

SDSU SUSTAINABILITY IN ACTION: PRESIDENT'S UPDATE

TUESDAY, APRIL 18 • 12-2 PM • UNION THEATRE

<https://tinyurl.com/SustainSDSUQs>



Join President de la Torre and the President's Sustainability Advisory Committee to learn what staff, faculty and students are doing to make our campus more sustainable. Zoom link available for Imperial Valley attendees.

Poster session and lunch provided. Zero Waste Event.

SDSU
Office of
Energy &
Sustainability

green love
A QUALITY PROGRAM OF
AS ASSOCIATED STUDENTS

SDSU Strategic Planning Charge

GOAL 3: Invest in organizational practices that prioritize the responsible management of resources with a focus on global and environmental sustainability.

Key Activities:

- **Activity 15: Developing a team to then provide a strategy and oversight of SDSU's Sustainability Efforts.**
- **Activity 16: Updating the University Climate Action Plan, inclusive of all campus locations, with defined benchmarks.**
- **Activity 17: Developing Guiding Principles for Sustainability that include local and international standards.**



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SDSU Strategic Planning Charge

Activity 15

- Iana Castro (Co-Chair)
- Eric Hansen (Co-Chair)
- Simran Jain
- Glen Brandenburg
- Maribel Madero
- Keven Jeffery
- Tyler Rogers
- Gener Abdon
- Liv Humphrey
- Tenaya Bearmar
- Charlotte Roberts
- Kim Carnot
- Dave Weil
- Markco King
- Erlinde Cornelis
- Lily Eckhoff
- Daryn Ockey
- Raul Leon

Activity 16

- Bob Schulz (Co-Chair)
- Eric Frost (Co-Chair)
- Kristin Larson (Co-Chair)
- Jessica Barlow (Co-Chair)
- Simran Jain
- Charlotte Roberts
- Gener Abdon
- Glen Brandenburg
- Paul Melchior
- Li An
- Trent Biggs
- Eric Hansen
- Laura Shinn
- Kim Carnot
- Daryn Ockey
- Lily Eckhoff
- Samuel Kassegne
- Liv Humphrey
- Tenaya Bearmar



Activity 17

- Christy Samarkos (Co-Chair)
- Bob Schulz (Co-Chair)
- Simran Jain
- Charlotte Roberts
- Gener Abdon
- Asfaw Beyene
- Keven Jeffery
- Adrienne Fusek
- Kristin Larson
- Lily Eckhoff
- Erlinde Cornelis
- Liv Humphrey
- Tenaya Bearmar



WORK IN PROGRESS

SDSU

Progress Updates

Activity 15: Developing a team to then provide a strategy and oversight of SDSU's Sustainability Efforts.

- Establish a Energy and Sustainability Office that reports to AVP of Business Operations - COMPLETED
- Establish a Sustainability Advisory Committee that reports directly to the President - COMPLETED
- Establish a Campus-wide Sustainability Summit - IN PROCESS



Progress Updates

Activity 17: Developing Guiding Principles for Sustainability that include local and international standards.

DRAFT
SAN DIEGO STATE UNIVERSITY
PRINCIPLES OF SUSTAINABILITY

- Keeping Justice, Equity, Diversity & Inclusion As The Focus And Heart Of Our Work
- Employing Sustainable Practices At Our Core
- Applying Climate Resilience In Our Daily Practices
- Achieving Sustainability Literacy And Striving Toward A More Sustainable Future Through Ambitious, Fair, And Inclusive Collaboration And Co-Generation Of Knowledge
- Stewarding Resources Wisely



Progress Updates

Activity 16: Updating the University Climate Action Plan, inclusive of all campus locations, with defined benchmarks.

- Review Best Practices for Climate Action Plans - COMPLETED
- Review 2017 CAP and Assess Progress - COMPLETED
- Complete Carbon Neutrality Feasibility Study - IN PROCESS
- Redefine SDSU objectives and goals for next five years, until 2028 - IN PROCESS
- Solicit key stakeholder input on selected measures - IN PROCESS
- Update climate action strategies based on cost effectiveness and emissions reduction to meet new objectives and goals - IN PROCESS
- Reengage university and other community stakeholders to select and implement climate action strategies - IN PROCESS



*You're
invited!*



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Office of Energy & Sustainability

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Madeleine Falco, Energy Analyst

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<https://sustainable.sdsu.edu/>

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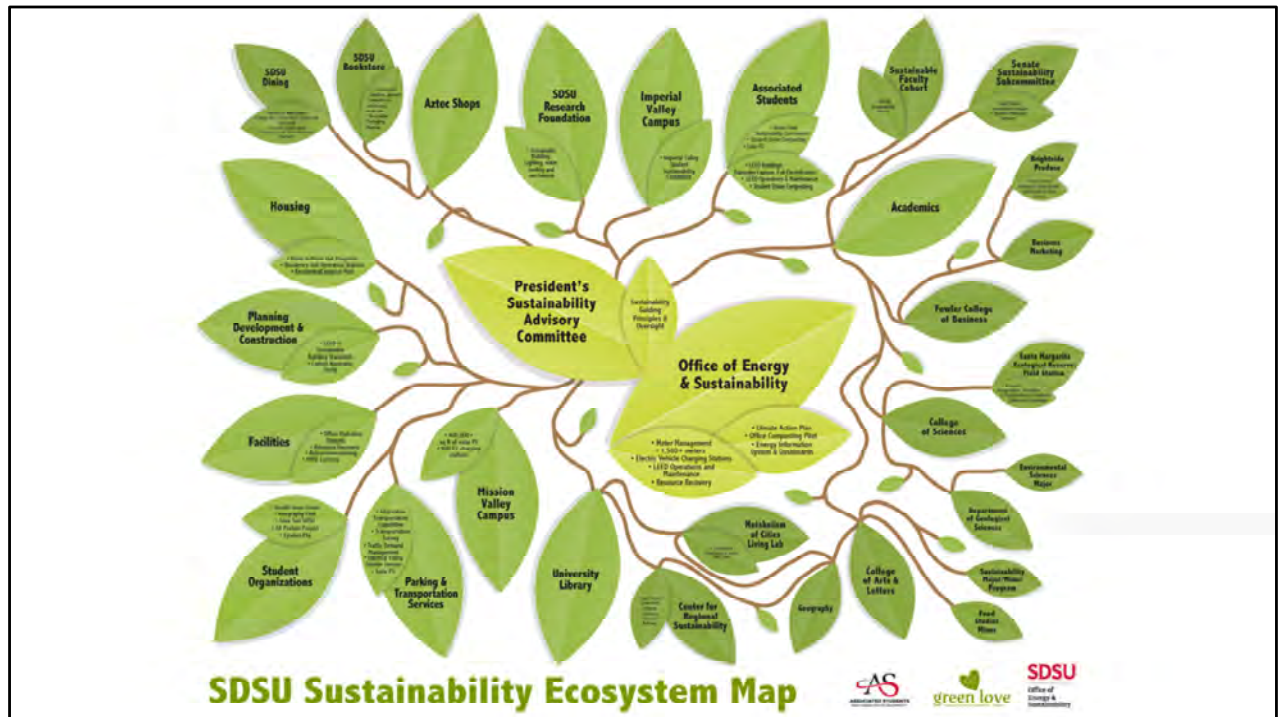


Scan to submit
your questions.

SDSU Office of Energy
& Sustainability



SDSU



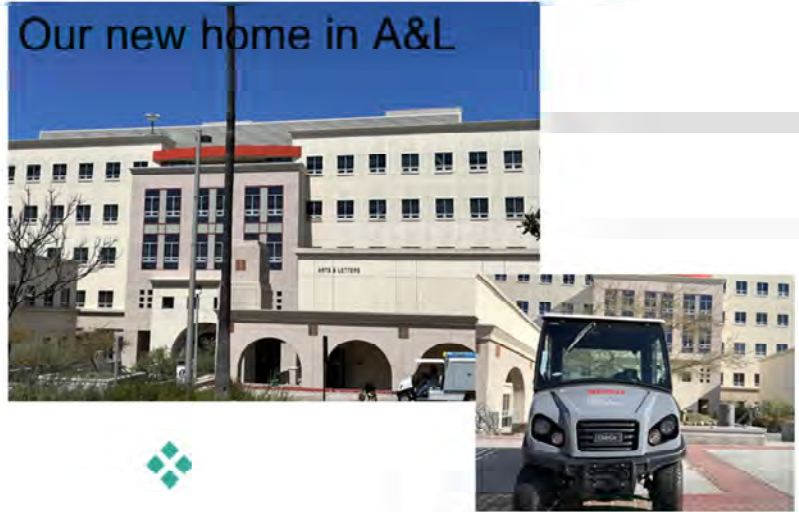
This map represents the SDSU Sustainability Ecosystem and the interrelationship between departments, offices, and organizations and their sustainable efforts. Sustainability grows out from the President’s Sustainability Advisory Committee and the Office of Energy & Sustainability. There is a poster in Montezuma Hall with more detail.

Sustainability History

Where we started



Our new home in A&L



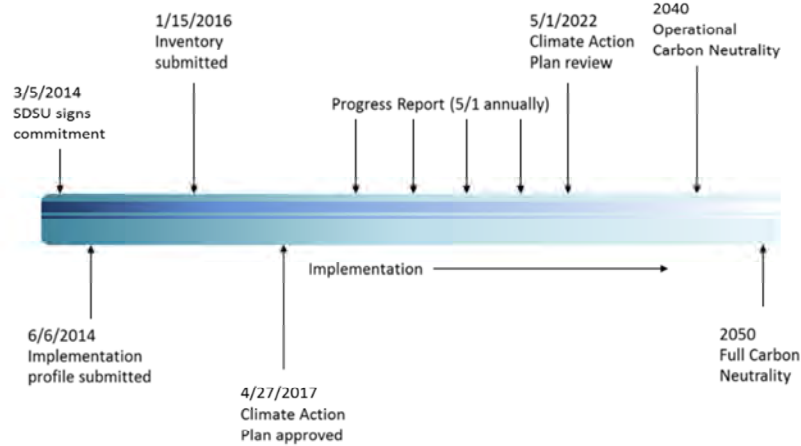
SDSU Office of Energy
& Sustainability



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SDSU Sustainability team was part of the Facilities Services Department until October 2021, when the Office of Energy & Sustainability was created. In May, 2022 OE&S hired a new Director, Kristin Larson. In March 2023, OE&S found a new home in The College of Arts & Letters.

Carbon Neutrality Goals & Study



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In 2014, SDSU signed a commitment to reduce carbon emissions and in 2017, the first campus Climate Action Plan was approved. The CAP renewal is currently underway and a carbon neutrality study is being done to assess costs and pathways in achieving full carbon neutrality on campus.

Climate Action Plan

Campuswide emissions [Data Validation In Progress]

TARGET: 1990 levels by 2020

- 1990 total = 92,538 MT CO₂e
- 2020 total = 90,326 MT CO₂e **2% Reduction (COVID year)**
- 2022 total = 108,217 MT CO₂e **17% increase**

Operational emissions

TARGET: 1990 levels by 2025

- 1990 Operational = 35,466 MT CO₂e
- 2022 Operational = 58,996 MT CO₂e **52% increase**
- **Need to reduce current operational emissions by 34.3% to each target**

Water use

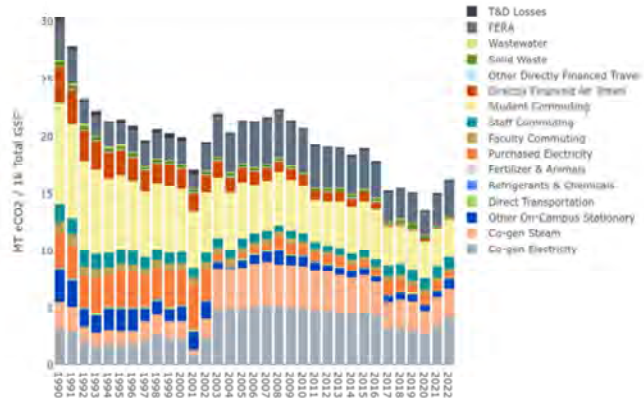
TARGET: 25% below 2013 usage by 2020 (30% by 2026)

- 2013 usage = 205,791,733 gal
- 2020 usage = 177,174,150 gal **(14% reduction below 2013)**
- 2022 usage = 172,386,601 gal **(16% reduction below 2013)**

Waste diversion

TARGET: 50% non-C&D and 60% total diversion by 2020

- 2020 Total Diversion Rate = 35%
- 2020 Non-C&D Diversion Rate = 34% (no change from 2017)



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Since 1990 levels, overall campus emissions have increased 17% with the largest emitter being the cogeneration plant. However, when you look at our carbon emissions based on square footage, the campus is more efficient as square footage is added and new buildings are constructed.

