REBELCAP

CLIMATE ACTION PLAN

Annual Progress Report 2025

UNLV

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Overview

Purpose

The purpose of the Rebel CAP Annual Report is to transparently communicate the progress of UNLV's Rebel Climate Action Plan (Rebel CAP). UNLV launched the Rebel CAP in Fall 2024, making this the first annual report. The report highlights initiatives, project timelines, and metrics.

Mission

Prioritize and focus efforts to increase sustainability, advancing the Rebel CAP and supporting UNLV's goal of reaching carbon neutrality by 2057.

Goals

1. **Carbon Neutrality Commitment:** We aim to achieve carbon neutrality by 2057 through an initiative called '100 by 100.' This ambitious goal, of achieving 100% carbon neutrality by UNLV's 100th anniversary, will guide our efforts to minimize emissions from energy use, transportation, and waste generation.
2. **Renewable Energy Expansion:** We will increase the use of renewable energy sources to power our facilities and reduce our reliance on fossil fuels.
3. **Sustainable Campus Operations:** We will introduce new initiatives to improve energy efficiency, enhance recycling and composting programs, and promote water conservation across daily operations.
4. **Curriculum and Research Integration:** We will incorporate sustainability principles into our academic programs to prepare students across disciplines to address global environmental challenges.
5. **Community Engagement:** We will collaborate with local partners and stakeholders to foster a culture of sustainability both on and off campus.

Message from Leadership

Dear Campus Community,

Just over a year ago, UNLV made a bold commitment to lead in sustainability across Southern Nevada. We utilized input from students, faculty, staff, and community partners to develop and launch the Rebel CAP. This strategic plan outlines actions our university can take to reduce its carbon footprint and promote sustainability in all aspects of campus life. Since then, our Sustainability Task Force and seven topic-specific working groups have met regularly to establish and advance next steps towards these goals.

During the first year, efforts focused on assessing our current sustainability courses and research, piloting waste reduction programs such as All in the Hall, Spare-It, and O'Marche, and recruiting for key positions to support sustainability efforts. UNLV representatives also participated in the Carnegie Elective Classification for Sustainability Pilot program alongside 20 other higher education institutions. As part of this group, they helped shape the framework for a new sustainability designation. Carnegie has since invited UNLV to be among the first institutions to apply, and we are hopeful that we'll be on the recipient list in 2026.

This work acknowledges the importance of understanding our current strengths and opportunities for growth, enabling us to make informed and practical decisions. This thoughtful approach will position us to make incremental progress toward a more sustainable future.

We are incredibly proud of the work so far and the successes we've achieved. We also recognize that we are in the early stages of implementation and have much more work to do. As we look ahead, we encourage all members of the campus community to stay engaged. At UNLV, we're fortunate to have innovative experts combined with an enthusiastic community that's ready to be changemakers. Together, we can continue our momentum and drive meaningful change.

Sincerely,
Elise Bunkowski, Interim Vice President, Business Affairs / CFO
Michael Lawrence, Interim Associate Vice President, Facilities Management

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Year Review

Introduction

Each of the seven focus areas in Rebel CAP were broken into working groups to meet on a monthly basis. During these meetings, the working groups were tasked with identifying action recommendations to advance the Rebel CAP and planning steps to support its progress.

Dividing the working groups into seven focus areas, highlighted opportunities to refine the structure and strengthen engagement. In 2026, Rebel CAP working groups are transitioning to a single comprehensive Sustainability Task Force. The integrated structure is designed to strengthen collaboration, enhance engagement, and improve overall productivity.

Focus Areas

Rebel CAP recommendations are categorized into seven topic-specific focus areas and also include overarching umbrella recommendations. The seven focus areas (previously divided into working groups) are summarized below, along with the locations of their associated action recommendations in the Rebel CAP document.

Academics and Research

The Academics and Research Working Group recommendations focus on integrating sustainability and climate education across curricula, creating dedicated institutes and inventories to support faculty, courses, and research, and using the campus as a living laboratory for applied learning. They emphasize equipping all students with sustainability literacy, expanding interdisciplinary degree programs, and fostering awareness through orientation, assessments, and institutional learning outcomes to prepare graduates for leadership in climate action. There are nine total recommendations (p. 54-57).

