

76611 students

78100 solar panels

937125 riders annually on campus shuttles

3243 tons of landfill waste diverted yearly

36 LEED certified buildings

23.5 MWdc of solar power

4 campuses

1 goal

Sustainability

Sustainability Operations

Arizona State University

Annual Review 2013



Sustainability Operations at ASU

Arizona State University is a sustainability operations and practices leader among higher education institutions across the country, and made significant strides in 2013 to achieve many of its sustainability goals. ASU takes measurable steps to reduce consumption, maximize efficiency and to rethink products and processes by focusing on four key areas: climate neutrality; zero solid and water waste; active engagement; and principled practice.

The university partnered with energy services giant Ameresco and sustainability think tank Rocky Mountain Institute in June. The enterprise involves developing a strategic roadmap, and identifying innovative projects that will bolster ASU's position as a national leader among climate-neutral, sustainable universities.

ASU's efforts to become more sustainable also were recognized nationally through various awards and recognition programs:

- ASU was a Cool School in Sierra Magazine's annual ranking of the nation's greenest universities for the sixth consecutive year.
- The university figured prominently in The Princeton's Review's Guide to 322 Green Colleges, released in April.
- ASU made the "Sustainable 16" list in the Enviance 2013 Environmental March Madness Tournament.

In a nationwide assessment of sustainable practices by the Natural Resources Defense Council (NRDC) and the Green Sports Alliance, Sun Devil Athletics was named one of the top-10 athletics departments for sustainability in the nation. ASU was recognized for its solar energy use to power various athletics, educational and operational facilities on all four campuses.

Additionally, ASU's efforts to advance green athletics games were touted in a NRDC case study. The report credited Sun Devil Athletics' sustainability efforts with playing an important part in the department's consistent top-rated performance.

Visit zerowaste.asu.edu for more information.

23.5 MWdc solar generation capacity



Climate Neutrality

ASU is committed to becoming a climate-neutral institution by 2025 in relation to greenhouse gas emissions from building energy sources, and completely climate neutral, including elimination of emissions related to travel and other sources, by 2035.

- ASU partnered with **Ameresco** and the **Rocky Mountain Institute** in June to achieve institutional climate neutrality. To conduct research and to improve energy use, Lightworks, a university initiative, is the interface between Ameresco, the Rocky Mountain Institute and ASU faculty.
- As of Dec. 31, solar photovoltaic and thermal production capacity is 23.5 MWdc, which is more than 43 percent of the university's daytime peak load. The estimated annual electricity production of 40,504 MWh avoids 21,991 MT CO₂e (metric tons of carbon dioxide equivalent) per year and reduces ASU's carbon footprint by 7.1 percent.
- Solar photovoltaic shaded canopies totaling 382 kWdc were completed in November over pedestrian malls near the Tempe campus Memorial Union. The ASU Polytechnic campus gained a 1.3-MWdc solar concentrated photovoltaic power plant in April.
- In February, the **U.S. Green Building Council** awarded ASU's newest research center – Interdisciplinary Science and Technology Building IV (ISTB 4) – LEED Gold certification.
- The **Sustainability Initiatives Revolving Fund (SIRF)** provides investments for ASU energy conservation projects that deliver a real return. Twelve projects received SIRF approval and began providing a return in 2013. The one-year SIRF return is projected to be 11.5 percent.
- ASU installed LED lighting at **Wells Fargo Arena** and became the first NCAA Football Bowl Subdivision institution to do so in an athletics facility.
- **ASU Facilities Development and Management** manages a continuous commissioning program. Technicians from ASU partner, Ameresco, assess building system performance to ensure optimum HVAC systems performance.
- **ASU Parking and Transit Services** sold 12,500 Student U-Passes and 650 Employee Platinum Passes. Sold at a reduced amount, the passes provide students and employees a cost-efficient, sustainable and convenient travel option.
- The **ASU-Zipcar** agreement provides 17 vehicles to 2,230 members across all four campuses. To boost ride sharing, Parking and Transit Services issued 230 carpool parking permits.
- As of Dec. 31, ridership on **ASU Parking and Transit Services'** free shuttle service for all four ASU campuses increased to 937,125 riders.