Buildings LEED EBOM Measures



GMCS

SDSU Office of Energy
& Sustainability

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Leadership in Energy & Environmental Design: Existing Buildings Operations & Maintenance. LEED-EBOM rating system helps building operators measure operations, improvements and maintenance. GMCS in the process of getting LEED EBOM certification and to do that, a gas meter was installed to track building usage.

You can't manage what you don't measure.



SDSU Office of Energy & Sustainability



Operation Meter Management

SDSU

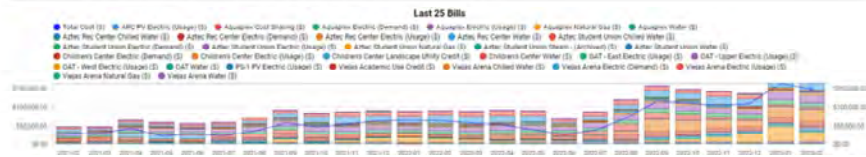
Did you know ...? There are more than 1,500 water, gas, and electric meters on campus! To make decisions about sustainable buildings and measures, it starts with knowing how much energy, water, and gas buildings use. That's where meters are the foundation for tracking utility consumption and reporting accurate data.

Utility Operations & Management: Auxiliary Recharge Accounts

BILL TO:	BILL FROM:	STATEMENT NO.:	9022406-23001
Associated Students	8884	DATE:	04/05/2023
		FUNDING SOURCE:	

LOCATION SERVICE	UTILITY TYPE	DESCRIPTION	START DATE	END DATE	CONSUMPTION	RATE	TOTAL
Chilled Water	Electric	Adhes Rec Center Chilled Water	01-Feb-2023	28-Feb-2023	20,015.56 kWhr	0.025	\$ 512.64
Process Water	Electric	Adhes Student Union Process Water	01-Feb-2023	28-Feb-2023	17,000.40 kWhr	0.025	\$ 425.01
Design Water	Electric	Vikes Area Chilled Water	01-Feb-2023	28-Feb-2023	308.79 kWhr	0.229	\$ 70.68
Electric	Electric	Academy Electric (Demand)	01-Feb-2023	28-Feb-2023	75.90 kWh	\$ 10.86	\$ 829.69
Electric	Electric	Academy Electric (Usage)	01-Feb-2023	28-Feb-2023	23,702.49 kWh	\$ 0.19	\$ 4,503.47
Electric	Electric	Adhes Rec Center Electric (Common)	01-Feb-2023	28-Feb-2023	201.34 kWh	\$ 0.26	\$ 52.35
Electric	Electric	Adhes Rec Center Electric (Usage)	01-Feb-2023	28-Feb-2023	176,252.05 kWh	\$ 0.19	\$ 33,487.82
Electric	Electric	Adhes Rec Center PV Electric (Usage)	01-Feb-2023	28-Feb-2023	49,555.58 kWh	\$ 0.29	\$ 14,368.58
Electric	Electric	Adhes Student Union Electric (Demand)	01-Feb-2023	28-Feb-2023	281.00 kWh	\$ 0.26	\$ 73.06
Electric	Electric	Adhes Student Union Electric (Usage)	01-Feb-2023	28-Feb-2023	116,407.00 kWh	\$ 0.19	\$ 22,117.32
Electric	Electric	Childrens Center Electric (Demand)	01-Feb-2023	28-Feb-2023	48.00 kWh	\$ 0.26	\$ 12.48
Electric	Electric	Childrens Center Electric (Usage)	01-Feb-2023	28-Feb-2023	8,633.23 kWh	\$ 0.19	\$ 1,640.32
Electric	Electric	SDS East Electric (Usage)	01-Feb-2023	28-Feb-2023	9.50 kWh	\$ 0.00	\$ 0.00
Electric	Electric	SDS Upper Electric (Usage)	01-Feb-2023	28-Feb-2023	2,000.20 kWh	\$ 0.29	\$ 580.38
Electric	Electric	SDS West Electric (Usage)	01-Feb-2023	28-Feb-2023	44.82 kWh	\$ 0.29	\$ 12.90

Have a question about your utility bill? Ask us, we are happy to help.



SDSU Office of Energy & Sustainability



Utility Ops is under OE&S – we are your utility provider, the friendliest utility provider you will ever have! We monitor meters and take pride in providing our customers with transparency, accurate account information, and we strive to provide outstanding customer service. Have a question about your bill? Ask us, we’re happy to help!

Interactive Energy Dashboard

The screenshot shows a web interface for an interactive energy dashboard. At the top left is the San Diego State University logo, and at the top right is the ECOVOX ENERGY ANALYTICS logo. The main heading reads "Welcome to the Engineering and Interdisciplinary Sciences Dashboard". Below this, a paragraph describes the facility's LEED Gold certification and its advanced mechanical systems. A URL is provided for more information: <http://sustainable.sdsu.edu/initiatives/green-buildings>. The dashboard features a grid of ten interactive buttons: LEED Scorecard, Green Building Features, Mechanical System, Lab Comparison, CO2 Equivalents, Electricity, Chilled Water, Heating Hot Water, Natural Gas, and Domestic Water. The SDSU Office of Energy & Sustainability logo is visible in the bottom left corner of the dashboard area.

SDSU has an interactive energy dashboard that went dark during Covid and after a two-year hiatus, the dashboard is back! It displays real-time utility usage, including water, gas, and electricity for buildings throughout campus. Look for the dashboard at EIS and soon, it will be up and running at and other campus locations.



SDSU | Mission Valley



Sustainability

- ✓ All buildings LEED Silver (Version 4.0) or better
- ✓ LEED Silver Neighborhood Development
- ✓ LEED Gold stadium
- ✓ More than 400,000 square feet of solar photovoltaic panels
- ✓ 900 electric vehicle charging and EV-ready parking spaces
- ✓ All-electric space and water heating
- ✓ Enhanced access to transit

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The new Snapdragon Stadium at Mission Valley campus is designed to achieve LEED Gold certification, each non-stadium building will be designed to achieve or exceed LEED Silver and SDSU Mission Valley is designed to achieve LEED Silver in Neighborhood Development for the entire site.

Parks & Open Space

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**Mission
Valley**

- 80+ Total Acres
- 4 Miles of Active Transportation Facilities
- Native, Drought-Tolerant Plants
- New & Increased Biological Habitat
- Water Quality Basins & Flood Mitigation



SDSU

Of the 160 acres being redeveloped at the Mission Valley campus, over 80 acres will be parks and open space. This includes 4 miles of active transportation facilities. Water conservation measure include a landscape of native, drought-tolerant plants.

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Hydrology

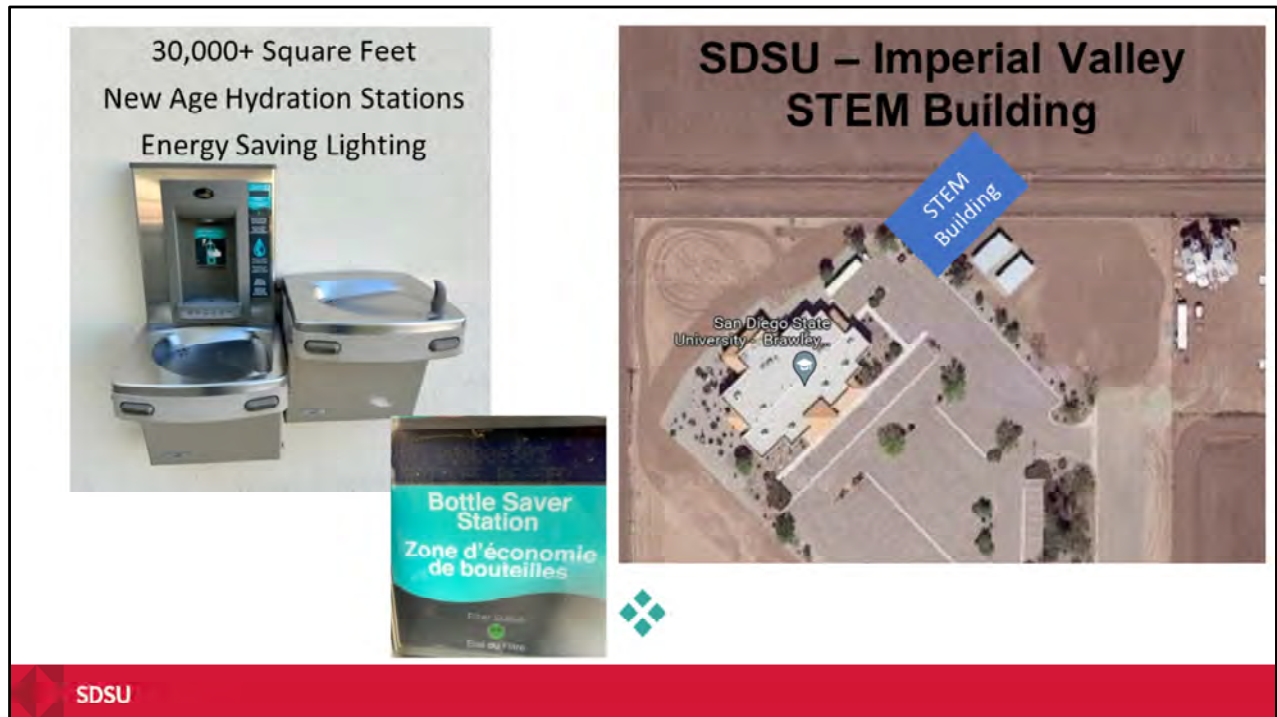
Mission Valley

100% of storm water treated vs 0% previously



SDSU

SDSU Mission Valley is being developed to treat all run-off from impervious surfaces on the property. This treatment uses bio-filtration basins, modular wetlands and particle separators to “clean” the storm water and discharge it into the San Diego River and Murphy Canyon Creek.



Imperial Valley installed hydration stations throughout campus with filtered water that counts diverted plastic bottles. Also, the campus uses energy Saving Lighting Systems where lights are dimmed or turned off when unoccupied. Future projects include: EV Charging Stations and a state-of-the-art STEM building.

Landscape Services

 CALSENSE®



SDSU

Sustainable efforts at Landscaping Services include the use of Smart irrigation controllers throughout campus and drip irrigation and Low Water Emitter Irrigation Systems. Also, Landscaping Equipment is now ALL electric. In addition, mulch is used throughout campus to reduce the use of herbicides. Now, Kate will share what students are doing.

Composting Program: SB 1383 Compliance



SDSU Office of Energy
& Sustainability



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OE&S started a composting pilot program in Summer 2022 with 9 departments participating. Composting Student Assistants pick up composting every week and deliver to the Children's Center Community Garden. With the data gathered from the pilot, the goal is to take the composting program campus wide in the next year.

Zero Waste



Waste management & education

SDSU Office of Energy & Sustainability



SDSU

The Zero Waste Intern analyzes the campus waste data and works on reduction efforts. This includes verifying the bills for accuracy and inputting the data in our campus Energy Management System.

Campus Outreach & Engagement



SDSU Office of Energy
& Sustainability

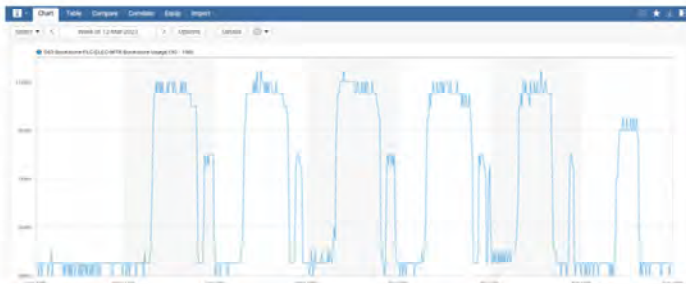


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We hold monthly events to educate students on a wide variety of sustainability topics including California native plants, proper waste sorting, zero waste initiatives, and more. Our outreach also includes sustainability walking tours of campus, a monthly newsletter, website, and social media.

Energy Data Collection & Analysis

Analyze interval data



Data entry into SkySpark



SDSU Office of Energy & Sustainability

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Energy Analyst interns analyze interval data for campus recharge accounts to identify areas for reducing energy consumption. They also enter over 200 monthly utility invoices into the campus Energy Management System. In addition, they analyze energy data for the Monthly Energy Report to the Chancellor's office.

