The Thermostat team looks for issues in Heating, Ventilation and Air Conditioning (HVAC) with scheduling, airflow problems, thermostat placement and any other mechanical issues. The feedback allows for the team to focus on where problems are occurring according to the students. Thermostat was designed to encourage students to connect and understand the buildings better. The longevity of this project would prove to be beneficial as there will be data to look at over the years to find more energy saving opportunities. As this development relies on community feedback, it highlights a community-asset progressing carbon neutrality that is inextricably linked with community engagement.

Stop 8: Visitor Parking Lot: Rooftop and Parking Lot Solar

Image:  ([Image source](#))

Address:

Head to the top floor of this parking lot and notice the shade structures. Atop each structure is a solar panel which creates renewable energy to help power campus operations. This project was completed in 2011, along with solar panels installed at six other rooftops and parking structures. Lot 1 features over 1,200 solar-energy collector panels, which each generate up to 235 watts. In its first year of operation, the seven locations produced about 1.1 million kilowatt-hours of energy, which is enough to power two large campus buildings for an entire year (UC Davis Arboretum, 2012).

The project was funded by *Main Street Power Co.* who installed and now maintains the panels, and sells the power back to UC Davis (Hudson, 2012). UC Davis and Main Street Power Co. have agreed to a 20 year contract (UC Davis Sustainability, n.d.). This means that the price of solar is fixed, and UC Davis purchases this clean energy at a slightly higher price than the rest of their purchased energy (Hudson, 2012). David Phillips, the director of UC Davis utilities, claims these added costs are worth it as ““these highly visible solar power installations are in line with UC Davis’ long-term sustainability goals”” (Phillips via Hudson, 2012).

To develop the solar panels, developers had to cut down 38 ornamental Bradford pear trees (Jones, 2011). While there is no available documentation regarding controversy about this decision, similar decisions received significant community backlash. UC Davis officials claim this decision was worthwhile considering that the shade structures provide more shade to the cars than the trees (Jones, 2011). Conversely, Cheryl Essex, chair of the Davis Planning Commission recognized that “there are a lot of benefits that trees can provide that solar panels cannot provide, especially the improvement to human health” in reference to a similar project in the City of Davis (Essex via Greenwald, 2021).

Stop 9: Shrem Museum (LEED Platinum Museum)

Image:  ([Image source](#))

Address: 254 Old Davis Rd, Davis, CA 95616

The UC Davis Manetti Shrem Museum of Art is one of the first LEED platinum art museums, and an example of UC Davis’ innovation in energy efficient building. Construction for the museum began in March of 2014, and was completed in 2016. The project was designed by SO-IL and Bohlin Cywinski Jackson, and constructed by Whiting Turner Contracting Company for UC Davis. According to Vlachaki, the museum was created to “enhance the public profile of the university”, although its development faced significant resistance from community members who felt an art museum was out of line with UC Davis’ agricultural roots (2020).

UC Davis planners attempted to include UC Davis students and community members throughout the planning process. One campus stakeholder even said in an interview that the project was “the most involved we’ve ever done on a project here with outreach to the community” (Vlachaki, 2020). Vlachaki posits that this engagement may have been an effort to regain the trust of the campus community directly after the pepper spray incident, when campus police pepper sprayed peaceful protests. UC Davis hosted student and community forums for input on the museum, an interactive exhibit for the community to provide ideas, and a competition for students to present their concepts (Vlachaki, 2020). Student’s emphasized that the museum needed to serve as a community directed space, with study spaces, leisure spaces, and student studio space. Despite these efforts, it was difficult to fully incorporate student input as the project was fully privately funded, and the planners had to balance the concerns of the funders and the public (Vlachaki, 2020).

Not only does the Mondavi center serve as a community asset, it also serves as a fantastic example of green infrastructure. Art museums are particularly difficult to create using green infrastructure, due to their unique lighting and climate control requirements. In 2016, the museum was awarded a LEED platinum rating. The LEED rating system is a green building certification system that awards points for different aspects of sustainable development. For example, the lights in the museum are adjusted according to the level of natural lighting provided from the windows, to prevent unnecessary use of energy (Nikos-Rose, 2017). The museum is

particularly successful in energy conservation, a vital aspect of the transition to achieving carbon neutrality.