Zero Waste

ASU has committed to zero solid waste by 2015 and zero water waste by 2020.

- ASU, in collaboration with its strategic partner **Waste Management**, achieved a 26.87 percent waste diversion rate in 2013, which is nearly 2,283 tons of waste from all four campuses, including outlying properties and athletics.
- As of Dec. 31, **Zero Waste Ambassadors** educated nearly 25,000 **Sun Devil Athletics** fans with tips about how to help ASU achieve its zero waste goals.
- Throughout 2013 **Sun Devil Athletics** actively engaged in the diversion of landfill-bound trash from athletic events: women's basketball Feb. 1, 85.8 percent; women's gymnastics Feb. 25, 94 percent; baseball Apr. 6, 69.9 percent; and PAC-12 Football Championship game Dec. 7, 44.6 percent.
- **Alcoa Foundation**, in partnership with national nonprofit **Keep America Beautiful** and the **College and University Recycling Coalition**, provided 75 recycling bins to ASU for use as part of the Alcoa Foundation Recycling Bin Grant Program.
- A **Materials Management** team created a system that uses existing delivery and pick-up routes to collect used office supplies. The program won an ASU President's Award for Sustainability.
- **ASU Recycling, Aramark, and Waste Management** expanded the back-of-house composting program in January to Manzanita and Palo Verde dining halls. Diverting compostable waste will allow these facilities to become zero waste.
- Grounds Services, in collaboration with **Aramark, ASU Recycling** and the **Biodesign Institute**, introduced the "Grounds for Grounds" program. Used espresso and coffee grounds from the Tempe campus are diverted from the landfill and used as a natural fertilizer. The program, which won an ASU President's Award for Sustainability, diverts 500 pounds of coffee grounds weekly that saves \$900 in tipping fees and up to \$10,000 in fertilizer costs.



986,000 riders annually on campus shuttles

Active Engagement

- **The Farmers Market @ the ASU Tempe** campus achieved gross sales of \$106,300 to vendors and farmers in fiscal year 2013. Healthy eating and sustainability was promoted to more than 7,000 ASU community members.
- The **Green Communities Program** was created to help university housing residents live an eco-conscious lifestyle by following sustainable practices in ASU residential halls.
- The **Sustainability Science for Sustainable Schools** program addresses the challenge of becoming a sustainable high school within the Phoenix metropolitan region. ASU Global Institute of Sustainability scientists and faculty helped launch the project that won a 2013 ASU President's Award for Sustainability.
- ASU **Sustainability Operations** received continued support from the **Global Institute of Sustainability** via lectures, forums and documentary screenings designed to facilitate critical thinking and solution-oriented discussions focused on sustainability challenges.
- **ASU Parking and Transit Services** supported various transportation sustainability festivals and activities across four ASU campuses to encourage alternative transportation use including ride-sharing, bicycling, walking and transit.
- Student organizations, including **Campus Student Sustainability Initiatives**, the **Green Devils**, the **Farmers Market Student Ambassadors** and the **Barrett Sustainability Club** continue advancing sustainability education, networking, living, collective action and problem-solving.

10 tons of landscaping waste composted monthly



44.6 percent of football stadium trash diverted*
*PAC-12 Football Championship game Dec. 7, 2013.

Principled Practice

In their yearly personnel evaluations, all ASU employees are evaluated partly on their sustainability contribution efforts.

- As of Dec. 31, 2,278 ASU employees received **Sustainability Literacy Education** certificates. The interactive, online program provides ASU staff examples of how they can support ASU's sustainability commitment. The program also includes facts to fulfill sustainability requirements on yearly personnel evaluations.
- Through the **Arboretum Tree Mapping** project, volunteers calculate sustainability metrics (carbon dioxide reduction, energy conservation and replacement value) to add to the ASU Campus Metabolism measurements.
- During the fall, the **Green Shops Program** was created to recognize ASU shops from theatre to facilities maintenance and others that incorporate sustainability practices.
- **Sun Devil Athletics** and concessionaire **Sodexo** developed green procurement standards across the athletics department to minimize recyclable and compostable materials contamination.

Data in this document reflect statistics through Dec. 31, 2013.

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