Small-Scale Resource
Management at
SDSU – Green Office
Certification Program



SDSU | Office of Energy
& Sustainability



SDSU

Is your office green? The Green Office Certification Program looks at ways offices can be energy efficient and reduce waste. This includes procuring sustainable office products, using email over paper, printing double-sided, using reusable mugs, beverage containers and hydration stations on campus.

Green Labs



SDSU

SDSU's Green Lab program is currently being revitalized. We are working on a certification program to track sustainable goals. The overall goal of the program is to increase energy efficiency and decrease waste on campus through our labs and includes displaying "Shut the Sash" stickers.

AASHE STARS

- Association for the Advancement of Sustainability in Higher Education (AASHE)
- Sustainability Tracking Assessment Rating System (STARS)



SDSU Office of Energy & Sustainability



SDSU

Our AASHE STARS Student Assistant collaborates with various campus departments in an effort to track and update the implementation of sustainability initiatives at San Diego State. With the support and participation of the campus community, we plan to elevate SDSU's STARS ranking from Gold to Platinum in the next reporting period, October 2023.

Thank You

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Madeleine Falco, Energy Analyst

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Kate Riegel, Outreach Student Assistant

kriegel@sdsu.edu

<https://sustainable.sdsu.edu/>

<https://tinyurl.com/SustainSDSUQs>



Scan to submit
your questions.



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Associated Students

Raul Leon, A.S. Green Love Representative

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<https://as.sdsu.edu/>

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Current warming: 1.1 degrees celsius (IPCC, 2023)

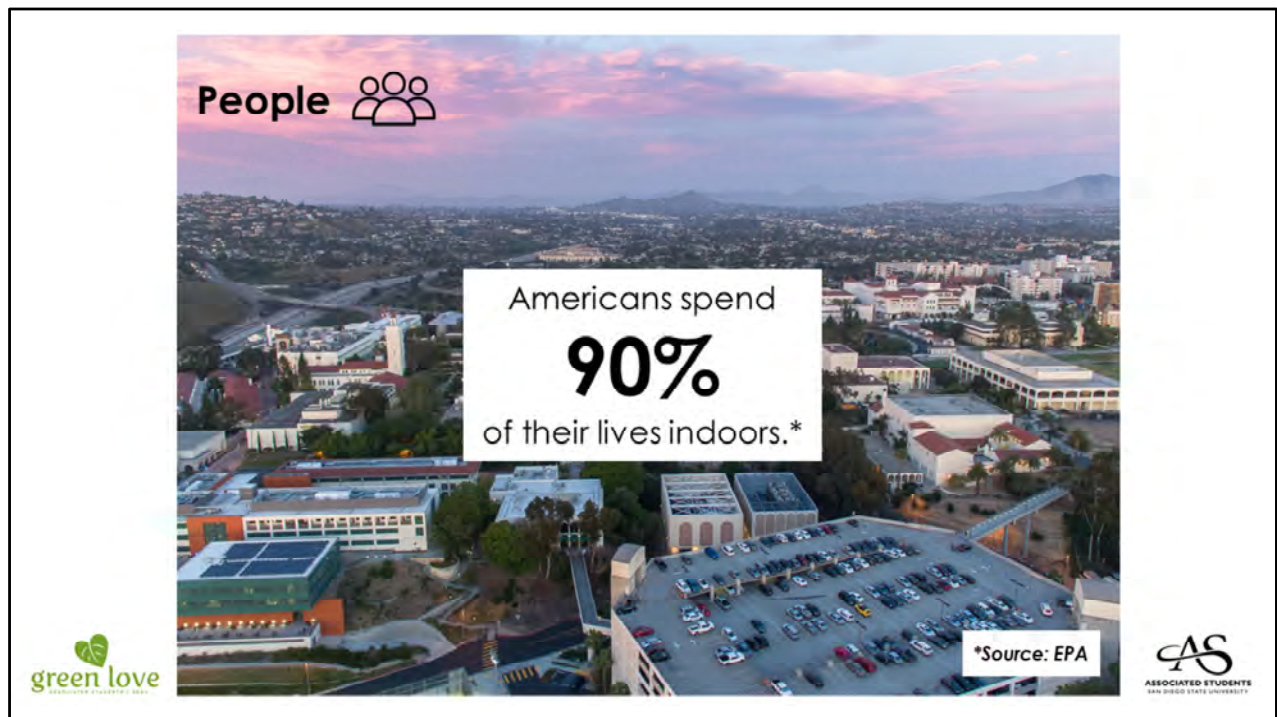
Beyond 1.5 degrees celsius = catastrophic impacts to half of the world's population



In 2009, the world's leading climate scientists formed a consensus that climate change is occurring, and it's primarily caused by humans. International research and climate models have found that if we don't prevent warming beyond 1.5 degrees Celsius, over half of our global population will be in danger.



Associated Students is passionate about mitigating our contributions to this climate crisis. Zooming in to our campus, three areas of importance are emphasized in our approach to facilities sustainability. Some of you may recognize this concept as the Triple Bottom Line. Let's take a closer look at these areas.

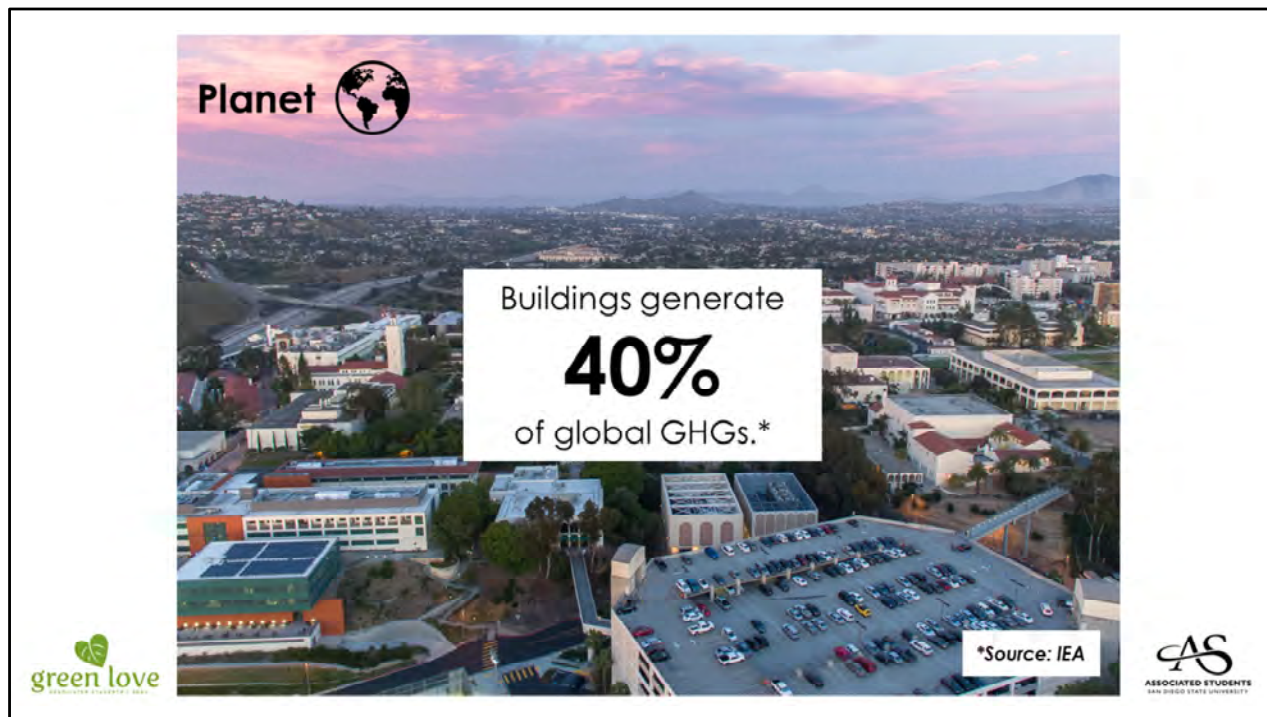


First is human wellness. Sustainability isn't just about saving the polar bears, it's also about protecting our species. Did you know we spend an average of 90% of our lives indoors? Because of this, indoor environmental quality is crucial to the wellness and success of our students.

Indoor stat sources: <https://www.epa.gov/report-environment/indoor-air-quality#:~:text=Importance%20of%20Indoor%20Air%20Quality,-%E2%80%9CIndoor%20air%20quality&text=Americans%2C%20on%20average%2C%20spend%20approximately,higher%20than%20typical%20outdoor%20concentrations.> <https://www.epa.gov/iaq-schools/how-does-indoor-air-quality-impact-student-health-and-academic-performance>

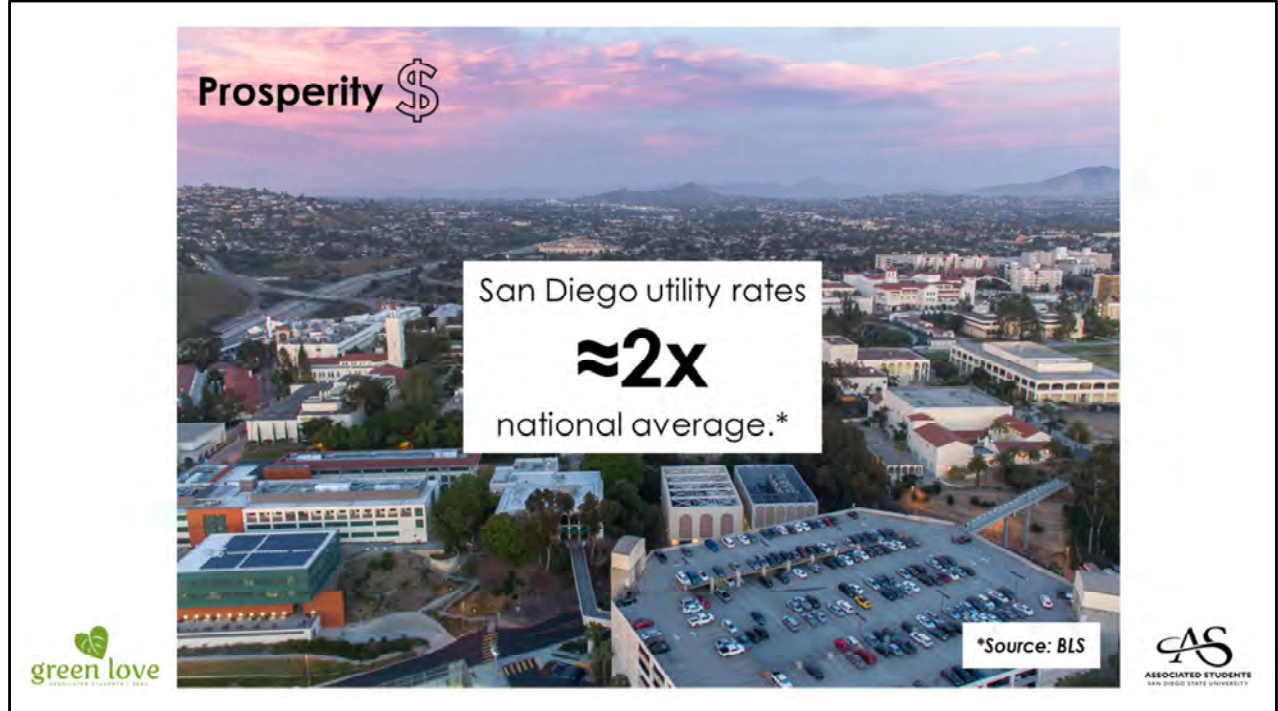
photo:

https://www.reddit.com/r/SDSU/comments/68c2g2/as_requested_high_resolution_campus_aerial/



Next, the recent exponential growth in global greenhouse gas emissions is in large part due to the combustion of fossil fuels used to heat, cool, and ventilate buildings. Prioritizing energy efficiency to reduce our greenhouse gas emissions on campus is a critical step to mitigating climate change.

GHG stat source: <https://architecture2030.org/why-the-building-sector/>



And lastly, I assume you are all aware of how costly electricity and natural gas is in San Diego. Producing renewable energy onsite with solar panels already saves Associated Students a significant amount of money every month, and we expect to save even more as utility rates continue to climb.













