

## ADVANCING SDG 6: CLEAN WATER AND SANITATION THROUGH WATER REUSE AT URDANETA CITY UNIVERSITY

### Introduction

Urdaneta City University (UCU) takes a proactive stance in addressing one of the world's most pressing environmental challenges: water scarcity. Guided by the United Nations' Sustainable Development Goal (SDG) 6 Clean Water and Sanitation, the university implements innovative measures to promote water conservation and responsible management. One of its key sustainability efforts focuses on measuring and enhancing water reuse across the campus, a strategy that strengthens both operational efficiency and environmental stewardship.

### Connection to SDG 6: Clean Water and Sanitation

SDG 6 aims to "ensure availability and sustainable management of water and sanitation for all." UCU's initiative aligns directly with Targets 6.3 and 6.4:

- Target 6.3: Improve water quality by reducing pollution, eliminating dumping, and minimizing release of hazardous chemicals, and increasing water recycling and safe reuse.
- Target 6.4: Increase water-use efficiency across all sectors and ensure sustainable withdrawals to address water scarcity.

Through systematic measurement and reuse of water resources, UCU contributes meaningfully to these global goals while embedding sustainability into the daily operations and academic culture of the university.



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### UCU's Water Reuse Initiative

#### Purpose and Goals

UCU's water reuse initiative seeks to:

1. Quantify and monitor how much water is being reused across the university.
2. Reduce reliance on freshwater sources by maximizing reclaimed water for non-potable uses such as landscape irrigation, toilet flushing, and cooling systems.
3. Educate students and faculty about sustainable water management practices.
4. Serve as a model campus for environmental responsibility and community engagement in Region I.

### Implementation and Measurement

The program began by identifying major **sources of reusable water** such as rainwater, greywater from sinks and showers, and condensate from air conditioning units. UCU installed **water flow meters** and **storage tanks** in selected areas to monitor how much water is collected, treated, and reused.

Regular **water quality testing** ensures that the reused water meets safety standards for non-potable applications. By tracking monthly data, UCU calculates both **freshwater savings** and **cost reductions** in water consumption.



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Sample monitoring indicators include:

- Volume of water reused (m<sup>3</sup>/month)
- Percentage reduction in potable water use
- Treatment efficiency (BOD/COD removal, turbidity)
- Cost savings from reuse initiatives
- Number of students and staff participating in water conservation efforts

### Impacts and Achievements

#### 1. Environmental Impact

Through water reuse and efficient management, UCU reduces its dependence on the municipal water supply, helping preserve local freshwater sources. The university's initiative minimizes wastewater discharge, lowering environmental pollution and supporting ecosystem protection.

#### 2. Economic Impact

By reusing water for irrigation and cleaning, UCU achieves **\*\*significant cost savings\*\*** on water bills. The savings are reinvested into sustainability infrastructure such as rainwater harvesting systems, additional water meters, and awareness campaigns.



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### 3. Educational and Social Impact

The initiative functions as a living laboratory for students from engineering, environmental science, and education programs. Students actively participate in monitoring, data analysis, and research projects that strengthen their understanding of real-world sustainability challenges.

Awareness campaigns and workshops also encourage faculty, staff, and students to conserve water in their daily routines, promoting a culture of environmental responsibility.

### Challenges and Continuous Improvement

While initial costs for monitoring systems and treatment facilities posed a challenge, UCU overcame this by integrating the project into its academic programs and seeking partnerships with local industries and government agencies. Continuous data collection and evaluation ensure that the system remains efficient, compliant with health standards, and aligned with the evolving goals of SDG 6.

Future steps include:

- Expanding the reuse system to additional buildings and laboratories.
- Installing digital dashboards for real-time monitoring.
- Strengthening partnerships with the Department of Environment and Natural Resources (DENR) and local water authorities.
- Publishing annual sustainability reports to share progress and best practices.

**6** CLEAN WATER  
AND SANITATION



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