Stop 10: The Big Shift: Piping

Image:  ([Image source](#))

Address: 100 N Quad, Davis, CA 95616

To get a thorough understanding of the previously mentioned BigShift process that is taking place on campus, visit the quad district over by Olson and Dutton hall. These areas are in the process of being renovated and are a part of the movement towards more renewable sources of energy. The four miles of piping that lie underneath the campus are in desperate need of an upgrade. At this location, you will see the changes being made to turn UC Davis into a carbon neutral campus. The piping replacement will also include the pipes connected to the hot water system of 31 of our on campus buildings, some of which include; Wickson Hall, Rock Hall, and the Wyatt Pavilion Theater. The Regents of the University of California have approved the funding of this project in 2022 and intend to start construction within the year 2023 and continue into 2024. These infrastructure improvements will go a long way toward improving energy efficiency, according to Joshua Morejohn, an Energy Manager at Facilities Management who's on the working group for Big Shift (Mata, 2022). The preliminary designs that are being decided on are being created by the newly formed Campus Advisory Committee on Sustainability appointed by Kelly Ratliff, Vice Chancellor of Finance, Operations and Administration. The committee co-chairs, Camille Kirk and Jim Carroll, will be leading the development of the fossil-free plan by the end of 2022 (Hetrick, 2022). What we will be seeing in the years to come will be smaller segments of construction starting with the piping in the quad district that will eventually extend out to other areas of the campus, an essential transition to support the University's carbon neutrality initiative.

Stop 11: Frontier Energy

Image:  ([Image source](#))

Address: 123 C Street, Davis CA

Frontier Energy is a consulting firm that specializes in energy efficiency efforts and energy solutions for the real estate sector. The firm was founded in 1986 in San Francisco, California as a for profit company. The firm had not become public until 2005 in which they started their expansions. The city of Davis had The Davis Energy Group, inc. that was founded in 1981. The group had been the provider of energy services for builds such as residential, commercial and institutional. Many residents and clients turned to the group in search of

solutions to energy efficiency challenges. Their main priority was providing solutions for building comforts of companies that struggled with moving toward energy efficiency (U.S. Department of Energy). However on January 16, 2017 the group was eventually combined with GTI International, Inc., Fisher-Nickel, Inc., and Bevilacqua-Knight, Inc. to become a part of the new company, Frontier Energy, Inc. Frontier Energy had combined the divisions in hopes of bringing together complementary strengths and experience of each former corporation. Larry Brand, the former president of Davis Energy Group, is leading the new company as President and has over 30 years of experience in energy efficiency research and development (GTI, 2018). The funding for this firm is an accumulation of federal, state, and local government support as well as donations made by many companies, the most notable one being Shell. Frontier Energy's expansion has allowed for their mission of providing sustainable solutions and creating innovative ways of saving energy to incorporate other voices and ideas into the conversation about carbon neutrality in the Davis community.

Stop 12: Valley Clean Energy

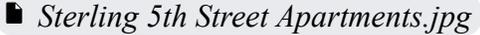
Image:  *Valley Clean Energy.png* ([Image source](#))

Address: 604 2nd St, Davis, CA 95616

Valley Clean Energy (VCE) is a locally governed, not-for-profit organization that provides greener energy to Yolo County making them a key player in promoting carbon neutrality through supporting green energy use (“Home”, 2022). VCE's development can be initially traced to the 2002 California legislation that established Community Choice Aggregation (CCA). CCA allows local governments to create non-profit energy providers that regulate where their respective community receives energy. While this does not replace existing utility companies, it provides local control over the energy source allowing community providers to choose greener options. This law also requires that all energy users are automatically enrolled when a CCA is formed or expands into their jurisdiction. In 2017, the CCA discussion came to Davis when Mitch Sears, a Sustainability Program Manager for the city, initiated a project to partner with Yolo County and form a CCA. This effort ultimately resulted in forming VCE with funding support from an \$11 million line of credit through River City Bank. Before and after establishment, CCAs are required to conduct public outreach. VCE fulfilled this requirement through hiring a Sacramento-based publisher that had journalists write content to engage with the public. After completing initial public outreach, VCE launched in June 2018. As a non-profit, any additional revenue after operational expenses is invested back into the community. Further, VCE has a six-member Board of Directors made up of local representatives. They set rates and make other important decisions in open, public communities. Therefore, as Davis City Council Member and chairman of VCE, Lucas Frerichs (2017) states, the Board is “accountable to the communities, not the shareholders” referencing its distinction from private companies like PG&E. Although VCE does not appear to have faced serious opposition in the Davis community,

private utility providers have spent billions opposing CCA legislation altogether which is a larger challenge VCE has to navigate as a CCA (Keys, 2018). Nonetheless, VCE has been well-established for four years providing the Davis community with standard green energy and the option to upgrade to 100% renewable and 100% carbon-free energy (“Home”, 2022). As a community-oriented organization also supporting green energy, VCE is a community asset playing a key role in reducing Davis’s carbon footprint.