Utility cost sources: <https://www.energysage.com/local-data/electricity-cost/ca/san-diego-county/#:~:text=The%20average%20residential%20electricity%20rate,rate%20of%2023%20%C2%A2%2FkWh.>
https://www.bls.gov/regions/midwest/data/averageenergyprices_selectedareas_table.htm



So how do our students advance this Triple Bottom Line? This is challenging because sustainability is subjective. It needs to be defined and then benchmarked through established metrics. The other challenge is that our students are only here for a few years at a time, so they need continuity to ensure their progress isn't lost when they graduate.



Our students decided they needed a standard to follow, and they chose LEED. LEED is the most widely used green building rating system in the world, and it's excellent for its research-based sustainability strategies. LEED is a rigorous third-party certification, similar to the "Organic" label given to food products.

<p>Aztec Recreation Center</p>			<p>Viejas Arena</p>
<p><i>LEED Platinum for New Construction</i></p>			<p><i>LEED Gold for Operations and Maintenance</i></p>
			
<p>SDSU Children's Center</p>			<p>Mission Bay Aquatic Center</p>
<p><i>LEED Gold for Operations and Maintenance</i></p>			<p><i>LEED Platinum for Operations and Maintenance</i></p>
			
<p>Aztec Aquaplex</p>			<p>Aztec Student Union</p>
<p><i>LEED Gold for Operations and Maintenance</i></p>			<p><i>LEED Platinum for New Construction, LEED Platinum for Operations and Maintenance</i></p>
			

About a decade ago, A.S. set a goal to certify all of our facilities LEED Gold at a minimum to minimize our environmental impact. Thanks to hard work and student support, we have reached that goal. We are now working on re-certifying our buildings in a more advanced version of LEED. In this new version, we must be even more sustainable.



Heat Recovery Chiller

- On the roof of the ARC
- Powered by electricity
- Free heating of water for showers



Water Storage Tanks

- ARC courtyard (underground)
- 200,000 gallons
- Stores rainwater for flushing toilets



Composting

- Reduces methane emissions
- Creates fertile soil
- Saves on landfill fees

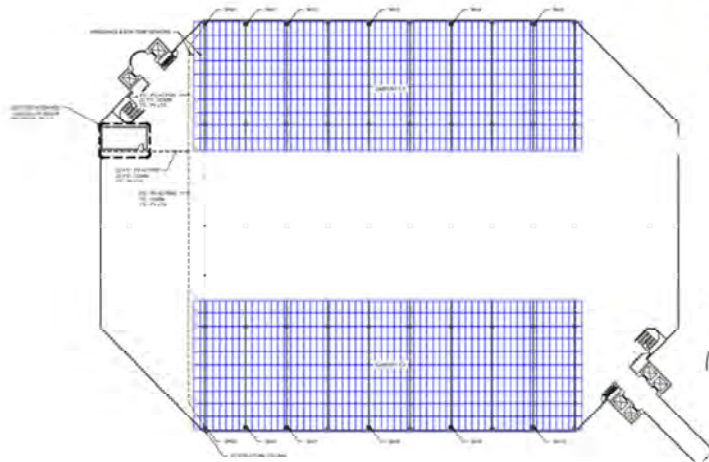


To do so we designed the new Aztec Recreation Center to be completely electric-powered, which means it doesn't burn any fossil fuels. It also has 200,000 gallons of rainwater storage, which is used to our flush toilets. Lastly, we reduce methane emissions by composting food waste instead of sending it to the landfill.

Summer '23: P12 Solar Project



(Average home solar system <10kW)



P12 Project = 648kW
(1,000kW = 1MW)



We are also working on a new solar project to be installed on Parking Structure 12 this summer. It will be a 648kW system that will offset electricity usage at the ARC and Viejas Arena. For an idea of how large that is, a typical single family home solar system is less than 10kW.



Need for Student Input:

- ▶ Direct Impact
- ▶ Increase in Student Interest



As Charlotte mentioned, as time passes by we will continue to see an increase in climate change impacts.

As students we acknowledge that our future is being impacted by our personal actions and that University decisions also directly impact us, influencing students to spark an interest in working towards a sustainable future.



What is Green Love?

Associated Students Sustainability Commission



And this is exactly what Green Love is, a safe space for students to lead sustainable efforts under Associated students. We promote all corners of sustainability within our seven subcommittees; Environmental Justice, Zero Waste, gardening, transportation, events, marketing, and outreach. Good afternoon my name is Raul Leon and this is Green Love.

Our Mission and Vision

Green Love and Beyond

Mission

Promote knowledge and programs to adapt sustainability into our daily routines

Vision

Assist SDSU to become a model university in sustainability; Include historically marginalized voices and stories into the conversation



As Green Love, our mission is to promote knowledge and programs to adapt sustainable habits to our daily routines. While making our vision a reality, which is to assist SDSU to become a model University in sustainability and include marginalized stories and voices into the conversation.

Our Milestones

Green Love Throughout the Years.



Throughout the past decade our students have accomplished passing various Climate Action Plans, resolutions, and referendums towards the university's sustainable development. Including, adding students in the development process of the snapdragon stadium and passing a referendum to build a double platinum recreation facility that we all know and love "the ARC".

Commissioner and Rep.



'22-'23 Goals:

Outreach to more students
Create connections in the
sustainability field

Committees:

A.S. Campus Life Council, A.S.
GreenFest, President's
Sustainability Advisory Committee

**Lily Eckoff and
Raul Leon**

This is Lily the Green Love Commissioner and as commissioner and rep our goals after the pandemic was to focus on outreach and to continue creating opportunities for our students to grow in the Environmental Field.

We stay true to our mission by sitting on important boards such as the Presidents Sustainable Advisory Committee, Campus Life Council, and GreenFest.

We are Green Love



Emmalyn Norman
Zero Waste Co-Chair



Jacey Domingsil
Environmental Justice Co-Chair



Lilly Riha
Events Co-Chair



Zoë de Buhr
Zero Waste Co-Chair



Brian Sanchez
Environmental Justice Co-Chair



Talia Cole
Marketing Co-Chair



Joseph Staples
Outreach Chair



Olivia Volponi
Gardening Co-Chair



Eliana Reyes
Marketing Co-Chair



Wesley Cooksy
Transportation Chair



Matthew Baumann
Gardening Co-Chair



Charlotte Roberts
Advisor: Sustainability Coordinator



Anais Hval
Secretary



Soraya Campbell
Events Co-Chair



Glen Brandenburg
Director of Facilities & Sustainability

This is Green Love! None of our events could not be possible without our amazing team of strong student leaders and hard-working University staff that supports the student's vision for our university long term sustainability goals. I wanted to take the time to Thank you for all your hard work.



One of the many events we plan is our Green Lunch Bag Series, which is a series of speakers, panels, and films that connect students to local sustainability efforts.

This year we featured many guest including SD Climate Action Plan, Victor Ochoa (Painter of the Chicano Park Murals, and our Keynote Speaker Lisa Bronner owner of Dr. Bronners Soaps.



Zero Waste Events

- 1) Analyze all materials (Shirts, food packaging, activity supplies)
- 2) Consult with Green Love Advisor and other sustainability staff
- 3) Post signage on waste bins
- 4) Train volunteer "trash talkers"



Our biggest initiative is our "Zero Waste Events". From analyzing what materials are unnecessary waste, to consulting with GreenLove advisors on alternatives, to training students to lead other students on where waste should go, as a commission we are dedicated to ensure that all our events (Including this one) are zero waste events.

(So dont forget to put your trash on compost on the way out)

Green Love Shirts:

A Resource-Efficient Initiative



To make one conventional t shirt:

659 Gallons of Water

Green Love Thrifted/Secondhand Shirts:

58

Organic Cotton Shirts

60

Gallons of water saved:

38,222



This year we continued to extend our zero waste efforts with our new Green Love shirts. We decided to thrift or repurpose shirts instead of buying new.

This is because you need six hundred fifty-nine gallons of water to produce one shirt. We thrifted about 58 pieces of clothing saving thirty-eight thousand two hundred and twenty-two gallons of water.



Lastly, our sustainability center is coming soon, it is a dedicated space for all things Green Love with the purpose to connect students to sustainable resources and organizations.

It is on the first floor of the Student Union and we can't wait to experience it!

With that being said, I would like to thank you all for your time. I am Raul Leon and this is Green Love.

Thank You

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<https://tinyurl.com/SustainSDSUQs>



Scan to submit
your questions.



SDSU

Office of Housing Administration

Hannah Bowen,
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<https://housing.sdsu.edu/about/sustainability>

<https://tinyurl.com/SustainSDSUQs>



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SDSU Office of Housing Administration
Residential Education Office
& Housing Facilities Services



SDSU

Sustainability Initiatives

- Facilities & Operations
- Education & Engagement
- New Program



SDSU

Today I am excited to share the sustainability initiatives within SDSU Housing. This includes practices within our facilities and operations, education and engagement with residents and upcoming programs.

Housing Enterprise



24 Buildings



8,000 Residents

 SDSU

SDSU Housing is an enterprise and includes the Office of Housing Administration, Residential Education, and Housing Facilities Services and many campus partners. Our offices work together to manage 24 residential buildings made up over 8,000 residents.

LEED Certified Buildings



Tenochca Low Rise (2019)
Tula Community Center (2019)
South Campus Plaza - North (2017)
South Campus Plaza - South (2017)
Zura (2016)



Huāxyacac (2020)

SDSU

In our Residential Facilities, we have 5 buildings with a Silver Certification and our newest Residence Hall Huaxyacac is our first community to achieve a Gold certification.

Bike Barns & Digital Displays

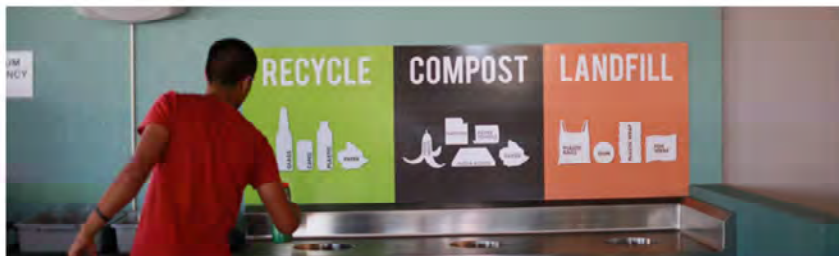


SDSU

Across our residential communities, we have 5 covered and secured bicycle barns that promote active transportation.

45 digital displays, to reduce paper waste.

Hydration Stations & Waste



75 hydration stations which reduce plastic bottle waste.

2700 recycle bin in every room and our campus waste guidelines to share what is appropriate to place in the various waste bins.

Move-In Recycling



98%

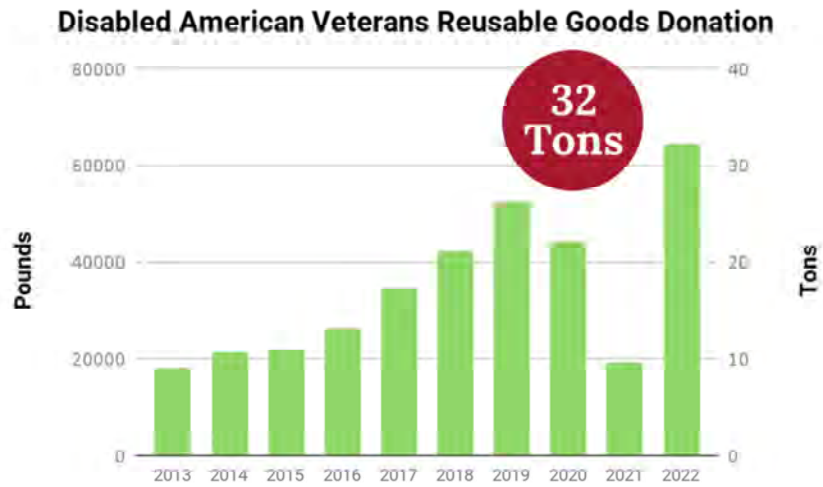
**Recyclable waste diverted
from landfill in 2022**



SDSU

Fall move-in is one of our largest recycling events and we have successfully been able to recycle 98% of all the trash (cardboard boxes, packing materials, plastic film) and keep it out of the landfill in partnership with our waste hauler EDCO.