Buildings and Energy

The Buildings & Energy Working Group recommendations center on assessing and auditing building performance and onsite energy systems, then using those findings to drive efficiency upgrades, electrification, and expanded renewable energy generation and storage. They also emphasize more substantial data collection, advanced energy management systems, higher construction standards, and community education to ensure long-term sustainability, cost savings, and measurable progress toward carbon neutrality. There are 16 total action recommendations (p. 58-65).

Green Procurement and Policy

The Green Procurement and Policy Working Group recommendations focus on embedding sustainability into purchasing and investment practices by joining leadership councils, adopting

Environmental Social and Governance (ESG)-based investment policies, and redesigning procurement systems to prioritize environmentally responsible, socially inclusive, and recyclable products. They also emphasize food and equipment guidelines, supplier diversity, awareness programs, and task force oversight to ensure measurable impact, reduce waste, and align campus operations with long-term climate and equity goals. There are eight action recommendations (p. 66-69).

Stewardship and Climate Justice

The Stewardship and Climate Justice Working Group recommendations focus on extending sustainability efforts beyond campus by supporting community recycling, fostering equitable student engagement, and hiring faculty with sustainability expertise. They also emphasize pursuing sustainability and climate action in ways that center justice and representation. There are four action recommendations (p. 70-71).

Sustainable Transportation

The Sustainable Transportation Working Group recommendations aim at reducing campus emissions by expanding bike infrastructure, enhancing public transit partnerships, and introducing park-and-ride shuttle programs, while also investing in electric vehicle charging and fleet electrification. They further emphasize innovative solutions like solar-covered walkways and commute/air travel offset programs to promote low-carbon mobility and align transportation systems with long-term climate goals. There are eight action recommendations (p. 72-75).

Waste Management

The Waste Management Working Group recommendations center around building a comprehensive zero-waste framework by strengthening data tracking, setting diversion goals, expanding composting, and standardizing bin infrastructure. They also emphasize leadership and education through hiring a zero waste manager, creating a Waste Education Task Force, and engaging the campus community in outreach, training, and competitions to drive measurable waste reduction. There are six action recommendations (p. 76-79).

Water Resource Management

The Water Resource Management Working Group recommendations emphasize strengthening UNLV's water efficiency by improving infrastructure monitoring and leak detection, expanding drought-resistant landscaping, rainwater utilization, and cooling tower upgrades. They also call for building research and reclamation capacity through inventories of conservation initiatives, greywater reuse systems, and partnerships with experts to reduce potable water demand. There are six action recommendations (p. 80-82).

Academic Year 2024 - 2025 Accomplishments

Carnegie Elective Classification for Sustainability Pilot Participation

In December 2024, UNLV was selected along with 20 other higher education institutions to participate in the Carnegie Elective Classification for Sustainability Pilot. This year-long process included an in-person retreat in Puerto Rico, where participating institutions collaborated and provided feedback on the pilot application.

The Carnegie Elective Classification for Sustainability recognizes and supports institutional efforts to lead by fostering innovation, collaboration, and measurable progress toward a more sustainable future. The framework evaluates sustainability efforts across curriculum, research, operations, and community engagement.

UNLV submitted its final application in September 2025. Applications are currently under review, and designations will be announced in January 2026.

Proposal Development

Energy Audit Course

With a conversation started by leadership, the previously known Buildings and Energy Working Group developed an Advanced Energy Management System grant proposal. The $200,000 pilot project is designed to implement an Advanced Energy Management System (AEMS) in one campus building, aligning with one of 16 action recommendations targeting buildings and energy. The initiative will establish real-time monitoring of energy use, renewable generation, and CO2 emissions, while serving as a hands-on learning platform for students and a research tool for faculty. Students will lead system design, sensor installation, and software development, including two dashboards: one for operational analytics and one for public engagement. Over 18 months, the project aims to reduce energy costs and emissions, create a scalable model for campus-wide deployment, and demonstrate the value of data-driven sustainability through experiential learning.