Stop 13: Sterling 5th Street Apartments

Image:  ([Image source](#))

Address: 2100 5th St, Davis, CA 95616

In 2018, Sterling 5th Street Apartments was built and is a pillar of green apartment living in the Davis community. It is ranked in the top 5 LEED-certified communities in California for 2021 and has distinct energy conserving facilities and behaviors among residents. Properties with LEED certification are strictly evaluated and verified by the U.S. Green Building Council to ensure sustainable and effective building design and management. Through Energy Star windows and kitchen appliances, energy efficient HVAC, tankless water heaters and lighting, programmable thermostats, and high-grade air filters, the apartment complex uses 17%-30% less energy than average apartments of the same size (“Eco”, n.d.). To further encourage energy conservation, residents who conserve the most energy are awarded a monthly stipend (“Sterling”, 2021). The development began in 2016 when a private group, The Dinerstein Companies, proposed the project to Davis City Council. The proposal was a 3-4 story apartment complex with 160 market-rate units and 38 affordable housing units that would be separate from the larger complex and managed in partnership with the nonprofit, Mutual Housing California (“City”, n.d.). In response to the proposal, Davis City Council first mandated that the developer complete a thorough environmental impact report (EIR). The EIR found “no significant impacts” from the project despite potential minor effects on traffic, greenhouse gasses, and air quality (Alvarez, 2016). However, residents from nearby sites, like Rancho Yolo, expressed extreme concerns over the traffic-related impacts and safety expressing that the report contained a “dozen or more exaggerations, unsupportable assumptions, and glaring omissions” (Sherman, 2016). Nonetheless, the report was adequate for the Davis City Council and the project was approved. This approval required rezoning the plot for planned development, a development agreement, an affordable housing plan, and a General Plan Amendment to change the land-use designation from ‘Industrial’ to ‘High Density Residential’ (Alvarez, 2016). While the development funding primarily came from the private sector through the Dinerstein Companies, \$9.4 million in public funds from Proposition 1 was awarded to Mutual Housing to support the 38 affordable housing units (“Ternus-Bellamy”, 2020). While supporting Davis’s affordable-housing needs and harnessing an explicit environmental focus, Sterling 5th Street Apartments is a great example of a community asset pushing Davis towards a carbon-neutral future.

Stop 14: Sun Power Research and Development Ranch

Image:  ([Image source](#))

Address: 28058 Mace Blvd, Davis, CA 95618

The Sun Power Research and Development Ranch (R&D Ranch) is a cutting edge facility that boosts Davis' reputation as a leader in Green Energy, and provides jobs to local residents. Sun Power is a San-Jose based company responsible for contributing and operating the UC Davis Solar Farm (see stop 15). The company is working with UC Davis professor, Heiner Lieth, to research methods for integrating land used for solar panels with productive crop growth (Elkind, 2016). The R&D Ranch is a 6-acre research and development facility located south of Davis along Mace Boulevard. While Sun Power had been leasing this land for over 30 years for research, the new research facility was not revealed until 2016. It consists of a 15,000-square-foot building shaped like a barn with research and office space (Hudson, 2016). To complete the project, Sun Power submitted a rezoning proposal to Yolo County to change the land from an "Agricultural Intensive" zone to an "Agricultural Industrial" zone (Yolo County, 2017). This allowed Sun Power to use the land for more intensive industrial agriculture (Yolo County, n.d.). To achieve this designation, the Yolo County Community Services Department conducted an Initial Environmental Study to comply with CEQA regulations, and found the project would have minimal impact (Yolo County, n.d.). While there was a public comment period on this rezoning proposal, there is no available documentation with feedback from community members. While the R&D Ranch initially employed 15 people, the company claims it could expand to up to 60 employees (Hudson, 2016). Thus, the R&D ranch promotes green-jobs and supports vital research for supporting Davis's decarbonization efforts.