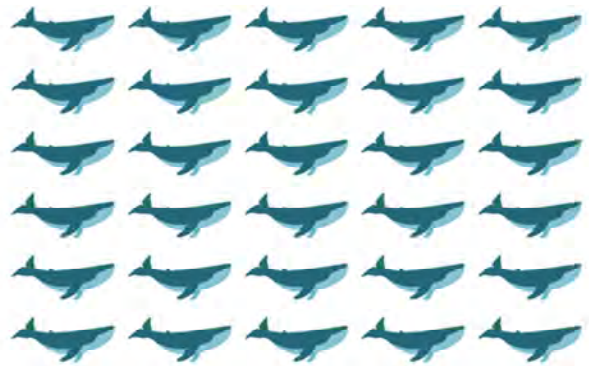
Move-out Donations



During move-out we launch our give it up program where residents can donate any items to the local Disabled American Veterans organization. Last year we collected **32 tons** of goods and clothing.



=

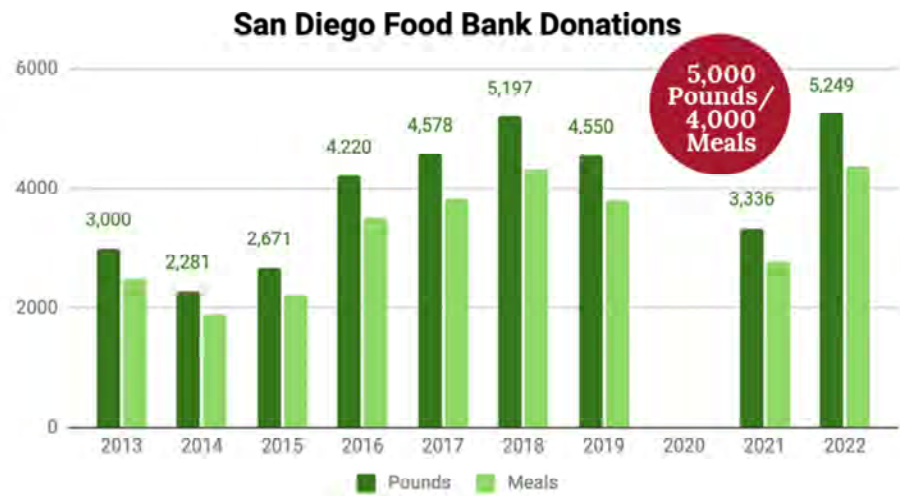


32 Tons = 64,500 Pounds

**30 Baby
Humpback Whales**

Let's put this into perspective. That's equivalent to 64,500 pounds or 30 baby humpback whales. Unbelievable!!

Move-out Donations



In addition to collecting goods and clothing, we also partner with the San Diego Food Bank for food donations and last year our residents donated over 5,000 pounds of food which equates to over 4,000 meals.



To put that into perspective, that 4,000 meals could feed half of our residential community, a third of viejas arena, and an 8th of snapdragon stadium.

Furniture Reuse Program



2,900 Items Repurposed



We recently refreshed the furniture throughout our residential communities. Rather than throwing out the old furniture, we were able to donate 2,900 items including beds, desks, and dressers to 9 different charities, and some went as far as Africa.

Move-In Guides



FOR THE ENVIROMENT

- Power strip
- Reusable water bottle & mug
- Reusable dishes, silverware & straw
- Reusable shopping bags
- Small plant



As part of our education and engagement efforts for our residents, we provide a move-in checklist includes environmentally friendly must haves. In our Guide to Community living where we outline how to successfully live on campus with others, we include tips for green living.

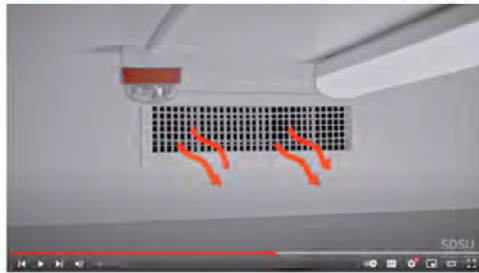
Sustainability Stickers



SDSU

We created stickers that help remind students to turn of the light when they leave the room and a sticker on the window to remind students to close the window with the AC or heat is running.

Thermostat Education



To provide some additional education on heating and AC operations we created a youtube video that educates students how to properly set and use the thermostat to ensure heating and cooling efficiency while balancing their comfort.

Surfing and Sustainability Learning Community



SDSU

One of our 22 living & learning communities is “Surfing and Sustainability” community, which is focused on residents who have a love for surfing and a desire for sustainable efforts and we provide surfboard lockers outside of Zura hall.

Social Media Campaigns



@SDSU_Housing



We are actively promoting sustainability education on our social media channels. We currently have about 5,000 followers. Here is an example of our campaigns for water conservation, zero waste and green living tips with many more in the works.

Organics Recycling Pilot



SIGN- UP TO COMPOST AT VILLA ALVARADO!

What is Composting?
Composting is the process of breaking down organic waste such as food scraps into nutrient rich soil that can be used to nourish plants. By composting, we can divert a significant amount of waste from landfills to reduce greenhouse gas emissions.

Benefits of Composting:
Benefits of composting include, but are not limited to:
• Reducing the amount of waste that is sent to landfills
• Reducing greenhouse gas emissions
• Providing a natural source of nutrients for plants and soils

How to Participate:
Students who would like to participate in the program will be provided with a free compost bin and the necessary guidelines for composting. Students will collect their compost in the bin, and then empty it at the Villa Alvarado compost container as needed.

Volunteer to Compost Today!
If you would like to participate in the composting program at Villa Alvarado, scan this QR code to complete the Volunteer Form by Friday, April 7. Only one submission is required per apartment unit.

We hope that you will join this program to take an active role in reducing waste and promoting sustainable living on campus!

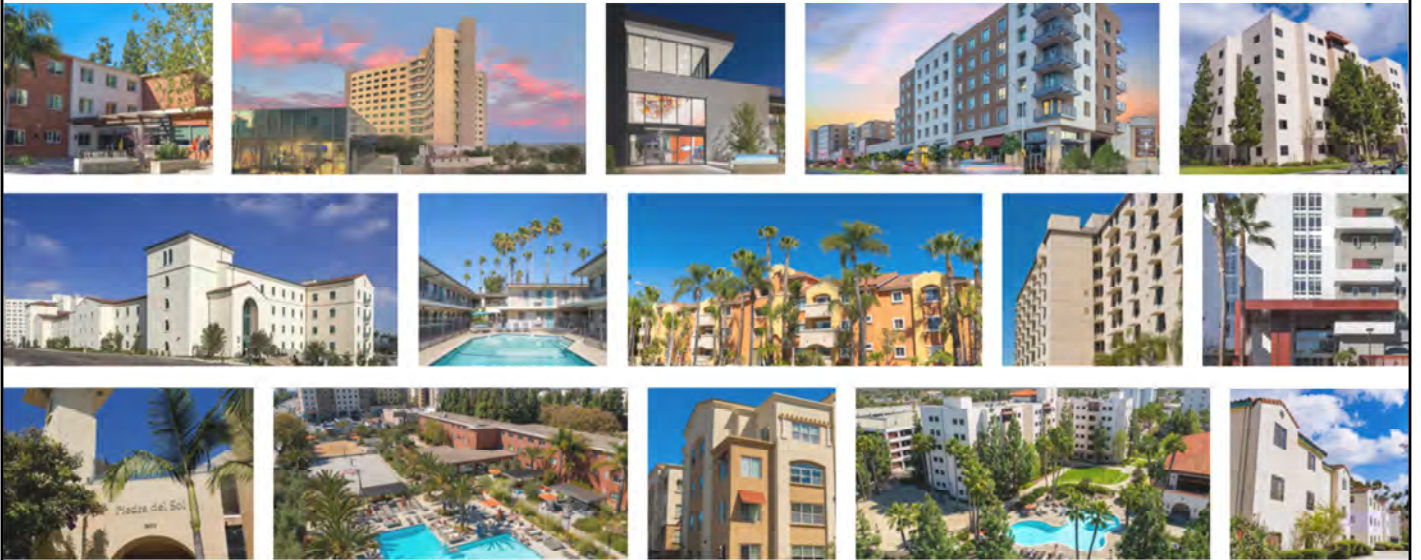
RHA



In partnership with the Residence Hall Association we are piloting a composting program in Villa Alvarado this month. Residents can volunteer to practice composting, and will receive a free kitchen caddy with instructions and access to an organics container.

NEW PROGRAM

Organics Recycling Pilot



SDSU

This fall we are excited to roll out composting to all residential communities based on the feedback from the pilot program. This is something that many residents are already doing at home, and we want them to be able to continue to practice this sustainable habit while living on campus.

Thank You



@SDSU_Housing



Sustainability
Webpage

Thank you for your time today, and we look forward to sharing additional update in the future regarding the sustainable practices within our residential communities. To learn more about our sustainability efforts please visit our website and Instagram.

Thank You

Hannah Bowen,
Associate Director for Communications
& Strategic Initiatives

hbowen@sdsu.edu

<https://housing.sdsu.edu/about/sustainability>

<https://tinyurl.com/SustainSDSUQs>



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SDSU Office of Housing Administration
Residential Education Office
& Housing Facilities Services



SDSU

Transportation

Silvia Croft, Transportation Analyst

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[https://bfa.sdsu.edu/campus/parkingtrans/
commuting](https://bfa.sdsu.edu/campus/parkingtrans/commuting)

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SDSU Parking &
Transportation Services



SDSU



Initiatives

- ❖ Accommodate parking demands on campus in a sustainable way
- ❖ Encourage mode-shifts in transportation, in and around campus
- ❖ Decrease the number of drive-alone rates


SDSU

Lets talk about transportation!

Transportation here is at SDSU has 3 major initiatives which are to:

- accommodate parking demands on campus in a sustainable way
- Encourage mode-shifts in transportation, in and around campus
- And decrease the number of drive-alone rates

One of the ways that we track all of these is through the transportation survey



Transportation Survey

- Data used to determine primary modes of transportation, transportation mode shifts, program progress and development
- Transportation Survey – happening now

SDSU

Data collected from the survey is used to determine primary modes of transportation, transportation mode shifts, program progress and development

SDSU's transportation survey is happening now and if you would like to participate and provide some feedback please check your SDSU email address as everyone should have received the link.



Our first major initiative is to:

- Accommodate parking demands on campus in a sustainable way
- The two programs that aid this initiative are:
 - Electric vehicle charging stations and
 - First year on campus resident parking policy
- Our electric vehicle charging stations are located throughout campus.

Electric Vehicle Charging Stations

- Currently have 34 – Level 2 EV chargers
- In process of adding:
 - 10 – Level 2 ports to Parking Lot 8 & 7
 - 2 fast charger ports in South Campus Plaza
 - 1 fast charger in 2A



Accommodating parking demands on campus in a sustainable way. **SDSU**

Level 2 charging stations can be found in parking lots 2A, 2C, 3, 12, 7... just to name a few

- We are in the process of adding additional EV stations here on campus.
- Including but not limited to:
 - 10 level 2 charging ports between P8&7
 - 2 fast chargers ports in South Campus Plaza
 - 1 fast charger in 2A

Electric Vehicle Charging Stations

- Forthcoming EV charging ports
 - 52 at SDSU Main Campus
 - 8 at SDSU Mission Valley
 - 28 at SDSU Imperial Valley Campuses
 - 14 at Brawley
 - 14 at Calexico




Encourage mode-shifts in transportation, in and around campus **SDSU**

Additionally, we will be adding

- 8 charging ports to SDSU Mission Valley
- 28 charging ports at the SDSU Imperial Valley Campuses
 - 14 at Brawley
 - 14 at Calexico
- And SDSU main campus will add a total of 52 charging ports