CES Green Grants Program

Southern Nevada hosts the Consumer Electronics Show (CES) through the Consumer Technology Association (CTA). CES recognizes and supports sustainability efforts through the CES Green Grants Program. Rebel CAP working groups generated grant project ideas which they called *Rebel CAP in Action*. This three-project grant proposal requests $37,512 to increase campus engagement and expand participation in UNLV's Rebel Climate Action Plan.

UNLV submitted the grant proposal in October. *Rebel CAP in Action* outlined the following projects:

1. Rebel CAP Credential Program - a free microcredential training module
2. UNLV Sustainability Awards Program - a campus recognition program highlighting innovative sustainability work
3. Eco-Engagement Ambassador Program - an incentive program supporting student collaboration on Rebel CAP projects with monetary incentives linked to academic credit.

Data Collection

Sustainability Course Inventory

The Sustainability Course Inventory was initiated by Jacob Thompson, associate vice provost for undergraduate education and high-impact practices / senior vice provost, and Lisa Davis, executive director of graduate student services. Building on a comprehensive course list provided by the Office of the Executive Vice Provost, the project reviewed all undergraduate and graduate courses across UNLV's academic units to identify those aligned with sustainability learning outcomes.

Each course was analyzed and coded as either sustainability-focused or sustainability-inclusive using definitions from the Association for the Advancement of Sustainability in Higher Education (AASHE) through its Sustainability Tracking, Assessment & Rating System (STARS). Courses that explicitly addressed environmental, social, or economic dimensions of sustainability were labeled as focused, while those integrating sustainability as a key component were categorized as inclusive. Each qualifying course was mapped to one or more of the United Nations' 17 Sustainable Development Goals (SDGs) to align institutional teaching with global sustainability frameworks.

In total,132 courses met the STARS criteria and were included in the final Sustainability Course Inventory. This work establishes a foundation for ongoing data collection, AASHE STARS reporting, and continued integration of sustainability across the curriculum.

Faculty Sustainability Research and Course Survey

UNLV developed a Faculty Sustainability Research and Course Survey to strengthen the network of sustainability faculty on campus. The survey gathered information on faculty engagement in sustainability research,the presence of research funding,faculty's educational background related to sustainability or climate action, and integration of sustainability in teaching, including experiential learning opportunities. In total, there were 24 survey responses. The data supported the university's application for the Carnegie Elective Classification for Sustainability Pilot. UNLV plans to distribute the survey annually to enhance understanding of sustainability research and curricular integration at UNLV.

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Sustainability in Curriculum

Sustainability Across the Public and Private Sectors Microcredential & Corporate Sustainability Course Launch

Launched in Fall 2024, the nine-credit Sustainability Microcredential was developed in collaboration with government and business leaders to address the sustainability skills demanded by emerging jobs and to equip students with up-to-date environmental management and leadership skills. This includes environmental performance assessment, climate policy design and implementation, and community partnerships for sustainability and resilience. The three required courses are:

- ENV 101 - Introduction to Environmental Science,
- URST 410 - Environmental Policy in Urban Settings, and
- URST 451 - Corporate Sustainability

In spring 2024, Ben Leffel, assistant professor in the School of Public Policy and Leadership, launched Corporate Sustainability (URST 451), finalizing the last course needed for the Sustainability Across the Public and Private Sectors Microcredential. This course trains students to lead in corporate sustainability theory and applied practice. Key areas include energy efficiency, carbon target setting, decarbonizing energy consumption, stakeholder engagement and materiality assessment, financing sustainable goals, tracking and disclosing internal climate metrics, and calculating carbon footprint.

Leffel launched this program after a year of development. He engaged with local stakeholders, such as MGM Resorts International and Caesars Entertainment, to develop a comprehensive course to provide students with an education that meets the growing demand for climate accountability in business. Similarly, in fall 2025, Leffel launched Collaborative Sustainability (PUA 792), which tackles stakeholder engagement from a government perspective, modern public-private partnerships, climate misinformation, policy writing, mapping environmental racism, managing extreme heat & data center impacts. This enables students to detect policy problems and formulate solutions across these areas.