Stop 15: U.C. Davis Solar Farm

Image:  ([Image source](#))

Address: Levee Road (38°31'12.1"N 121°44'25.8"W), Not Accessible to the Public, check it out from afar or use Google Maps!

U.C. Davis's Solar Farm is a 62-acre solar plant developed in 2015 on the south of I-80 in Davis, California. Within the U.C. system, it is the largest solar power installation and within the entire U.S., it is the largest solar power plant providing renewable energy to a U.S. university or college campus (Liz, 2021). The development plans started in 2011 when the University began seeking space for an in-house solar farm to increase its green energy use. In 2012, a 70-acre plot of land became available when a tenant farmer's lease ended. The University bought the land and placed a call for bids for private companies to construct and operate the plant (Case, 2014a). While it does not appear that community opposition was documented, Davis residents

historically push for preserving agricultural land when new developments are proposed (Kerlin, 2012). This was likely with the Solar Farm as Case (2014) notes that the University ensures that farming operations will continue on the surrounding property which may have been an attempt to ease the public's concerns. Although existing funds reserved for campus utility bills were used to fund the project, the University needed a public-private partnership to decrease overall costs. As with the West Village development, private firms could leverage tax incentives, so they could construct and operate the plant at a lower cost than the University (Jones, 2015). The Director of Campus Utilities notes that solar plant operations are also simply outside the University's scope making it more feasible to hire a company with such expertise. A San-Jose based company, SunPower, made the best bid and was selected for the project. Under this agreement, SunPower was responsible for constructing and then operating the plant. U.C. Davis would buy electricity at the normal market rate for the first six years and then prices would decline by 1% every year following (Case, 2014a). The development finished in 2015 and the Solar Farm began generating over 33 million kilowatt-hours per year which is equivalent to approximately 14% of the University's electricity needs (Jones, 2015). The solar panels use single-axis tracking technology to track the sun's movements which increases energy capture by 15% over non-tracking technology. Annually, this renewable energy is anticipated to reduce the University's carbon footprint by 14,000 metric tons of GHG emissions (Fell, 2014b). Thus, the Solar Farm is a leader in progressing the University towards carbon neutrality.

Stop 16: Ann E. Pitzer Center

Image:  ([Image source](#))

Address: The intersection of Hutchison Dr &, Cushing Way, Davis, CA 95616

The Ann E. Pitzer Center is a multi-use music space with teaching studios, classrooms, and a centerpiece 394-seat recital hall that hosts about 100 musical performances per year. Many of these performances are led and performed by UC Davis students. In 2014, U.C. Davis alumna Ann E. Pitzer donated a five million dollar gift for the building's construction (Day, 2016). The building is a pillar of green infrastructure; the development process was highly sustainable, and it achieved LEED certification status on October 19, 2017 (U.S. Green Building Council, n.d.). During construction in 2016, over 80% of waste was diverted from landfills and asphalt and concrete previously on the site was utilized. Moreover, over 90% of new wood products were sustainably sourced and 11% of all project materials were recycled and locally sourced. Since operations began, the Pitzer Center has increased energy efficiency by 23.5% over the Title 24 building standard, uses 37% less water with its low-flow fixtures, and utilizes surrounding natural landscaping for irrigation and conservation of water. To achieve energy efficiency, the building uses the existing campus high pressure steam loop and its built mechanical systems also reduce emissions. Furthermore, custodial services follow a Sustainable Green Cleaning Program and Policy which includes sustainable cleaning products and practices (U.S. Green Building

Council, n.d.). It is likely that the building will make further advancements in sustainability as it switches to a hot water heating and cooling system as part of the campus wide “Big Shift” program (see stop 10). The Pitzer center is exemplary of the successful integration of green building, the arts, and community spaces.

Concluding Remarks

Throughout our community asset development map, we have chosen to highlight a broad array of developments that support carbon neutrality in Davis, California. From research centers to apartment complexes to solar panels and even art buildings, U.C. Davis and the surrounding city have numerous displays of green-initiatives that reduce the community’s carbon footprint. We hope you enjoyed our scavenger hunt and take inspiration from these developments to incorporate carbon reduction activities into your personal life and hold corporations accountable to do the same. To get involved in supporting a fossil free campus, check out the [Fossil Free UCD website](#), and [sign the petition](#) to end fossil fuel usage at UC Davis.

Citations

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