First Year Parking Policy

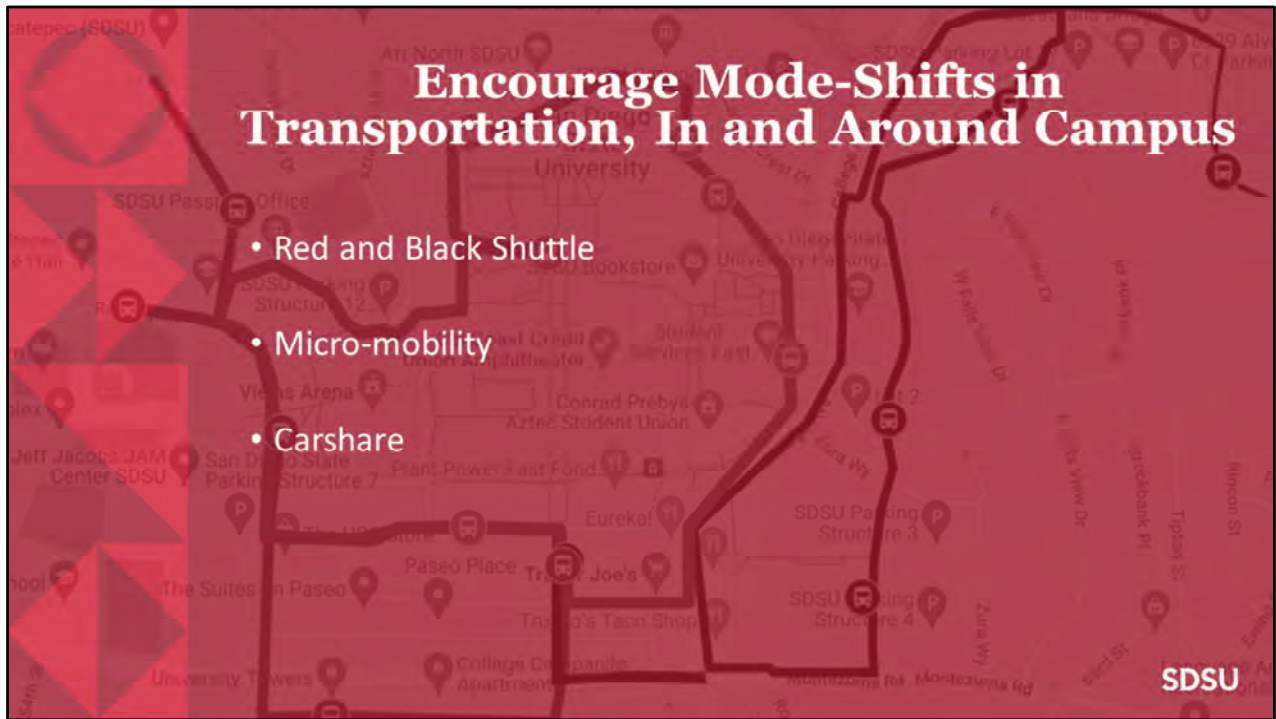
- Implemented to reduce the carbon footprint on campus
- Encourage the use of alternative modes of transportation: bicycling, micro-mobility, carshare, MTS
- 5,000 first year students on campus = approximately 2 ½ P12 structures



SDSU

The 1st yr. parking policy was implemented to reduce the carbon footprint on campus by restricting 1st yr. students to bring their vehicles


- This year we had a total of 5000 first year students living on campus.
- If each of these students had a vehicle and if you are familiar with Parking structure 12
- we would need an additional 2 ½ P12 parking structures to accommodate all of these students



Now those are a lot of cars and a lot of parking structures...

This is where we begin our second initiative:

- Encourage mode shifts in transportation, in and around campus
- We do this by offering programs such as:
 - the red and black shuttle
 - Micro mobility
 - And carshare



Red and Black Shuttle

- Red, Black, and Green routes operate Monday – Friday, 6 – 10 p.m.
- Encourage students to use the shuttle instead of driving their vehicle from one side of campus to the other
- Stop and route locations are designed to reach as many students as possible and provide transportation

Encourage mode-shifts in transportation, in and around campus **SDSU**

The Red and Black Shuttle is an intra-campus shuttle

- Operates M-F, 6-10pm
- Has 3 routes
 - Red – provides access to the west side of campus
 - Black – to the east side
 - Green – inner part of campus
- We encourage students to use the shuttle in place of driving their personal vehicles
 - From one side of campus to the other



BIRD Micro-mobility

- BIRD Partnership established in 2019
- Incentives program
- Geo-fencing
 - Designated parking locations
 - No-ride zones
 - No stop zones
 - Slow-ride zones



Encourage mode-shifts in transportation, in and around campus **SDSU**

The second program is our partnership with BIRD micro-mobility

Bird provides e-scooters and e-bikes for our students to travel

- Not only within campus but also off campus
- We offer incentive programs such as \$1 off of your ride for parking in a designated location
- We have been able to work directly with BIRD to ensure campus safety

BIRD Micro-mobility

Nest locations chosen for optimal usage and access

- Total rides for 2022/2023 academic year:

35,319 rides = 708 miles



Encourage mode-shifts in transportation, in and around campus **SDSU**

There are designated parking locations called nests on campus

- Students must park their devices in these nests in order end the rides
- Within the 2022/23 academic year we had a total of 35,319 rides
- Equivalent to 708 miles
- Rides ranged anywhere from .3 miles to 9 miles ...impressive



Zipcar

Increased vehicles on campus from 6 to 14 vehicles due to success of the program

2022/2023 academic year


- ❖ 6277 reservations
- ❖ 184,807 miles




Encourage mode-shifts in transportation, in and around campus **SDSU**

The third program helping us to encourage mode shifts on campus is Zipcar.

- Zipcar is a carsharing company that allows the campus community to rent vehicles on an hourly or daily basis
- The program has been so successful that
- We increased from 6 to 14 vehicles within the last 6 months

 Zipcar

Vehicles are strategically placed throughout campus

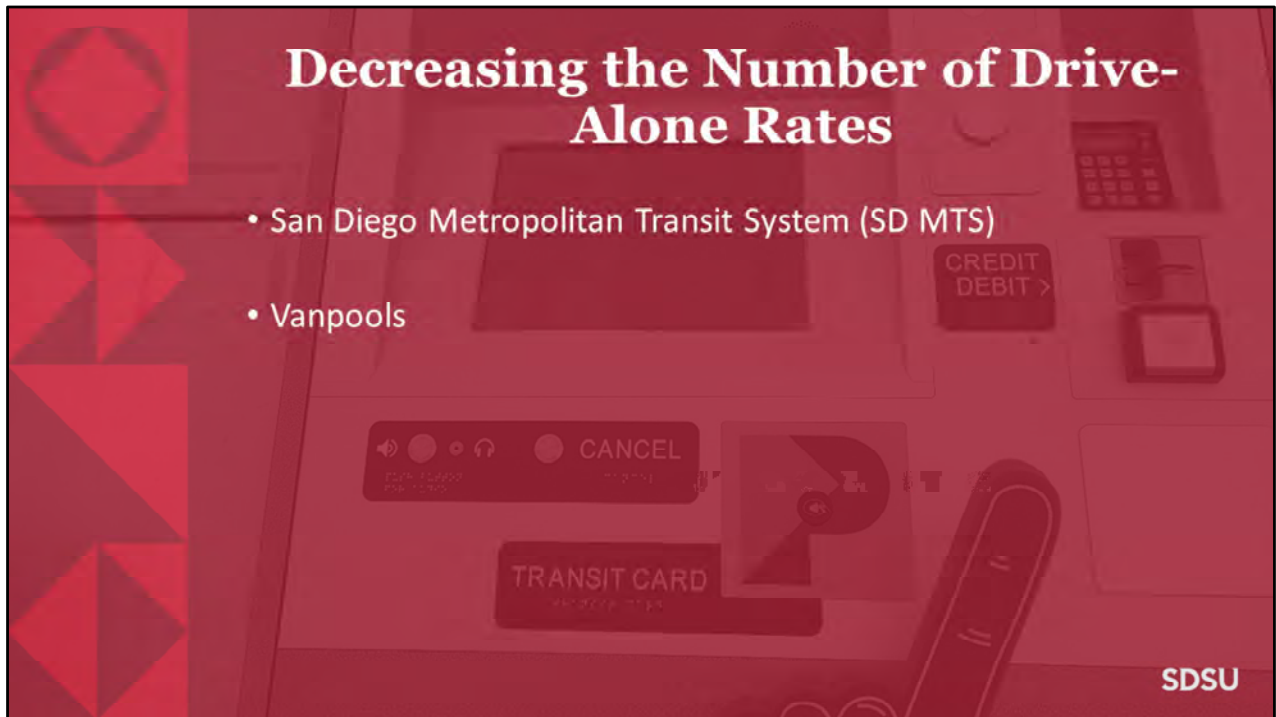


Encourage mode-shifts in transportation, in and around campus **SDSU**

Within the last academic year, we have approximately 62-hundred reservations
- And about 184 thousand miles driven

Vehicles are strategically placed throughout campus in parking lots:

- P2A
 - P5
 - P7
 - And P8
- As seen on the map above



Decreasing the Number of Drive- Alone Rates

- San Diego Metropolitan Transit System (SD MTS)
- Vanpools

The final initiative is to decrease the number of drive alone rates on campus

The programs helping this initiative are:

- Our partnership with San Diego Metropolitan System (or SD MTS)
- And our future Vanpool program

- Our partnership with MTS has been established for many years and helps us offer students discounted semester long transit passes

SD MTS



- Faculty and Staff Payroll Deduction Program
- Student monthly discounted passes – offered year-round as of 2022

Decreasing the number of drive-alone rates. **SDSU**

More recently we have partnered with them to offer:

- faculty and staff passes through payroll deduction
 - This is a pretax benefit and employees do not have to worry about adding the pass themselves as they are added automatically
- Secondly, we are offering student monthly discounted passes year-round instead of only during the academic year



Vanpools

- Contract currently under review
- Faculty and Staff will be able to enroll through payroll deduction
- Program will be subsidized
- Reduce vehicle miles traveled

Decreasing the number of drive-alone rates. **SDSU**

The final program which is currently being developed is:

- Our vanpool program
- Faculty and staff will be able to enroll as a pre-tax benefit
- The program will be subsidized and will help individuals reduce vehicle miles traveled

- That concludes my presentation, thank you and please free to submit any questions about these program.

Thank You

Silvia Croft, Transportation Analyst
transportation@sdsu.edu

[https://bfa.sdsu.edu/campus/parkingtrans/
commuting](https://bfa.sdsu.edu/campus/parkingtrans/commuting)

[https://tinyurl.com/
SustainSDSUQs](https://tinyurl.com/SustainSDSUQs)



Scan to submit
your questions.



SDSU Parking &
Transportation Services



SDSU

SDSU Dining

Paul Melchior, Director of Dining Services

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<https://www.eatatsdsu.com/Nutrition-Sustainability/Sustainability>



<https://tinyurl.com/SustainSDSUQs>



Scan to submit
your questions.



SDSU



This is a story of how SDSU Dining incorporates Campus Grown and waste diversion compost in a closed circle. We have aeroponic and dirt gardens on campus managed by SDSU Dining Gardeners.



SDSU Dining gardeners plant organic seedlings in our three seedling tables. These tables are where it all starts by automatically flooding and draining twice per day, seven days per week. The seeds are started in rock wool until they are big enough to move to the aeroponic towers.



Once the seedlings are big enough, they are transferred to one of the 55 towers we have on campus. Each tower holds 44 plants. The towers pump nutrient rich water up through the center to the top for five minutes every fifteen minutes to keep the roots damp and fed.



The growth process from seedling to harvest with full sun takes between three and four weeks. We stagger plant the towers so we have ongoing weekly harvests instead of one large harvest every four weeks. Chefs work with the gardeners to determine what to plant and when.



We have two sets of tower gardens. One at The Garden Restaurant on the East side of campus, and one in the Faculty-Staff Club courtyard. Each set of the towers are linked to a master reservoir of nutrient dosed water for automation. The process of growing in aeroponic towers recycles the water, so a head of lettuce will grow to full maturity using only 5% of the amount of water it would have used if grown in dirt.



When the plant reaches maturity, it is harvested, cleaned and sent to the kitchens to be served. The roots remain on the plant until just before it is served, keeping all the nutritional benefits of the fresh produce intact.



In addition to the aeroponic towers, we have two dirt gardens by the Faculty-Staff Club. We grow root vegetables and items that grow more abundantly in dirt. Examples are tomatoes, beets, radishes, carrots, kale, corn, cucumbers, squash, etc.



The Gardener measures each harvest and notifies all the campus chefs of what is available for the day. The chefs claim the items first come, first serve to use in their restaurant or catering. There is weekly communication between the gardeners and the chefs so they can plan ahead. Produce is transferred to each location at the same cost as if they bought organic from our produce distributor.



Campus Grown is served regularly at the Faculty-Staff Club, the Garden Restaurant, Catering and UTK. We label each item as campus grown when we serve it. You just can't beat the fresh taste and nutrient richness of eating produce harvested on campus the same day.