Greenspun Hall Energy Assessment and Audit

The final project for ME 413X–613X, taught by Heejin Cho, professor of energy technology and American Society of Mechanical Engineers (ASME) Fellow, requires students to conduct an ASHRAE Level II Energy Audit of Greenspun Hall. The assignment is structured into seven steps, including utility bill analysis, HVAC and lighting assessments, building envelope evaluation, and energy/economic analysis, culminating in a professional report and presentation. This project integrates skills in utility data analysis, on-site measurements, and system evaluations. Students must follow strict formatting and reporting guidelines, with clear documentation, figures, and tables, while demonstrating technical rigor and actionable recommendations. Students in the course deliver a written report and present findings, as a

group, to Facilities Management. An invitation to attend the presentation was extended to members of the Sustainability Task Force.

School of Public Health Sustainability Interns

UNLV Rebel Recycling continued its partnership with the School of Public Health and offered two notable internship project opportunities for students: Rebels Refill coordinator and residence hall recycling coordinator. The Rebels Refill coordinator focused on the Fill It Forward app, which incentivizes the campus community to refill water bottles rather than purchase single-use, disposable water bottles. The residence hall recycling coordinator researched residence hall students' recycling practices and created an educational program to increase awareness and participation. Students progressing sustainability projects earn academic credit and gain experiential learning.

Sustainability Staff

Energy Manager Recruitment

UNLV is in the process of hiring an energy manager to support metric tracking and strengthen our understanding of institutional resource use. The responsibilities of this position include:

- Lead energy management programs and master planning initiatives, including renewable energy and electrification strategies.
- Develop, manage, and track utility budgets, procurement, and rate structures.
- Optimize building performance through commissioning, advanced analytics, and fault detection diagnostics.
- Serve as technical lead for energy-related capital projects from feasibility through post-occupancy evaluation.
- Analyze lifecycle costs, ROI analysis, and savings for mechanical, electrical, and plumbing system upgrades.
- Monitor, benchmark, and report on energy use intensity (EUI), utility performance, and carbon footprint across all facilities.
- Prepare reports for Facilities Management leadership, external agencies, and public disclosures.
- Provide training for facilities staff and promote energy awareness across campus.
- Identify and implement innovative technologies in collaboration with UNLV stakeholders.

Sustainability Culture & Engagement Coordinator

To increase the impact of student projects and experiential learning, UNLV hired a sustainability culture & engagement coordinator to manage and expand sustainability engagement. The primary responsibilities of this position include:

- Create, implement, mentor and supervise the sustainability stipend internship program.
- Create additional pathways for engagement in sustainability at UNLV by expanding outreach to staff/faculty/students to extend sustainability efforts throughout the campus.
- Assist in sustainability reporting, such as the UNLV Rebel CAP, Association for the Advancement of Sustainability in Higher Education's (AASHE) Sustainability Tracking,

Assessment and Rating System (STARS) program, and Greenhouse Gas Inventories (GHGI).

Partnerships, Programs, and Projects

O'Marche

In Spring 2025, UNLV became the first U.S. college or university to pilot the O-Marche app, a circular-economy and sustainability platform built around peer-to-peer exchange of secondhand items. This initiative aligns with the university's commitment to waste reduction, community engagement, and sustainable purchasing practices. By leveraging O-Marche, campus participants can list, browse, and trade pre-owned goods within defined groups. The app fosters reuse and extends product life cycles in support of a broader sustainability mission.

All In The Hall Pilot Program

Rebel Recycling launched the All In The Hall pilot program in the Carol C. Harter Classroom Building Complex (CHB) with support from a Nevada Division of Environmental Protection (NDEP) grant to improve recycling rates, reduce landfill waste, and minimize plastic bag usage. The initiative replaced individual classroom trash cans with centralized hallway waste stations featuring both landfill and recycling bins to encourage proper waste sorting. Preliminary results show a 48% reduction in landfill waste, a 61% decrease in trash bag use, and a notable improvement in recycling capture rates. The recycling capture rate (the percentage of recyclables properly diverted to recycling bins instead of the trash) improved from roughly 78% missed to about 92% captured, or a 14% improvement in overall sorting accuracy and recycling performance. Faculty engagement and consistent outreach efforts helped drive early success and foster sustainable behaviors among students. While a slight increase in litter was observed as users adjusted to the new system, the program demonstrated measurable environmental benefits and strong potential for campus-wide expansion with continued education and refinement.