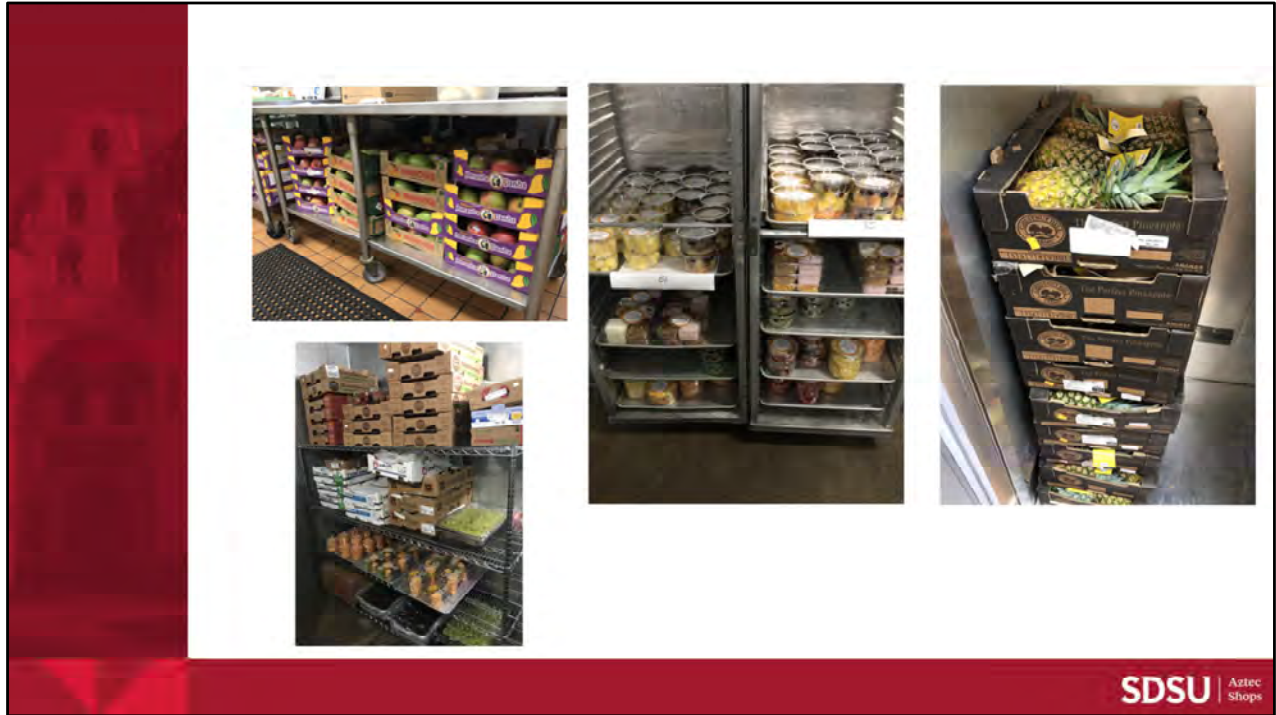
There is another health benefit of growing beautiful lettuce in aeroponic towers. The aeroponic towers at The Faculty-Staff Club offer a peaceful waterfall sound as diners enjoy their lunch on the patio. This soothing sounds can calm even the most frazzled nerves from a hectic day.



We use a scientific approach by documenting when the seeds were started, to seedling, to harvest day, to harvest volume so the process includes ongoing learning through experimentation. We can't possibly grow enough produce to fully supply the campus demand, but we serve all we grow. The overall program of Campus Grown has a slight net financial loss, but the learning outcomes and awesomely fresh produce are well worth the investment.



Ironically, the most productive growing season is over the summer when we have the fewest amount of campus activity. To maximize the summer growing potential, we grow basil in most of the towers. Basil grows quickly and harvesting is fairly easy. We harvest the basil and process it into vegan pesto by adding olive oil and pine nuts. The pesto is then frozen to use throughout the year. The chefs simply add cheese if it doesn't need to be vegan just before serving it.



SDSU Dining purchases thousands of pounds of whole fresh raw ingredients weekly in serving 20 to 30 thousands meals per day on campus. We process the ingredients which results in by product waste of organic material. Since 2011, SDSU Dining has sent the organic waste to the Miramar Composting Facility instead of sending it to the landfill. Over the years, we have diverted over 5,000 tons of compostable organic material from the landfill.



Pre consumer waste diversion consists of us collecting organic waste in the back kitchens during the preparation phases of what we serve. We have 100% control of chain of custody of the products so we can safely collect only the waste byproducts of the process. This mainly happens in all the kitchens and restaurants on campus where the culinary staff is in control of the products.



Post-Consumer waste diversion is trickier. The only places on campus where we manage post-consumer waste diversion is at UTK, the Garden Restaurant, FSC, and the Catering kitchen. We actually scrape the plates and collect all items left either on plates or in pans in the case of catering. General public do not yet consistently adhere to compostable guidelines and we do not have the staff to comb through all the consumer trash.



SDSU Drivers round up all the green bins across campus daily and deposit the organic waste into the central dumpster behind Cuicacalli. Our waste hauler brings the dumpster to the Miramar composting facility weekly as needed. A side benefit of diverting solid waste is the fees are cut in half when diverting tons to be composted.



Our diverted waste gets mixed in with green materials and are aggressively managed to fully compost in as little as six weeks. SDSU Dining can only manage pre consumer waste as Miramar has a zero tolerance for contamination of non-compostable material in their process. If a load is contaminated in the slightest way, a piece of plastic, a towel, etc. the entire load is rejected and we would be subject to a fine. If a facility has multiple contaminated loads, they could be prohibited from participating in the program.



Campus gets compost from Miramar for the flowers beds and gardens on campus. If you are a San Diego resident, compost is free at Miramar. Compost adds nutrients to the under soil, and adds an evaporation barrier to help keep moisture in the dirt when watering. These benefits ultimately help plants grow quicker, stronger and with better nutritional value.



In closing, our organic waste diversion to composting at Miramar turns into valuable compost that SDSU uses on campus to help with our Campus Grown initiative which not only provides ultimate fresh highly nutritive produce for our campus community, it provides a scientific based learning opportunity for all involved. Then there is the peaceful waterfall sound affects as you dine on the patio.



This is a story of how SDSU Dining incorporates Campus Grown and waste diversion compost in a closed circle. We have aeroponic and dirt gardens on campus managed by SDSU Dining Gardeners.

Thank You

Paul Melchior, Director of Dining Services

sdsudining@sdsu.edu

<https://www.eatatsdsu.com/Nutrition-Sustainability/Sustainability>



<https://tinyurl.com/SustainSDSUQs>



Scan to submit
your questions.



Research and Academics

Jessica Barlow, Department of Geography
Director of The Sage Project
Executive Director of The Center for
Regional Sustainability
jbarlow@sdsu.edu

<https://tinyurl.com/SustainSDSUQs>



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your questions.

<http://bit.ly/Sust-SDSU-Research>



SDSU University Library



SDSU

Sustainability in Research and Academics

transdisciplinary approaches to
environmental + social + economic sustainability (a
sample!)



SDSU

My name is Jessica Barlow and I am honored to be presenting just a sampling of the groundbreaking, transdisciplinary, community-engaged programs, initiatives, and centers in research and academics at SDSU that demonstrate the important role that we play in prioritizing sustainability.

I'll start first with curricular programs, specifically the Sustainability Major and Minor.

Sustainability Major / Minor



- Focus on enabling students to explore the interacting cultural, sociopolitical, and biophysical aspects of complex environmental problems and devise practical solutions to these problems
- Interdisciplinary program, incorporating courses from multiple colleges and departments
- Flexible program of study to meet students' individual interests and needs
- Required internship to obtain practical experience in the field of sustainability

SDSU

<https://sustainability.sdsu.edu>

- Allows students to explore the interacting cultural, sociopolitical, and biophysical aspects of complex environmental problems and devise practical solutions to them
- It's interdisciplinary, incorporating courses from multiple colleges and departments
- It's flexible by design to meet students' individual interests



Food Studies Minor

- Curriculum focused on understanding the significance of food in society, including role in sustainability
- Flexible and interdisciplinary program
- Complements many majors
- Community-engaged and solution-oriented high-impact learning experiences

Contact/information

Pascale Joassart-Marcelli
pmarcell@sdsu.edu



<https://cal.sdsu.edu/programs/food>

- The Food Studies Minor is focused on understanding the significance of food in society, including role in sustainability
- Flexible and interdisciplinary program
- Complements many majors
- Community-engaged and solution-oriented high-impact learning experiences

Environmental Science Major



- The Environmental Science major has grown considerably in the last 10 years.
- Because our students recognize that critical global systems are threatened and need the dynamic assistance of our younger generation, and because
- more and more faculty are engaged in critical environmental issues, using strong computational modeling and experimental design.

The Sage Project in the Center for Regional Sustainability

Improving quality of life in our region through community-based projects, in partnership with local governments and nonprofit organizations



THE SAGE PROJECT
SAGE IMPACT
SINCE 2013



168
ASSISTANT/
INTERNSHIPS

221
CLASSES

36
DISCIPLINES

83
PROJECTS

300,000+
HOURS

87
FACULTY
MEMBERS

SDSU

<https://sage.sdsu.edu>

- The Sage Project partners with local communities to match their high-priority, sustainability-related projects with SDSU faculty and their courses.
- Since 2013, over 5000 students and faculty from 36 different disciplines have dedicated over 300K hours of effort to collaborate on community-identified projects

Center for Regional Sustainability (CRS)



Brownfields Project

Funded by the US EPA and the California DTSC to conduct a community-wide brownfields assessment in National City, CA, as well as a statewide brownfields inventory



Tijuana's Historical Archives

Funded by the UCLA Modern Endangered Archives Program grant to preserve and modernize the City of Tijuana's culture-historical archives

SDSU

<https://crs.sdsu.edu>

- Sage is housed in the Center for Regional Sustainability. Other projects in CRS include the
- Brownfields Project, a community-wide brownfields assessment in National City, CA, and
- Historical Archives Project to work with the City of Tijuana to preserve and modernize Tijuana's important archives.

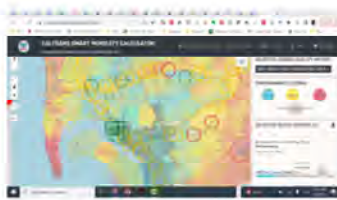
Action Institute for Sustainability, Livability, & Equity (AISLE)

Dr. Bruce Appleyard (SPA)
Director of AISLE and Active Transportation Research (ATR)

\$10 Million
Federally funded
Center for
Pedestrian and
Bicyclist Safety
(CPBS)



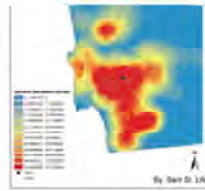
The Smart Mobility
Calculator for
Caltrans &
California's
Climate Action
Initiatives



Sustainable
Paradise Regional
Visioning Initiative



SDSU Commuter
Survey for the
SDSU Climate
Action Plan



SDSU

<https://spa.sdsu.edu/research/institute/active-transportation-research>

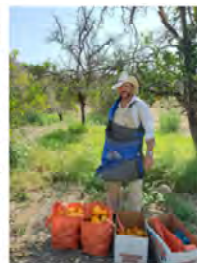
Bruce Appleyard is the Director of the Action Initiative for Sustainability, Livability, and Equity (AISLE). He is SDSU's Associate Director of the new federally funded Center for Pedestrian and Bicyclist Safety (CPBS). The first-ever USDOT funded University Transportation Center dedicated solely to pedestrian and bicyclist safety.



The Metabolism of Cities Living Lab, directed by Gabriela Fernandez, is housed under the Center for Human Dynamics in the Mobile Age, and is pushing to localize the UN Sustainable Development Goals in the region, and around the world. Check out their fantastic exhibit at the library.

Field Stations Program

Mission: To manage land for research, education and the preservation of native habitat and biodiversity



- Research, classes and outreach activities
- Pristine native habitat
- Sacred tribal land
- Climate change
- Conservation
- Sustainable agriculture

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<https://fsp.sdsu.edu/>

The mission of the field stations program is to manage land for research, education and the preservation of native habitat and biodiversity:

The two field stations are the

- Santa Margarita Ecological Reserve – over 4,000 acres along a 5-mile reach of the Santa Margarita River and the
- Sky Oaks Field Station, a 1600-acre site located in northeastern San Diego County.