Spare-it

The Spare-It project in the Advanced Engineering Building (AEB) is a partnership with the Spare-It company to enhance waste data collection and behavioral insight through a real-time tracking platform. From November 2024 through August 2025, thirty-three connected smart scales monitored daily waste activity, providing detailed information on recycling and landfill trends. During this period, AEB generated over 2,300 pounds of total waste from these 11 stations. The diversion rate was 43.3% and the missorted rate was 35.5%. Spare-it's AI analyzed more than 400 waste images to identify common sorting errors, such as paper towels, plastic film, snack wrappers, and cups placed in recycling bins, and to map building "hotspots" where sorting behaviors needed improvement. These data-driven insights are guiding UNLV's next steps to improve signage, refine bin placement, and enhance recycling education. The Spare-it pilot provides a scalable model for using technology to advance waste reduction goals and strengthen UNLV's commitment to measurable climate action.

Landfill Metrics

UNLV piloted ECUBE LABS CleanFLEX sensors to measure dumpster volume and establish a reliable volume-to-weight conversion for campus landfill waste. Unfortunately, the sensors were either vandalized, stolen, or damaged by the weight and movement of dumpster contents, preventing data collection. Because Republic Services' collection trucks service multiple locations before and after visiting UNLV, we will need a new strategy for obtaining accurate waste weights directly from the hauler. UNLV is considering installing a truck scale to track the weight of landfill materials to support waste diversion and Scope 3 calculations.

Leak Identification

Water meters have been ordered and will be installed on large backflows. Because all irrigation water needs go through a backflow preventer, meters will help the institution calculate irrigation usage. After a few months, UNLV Grounds will have a baseline water usage to detect anomalies. If there is a sudden spike in water usage, a leak can be identified, and the team can investigate and prevent water waste.

Turf Alternative

Pilot installations of turf alternatives are currently underway in two small areas adjacent to the Lied Athletic Complex (LAC). The section planted with buffalo grass has been established successfully and presents an aesthetically pleasing appearance; however, the corresponding reduction in irrigation has resulted in the loss of several trees. Implementing buffalo grass in areas with existing trees presents a trade-off: conserving water versus preserving tree health. Maintaining trees contributes to the urban tree canopy, provides natural shade, and helps moderate surrounding temperatures, which could influence energy demand for cooling.

The section planted with Ruschia is establishing more slowly. Grounds staff may consider planting at a higher density or allowing additional time for the vegetation to fill in. Although no trees are located in the Ruschia test area, similar impacts on trees could reasonably be expected under reduced irrigation conditions. In both pilot sites, additional soil preparation will be necessary to suppress weed growth, which currently represents the most significant maintenance challenge in these areas.

EV Charger Updates

UNLV was approved to receive an additional 20 dual-head chargers, bringing the total to 48 and allowing up to 40 vehicles to charge simultaneously. As the project moved toward construction, contractor bids exceeded authorized funding limits and additional funding was not available. UNLV Parking and Transportation Services worked with NV Energy to keep the project moving forward if UNLV paid the difference between the Public Utilities Commission of Nevada (PUCN) authorized funding and the contractor bids. NV Energy is currently awaiting a final cost estimate from potential contractors.

Key Opportunities and Next Steps Overview

The section highlights opportunities to strengthen the university's capacity to measure and report progress toward the Rebel CAP's goals. Developing consistent metrics and data systems is essential to support coordinated, data-driven climate action and advance UNLV's sustainability commitments.

Data Collection

At present, sustainability data related to energy, renewable energy, natural gas, and water use are not centrally tracked, and a unified system for monitoring overall Rebel CAP performance has not been established.

While greenhouse gas (GHG) emissions serve as the plan's primary performance indicator, a comprehensive inventory has not yet been measured or analyzed, which limits the ability to report baseline or comparative data.