Blue Gold: Mitigating the effects of water scarcity



Research Projects

- + Water and Watersheds on the US-Mexico Border
- + Water Resources
- + Water and Public Health
- + Water Quality
- + Water Reuse Technology

14 faculty members x 4 departments:

- Public Health
- Geography
- Geological Sciences
- Civil, Construction, and Environmental Engineering

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<https://bluegold.sdsu.edu>

Blue Gold focuses on mitigating the effects of water scarcity, focusing on issues such as water and watershed in the US-Mexico border region, water resources, water and public health, water quality, and water reuse technology

14 faculty members x 4 departments

Water Across Borders ***Agua a través de las fronteras***

- What are the major water-related problems in the border region?
- How can collaboration help solve them?
- Current projects:
 - Real-time water quality monitoring
 - Virus detection
 - Alternative wastewater treatment
- 15 faculty x 6 departments



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<https://bluegold.sdsu.edu/borderwater>

A Big Idea emerged from the Blue Gold work, which is Water Across Borders / *Agua a través de las fronteras*, which is led by Trent Biggs and Natalie Mladenov. This initiative addresses such questions as

- What are the major water-related problems in the border region?
- How can collaboration help solve them?

US Department of Energy's Industrial Assessment Center (IAC)

Prof. Asfaw Beyene, Director
Prof. Joaquin Camacho Assistant Director



- Funded since 1991
- Trained over 120 students
- To date: conducted ~630 audits

The IAC offers FREE feasibility study services related to energy efficiency and renewable energy for qualified manufacturing plants in Southern California.

SDSU <https://iac.sdsu.edu>

US Department of Energy's Industrial Assessment Center offers FREE feasibility study services related to energy efficiency and renewable energy for qualified manufacturing plants in Southern California.

Funded since 1991, the IAC has trained over 120 students, and has conducted ~630 audits.

Institute for Ecological Monitoring and Management



- Campus nexus with 20+ affiliated sustainability-focused scientists
 - Applied conservation
 - Climate adaptation/readiness
 - Vegetation mapping & Fire risk
 - Drought response
 - Land-use change
 - Watershed health
 - Landscape connectivity
- Community collaborations with local, state, federal, and Tribal organizations
- Essential workforce training

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<http://iemm.sdsu.edu>

IE
M
M
Institute for Ecological
Monitoring and
Management

Science in Service of Policy and Management

US Department of Energy's Industrial Assessment Center offers FREE feasibility study services related to energy efficiency and renewable energy for qualified manufacturing plants in Southern California.

Funded since 1991, the IAC has trained over 120 students, and has conducted ~630 audits.

Alessandra Zuniga
NOAA PhD Fellowship Recipient

Xiaofeng Xu
Soil organic carbon
NSF career award research

SDSU C2S2 supported the California K-12 Environment literacy education bill AB/SB 130 (SEC. 151) with a \$6M fund

CA Approves \$6M to Climate Change and Environmental Justice Curriculum

BY TEN STRANDS | JULY 16, 2021
Advocacy, Climate Change, Curriculum & Instruction, Education, Environmental Justice, Press Releases

CLIMATE MATHEMATICS
Theory and Applications
SAMUEL S. P. SHEN
RICHARD C. J. SOMERVILLE

Center for Climate and Sustainability Studies (C2S2)

- 15 faculty members, 4 departments
- 1 NSF Career award (Xiaofeng Xu)
- 1 World's Most Influential Scientific Minds by Thomson Reuters, 1 Reuters top 1,000 climate scientists award, 1 research.com top 40 US Ecologist and Evol. Scientists award (Walter Oechel)
- 3 SDSU Distinguished Professors, 8 PhD students, 4 NOAA PhD EPP fellows
- Funding from NSF, NASA, NOAA, DOE
- Numerous book and paper publications

SDSU <https://c2s2.sdsu.edu>

- The Center for Climate and Sustainability Studies is an interdisciplinary Area of Excellence that facilitates the development of (a) interdisciplinary research proposals,
- (b) increased international exchange and collaboration, and (c) an expanded educational program in climate and sustainability studies.

Community Climate Action Network



SDSU Center for Community Energy and Environmental Justice plans to establish its home at SDSU Mission Valley's Innovation District. (EJC West Design, Lauen / FENIA / JCEY's image by F. Shultz, Nault)

Thursday, April 13, 2023

SDSU Awarded \$10M for Center to Foster Environmental Justice



Catalyzing. Community. Action



EARTH-HOP

Environmental Action and Resources From the EARTH-HOP Project

WHAT WE'RE LOOKING FOR:

- Community-led climate action projects
- Local experts and practitioners
- Partnerships and collaborations
- Training and professional development

WHAT IT INVOLVES:

- Facilitating partnerships
- Providing training and professional development
- Supporting community-led climate action projects

HOW TO APPLY:



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<https://ccan.sdsu.edu>



The Community Climate Action Network, is another Big Idea focusing on community-led action in climate adaptation and resilience through campus-community partnerships.

CCAN team leaders just received a \$10M grant from the US EPA to establish a Center for Community Energy and Environmental Justice.

Center for Better Food Futures



- New center to promote collaborative research on food security, sustainability, and sovereignty
 - Projects funded by USDA, NIH, NSF, etc.
- Interdisciplinary
- Action-oriented
 - Low-input solutions
 - Regional focus
 - Community-engaged
- Student engagement
 - internships and research



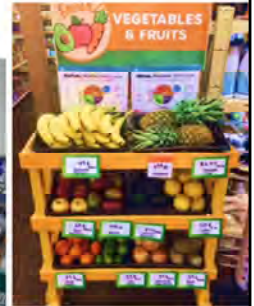
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Contact: Pascale Joassart-Marcelli, pmarcell@sdsu.edu, <https://bff.sdsu.edu/>

The Center for Better Food Futures is an interdisciplinary research center housed jointly in the College of Arts and Letters and the College of Sciences, that aims to encourage action-oriented research to identify low-input solutions to increase food security, support food livelihoods, and reduce the environmental footprint of food.

BrightSide Produce San Diego

Committed to increasing access to healthy food options in underserved communities through produce deliveries, while reducing food waste and strengthening the local food system in San Diego County.



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<https://brightside.sdsu.edu>

BrightSide Produce is a student-run produce distribution service that works with locally owned and operated stores to increase accessibility, availability, and affordability of fresh produce in underserved communities. They operate a produce stand on campus, they partner with local farmers and the Santa Margarita Ecological Reserve to distribute locally grown produce, and they're a zero food waste operation.

Addressing Homelessness

What is the Big Idea?

A cross-disciplinary team of SDSU researchers coming together to understand what is at the core of homelessness, and how to prevent and reduce it.

Research Objective:

Understand what obstacles individuals face when accessing shelters, specifically emergency shelters while also trying to understand who is using shelters versus who is not.

Faculty Leads

Dr. Abdel-Samad (School of Public Affairs)
Dr. Bruce Appleyard (School of Public Affairs)
Dr. Jennifer Felner (School of Public Health)
Dr. Lianne Urada (School of Social Work)
Dr. Matthew Verbyla (College of Engineering)

Community Partners

Health and Human Services Agency - County of SD
Regional Task Force of Homelessness
People Assisting The Homeless (PATH)
San Diego Housing Commission



Another Big Idea is Addressing Homelessness, which is a cross-disciplinary team of researchers focusing on what is at the core of homelessness, and how to prevent and reduce it.

A current research objective is to understand what obstacles individuals face when accessing shelters – specifically emergency shelters.



Opinion: Universal bathroom access in San Diego could help save lives. Here's how.



Who we are:

An academic-community partnership SDSU student + faculty team works alongside community partner Think Dignity to research public restroom access in San Diego County

What we do:

- Compile and disseminate information on where restrooms are + what features they offer (e.g., toilet paper, soap/water, gender-neutral spaces, menstrual products)
- Document how people are affected by lack of restroom access, especially vulnerable groups like people experiencing homelessness

Community impact:

- Development of tools for community assessment of basic sanitation needs
- Action research to inform public policy that promotes health equity



^^Check out our public web map at <https://arcg.is/1Dul1Oq>

A couple key research findings:

- **Downtown San Diego has only 2 permanent public restrooms that are open 24/7**
- **Overnight, this means a ratio of 1 permanent toilet for every 215 unsheltered people.**

Check out our website!
<https://bathrooms.sdsu.edu/>

And last, but certainly not least, is the Project for Sanitation Justice is a partnership between SDSU and Think Dignity, a homelessness advocacy and empowerment agency. Together, work to empower local communities in the region to make data-informed decisions to improve access to basic sanitation resources, including public restrooms.

Learn more about each of these centers, programs and initiatives



<http://bit.ly/Sust-SDSU-Research>

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So, this was SOME of the sustainability-related research and other academic initiatives on campus. It is by no means exhaustive – space and time limited how many we could include here. That’s a nice problem to have, and is cause for celebration for not just SDSU, but also the communities we serve, that we’re a part of, that we collaborate with, and for the future workforce that will train through these initiatives.

If you want to learn more about each of these initiatives, you can use this QR code to link to a website highlighting these 18 initiatives.

Thank You

Jessica Barlow, Department of Geography
Director of The Sage Project
Executive Director of The Center for
Regional Sustainability
jbarlow@sdsu.edu

<http://bit.ly/Sust-SDSU-Research>

<https://tinyurl.com/SustainSDSUQs>



Scan to submit
your questions.



SDSU University Library



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SDSU Climate Action Plan Update Poll



Scan to take
the poll.

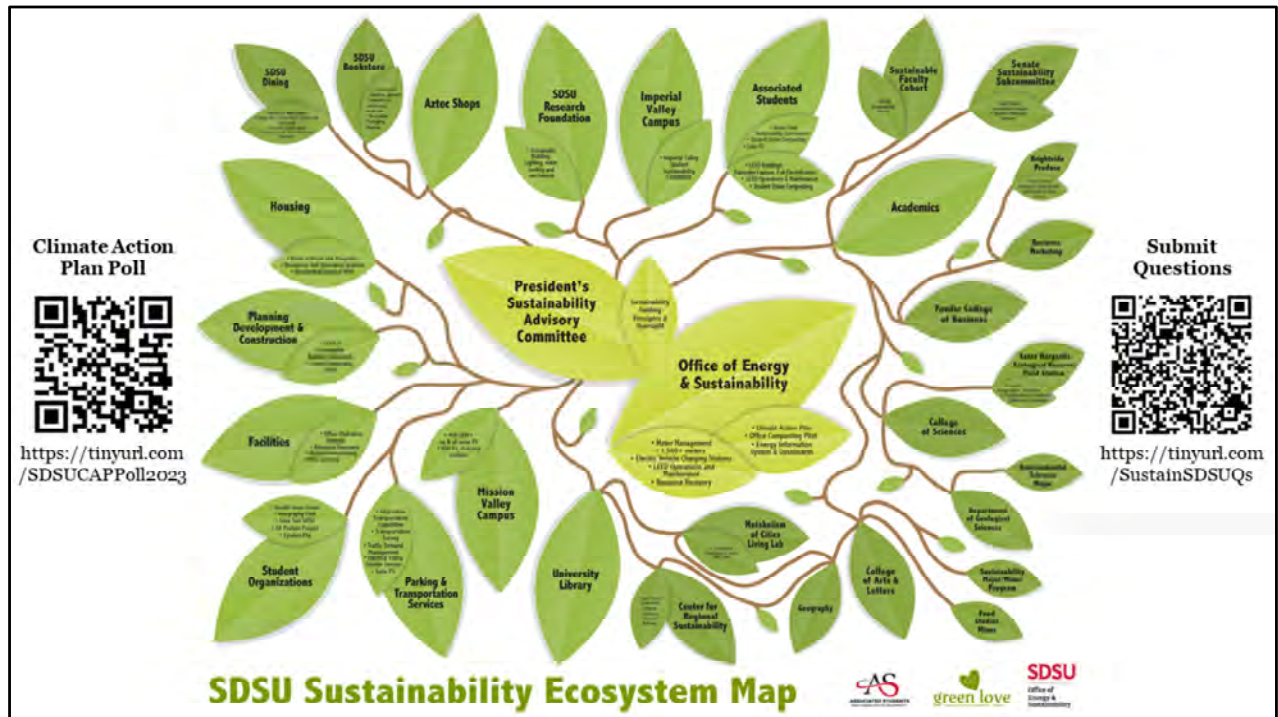
<https://tinyurl.com/SDSUCAPPoll2023>

SDSU Office of Energy
& Sustainability



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This poll will be open through May 2023.



This map represents the SDSU Sustainability Ecosystem and the interrelationship between departments, offices, and organizations and their sustainable efforts. Sustainability grows out from the President’s Sustainability Advisory Committee and the Office of Energy & Sustainability. There is a poster in Montezuma Hall with more detail.