Opportunities

- Build institutional infrastructure to consistently collect and analyze sustainability metrics.
- Develop a unified data management system to track performance and report progress over time.

Future Direction

- Establish a Sustainability Office or dedicated staff to support data collection and analysis.
- Implement a carbon accounting platform to calculate and track GHG emissions.
- Incorporate annual metrics and benchmarking data into future progress reports to support measurable, data-informed evaluations.

Leadership

During this phase of the Rebel CAP, UNLV experienced transitions in key leadership roles. Interim leaders invited each working group to prioritize their Rebel CAP recommendations and develop funding proposals for their top initiatives. One proposal advanced and is pending the hiring of a key position in Facilities Management. This approach was intended to maintain momentum and progress toward Rebel CAP goals.

Opportunities

- Strengthen continuity and coordination to support long-term sustainability planning. Enhance alignment and communication across working groups.

Future Direction

- Strengthen sustainability governance through dedicated leadership roles that support coordination, continuity and long-term impact.
- Bring together seven working groups through coordinated meetings to share progress, identify synergies, and reinforce collaboration.
- Develop clear guidance and accountability mechanisms to support consistent progress toward Rebel CAP objectives.

Next Steps

To advance from planning to measurable action, UNLV will focus on strengthening operational infrastructure and data systems. The following near-term goals, objectives and outcomes are structured as SMART goals—specific, measurable, achievable, relevant, and time-bound to establish a clear path toward quantifiable progress.

2026 Goals, Objectives, and Outcomes

Goal 1: Establish a comprehensive operational sustainability data collection and management system

Objectives

Reliable operational data is essential for accurate Greenhouse Gas (GHG) Inventory reporting, AASHE STARS documentation, and progress tracking toward Rebel CAP goals.

- Develop and implement a centralized system for collecting, organizing, and maintaining UNLV's operational sustainability data, including energy use, water consumption, solid waste and recycling, fleet fuel, purchasing, and commuting data.
- Utilize existing systems such as Facilities Management databases, energy dashboards, and SIMAP inputs to streamline data capture and verification. Strategize methods and technologies to fill in data gaps.

Outcomes

- Identify and document at least 10 key operational metrics (e.g., kWh, therms, gallons, tons, vehicle miles),
- Assign responsible data stewards in each operational unit, and
- Achieve 100% data submission from all identified sources each reporting cycle.

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Goal 2: Complete a comprehensive Greenhouse Gas Inventory (GHGI)

Objectives

Metrics are necessary to understand Rebel CAP progress. UNLV will use an online carbon accounting platform, such as SIMAP or The Climate Registry (Carbon Footprint Registry), and collaborate with UNLV stakeholders to compute UNLV's GHG emissions.

Outcomes

- Establish a benchmark to use as a comparison for future Rebel CAP achievements
- Complete a Greenhouse Gas Inventory (GHGI)

Goal 3: Complete the full AASHE STARS report and achieve a Gold rating

Objectives

Enhance institutional recognition and benchmarking through AASHE by using data from existing programs, facilities, academics, and engagement efforts, and submit a STARS report to AASHE.

Outcomes

Submit data for all 17 STARS categories and earn at least 65 points.

Conclusion

These goals represent the university's immediate priorities for operationalizing the Rebel CAP. They lay the foundation for a coordinated, data-informed approach to sustainability that strengthens accountability, enhances collaboration, and demonstrates measurable progress toward carbon reduction and climate resilience at UNLV.

Acknowledgement

As we reflect on the ongoing evolution of sustainability at UNLV, we want to express our gratitude to every individual who has contributed time, energy, and passion to this shared vision.

From student interns and faculty champions to staff collaborators, your efforts have been integral to ensuring UNLV works toward becoming a more sustainable, resilient, and equitable campus. As we look toward the future, we are inspired by the opportunities to deepen collaboration, strengthen our understanding of metrics and build the systems and structures needed to support long-term impact. Together, we are shaping a future where sustainability is not only a commitment, but a lived value that guides our decisions, defines our culture, and reflects the spirit of the UNLV community.