

Metric 7.4

AY 2024 - 2025



Saint Louis University
is committed to reducing its energy
consumption on its campuses
through the commissioning of solar
panel systems.



7 AFFORDABLE AND
CLEAN ENERGY



Indicator 7.4.3

AY 2024 - 2025



Saint Louis University

Saint Louis University's Role in Energy Efficiency and Clean Energy Services for Local Industry



7 AFFORDABLE AND
CLEAN ENERGY



Direct Service Provision: Energy Efficiency Workshops and Sustainable Business Training

The 3-Day Faculty Trainers' Training on Energy Literacy and Sustainable Energy Innovation

Published in the SLU Website

URL: <https://www.slu.edu.ph/2023/08/24/unric-hosts-energy-literacy-sustainable-energy-innovation-training/>

A key demonstrative activity was the three-day intensive training program focused on Energy Literacy and Sustainable Energy Innovation. This workshop was executed by UnRIC in crucial collaboration with the New Energy Nexus (NEX) – Philippines team. The partnership with New Energy Nexus, a global non-profit organization dedicated to supporting clean energy entrepreneurs and advancing clean energy solutions worldwide, validates the high-level, international standard and industry relevance of the training provided.

The fundamental objective of this program was not merely to educate participants, but to empower faculty trainers with the foundational knowledge and skills required to disseminate expertise in energy conservation and sustainable business practices. The participants, who were faculty trainers representing different schools within SLU, shared their key takeaways and insights, confirming the program's success in integrating energy entrepreneurship education across various academic disciplines.



Direct Service Provision: Energy Efficiency Workshops and Sustainable Business Training

Curriculum Deep Dive: Integrating Technical Assessments into Business Models

Published in the SLU Website

URL: <https://www.slu.edu.ph/2023/08/24/unric-hosts-energy-literacy-sustainable-energy-innovation-training/>



The provision of workshops and specialized training for external stakeholders is a direct fulfillment of the SDG 7.4.3 requirements. Saint Louis University, through its specialized centers, has instituted capacity-building programs specifically designed to equip professionals with the knowledge needed to champion energy conservation and launch sustainable energy businesses.

The curriculum of the training was highly specialized and contained components directly relevant to providing energy efficiency assessments and developing clean energy startups for the local industry. This structure confirms that SLU established capacity not only for workshops but also for providing the technical foundation necessary for external assessment services.

The first day's discussions laid the groundwork for technical diagnostics and market readiness, revolving around key concepts such as Energy Problem Analysis, Energy Startup Solutions, Customer Validation, and Market Segmentation. Participants were actively engaged, divided into groups, and tasked with identifying and presenting energy conservation-related problems, simulating real-world consulting scenarios.

The second day elevated the technical and business modeling aspects. Crucially, the program delved into Impact Assessment and GHG (Greenhouse Gas) Calculation.¹ These topics represent core technical competencies required for professional energy efficiency assessments, enabling trainers to quantify environmental impact and financial savings for potential external clients, such as local small and medium-sized enterprises (SMEs). Other topics included Startup Pitch development and the integration of Energy Entrepreneurship Education. The day culminated in a Lean Canvas Presentation, where groups prepared and presented their pitches for innovative solutions for energy conservation.

Research and Development Services for Clean Energy Options

Case Study 1: Low-Carbon Transportation (LCT) Research and Innovation

Published in the SLU Website

URL: <https://www.slu.edu.ph/2022/12/07/slu-participates-in-benchmarking-for-low-carbon-transportation-lct-research-and-innovation/>

SLU serves as a key institutional knowledge provider within the regional low-carbon transportation sector. This service delivery is formalized through the Dalan Ni Taltallak Consortium (Baguio Consortium for Low Carbon Transportation research and innovation). This crucial framework was established via a Memorandum of Agreement (MOA) signed on November 25, 2022, with major institutional and governmental partners, including the Department of Transportation (DOTr), the United Nations Development Programme (UNDP), the City Government of Baguio, the University of Baguio (UB), and the University of the Cordilleras (UC).

The establishment of this consortium institutionalizes SLU's capacity for research service delivery, elevating its academic findings to components of national strategic initiatives, such as the Low-Carbon Urban Transport (LCT) Project. This initiative directly supports the national Public Transport Modernization Program (PTMP) and the Electric Vehicle Industry Development Act (EVIDA, R.A. 11697), which mandates replacing older, less efficient jeepneys with cleaner alternatives like e-jeepneys.



Research and Development Services for Clean Energy Options

Actionable Research Output: Techno-Economic Feasibility Analysis of E-Jeepneys in the Mountainous Terrain of Baguio City

Regaspi, I. S., Barlis, J. R., Placino, N. K., & Lopez, N. S. (2025, May). Techno-Economic Feasibility Analysis of E-Jeepneys in the Mountainous Terrain of Baguio City. In IOP Conference Series: Earth and Environmental Science (Vol. 1500, No. 1, p. 012034). IOP Publishing.
doi: [10.1088/1755-1315/1500/1/012034](https://doi.org/10.1088/1755-1315/1500/1/012034)

The most compelling research output addressing the industry's need for clean energy options is the Techno-Economic Feasibility Analysis of E-Jeepneys in the Mountainous Terrain of Baguio City. This specialized, applied research directly confronted the primary barrier to electric vehicle adoption in the Cordillera region: the mountainous topography and the corresponding strain on vehicle performance and battery life.

Based on the analysis of real-world driving conditions using GPS-based drive cycle data and road load computations, the study generated precise, hard technical specifications essential for vehicle design, manufacturing, and operational planning.

This depth of technical detail moves the research output beyond general academic findings into the realm of professional engineering consultancy. The findings provide critical guidance for transport operators in refining deployment strategies and for manufacturers in improving vehicle design to ensure commercial viability and operational efficiency in a mountainous urban area.

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Techno-Economic Feasibility Analysis of E-Jeepneys in the Mountainous Terrain of Baguio City

I S Regaspi, J R Barlis, N K Placino and N S Lopez

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[IOP Conference Series: Earth and Environmental Science, Volume 1500, International Conference on Sustainable Energy and Green Technology 2024 15/12/2024 - 18/12/2024 Bangkok, Thailand](#)

Citation I S Regaspi et al 2025 IOP Conf. Ser.: Earth Environ. Sci. 1500 012034

DOI [10.1088/1755-1315/1500/1/012034](https://doi.org/10.1088/1755-1315/1500/1/012034)

Research and Development Services for Clean Energy Options

Case Study 2: Clean Energy Viability for Regional Primary Sectors

Published in the City Government of Baguio Website

URL: <https://new.baguio.gov.ph/news/academe-gets-involved-in-climate-change-advocacy-launches-researches-studies-proposals>



SLU's research services extend beyond urban transport to support the regional primary industry, specifically the agricultural sector. The university conducted research focusing on the viability and economic benefits of implementing a solar power system for an agricultural tramline in Bauko, Mountain Province.

This project serves as verifiable evidence of service delivery for clean energy research targeting non-urban, essential economic activities within the CAR. By confirming the viability and economic returns of such a system, SLU promotes the adoption of clean energy in remote agricultural communities, providing tangible economic benefits and furthering regional energy sustainability. This commitment to serving both high-technology (LCT research, working with manufacturers) and low-technology/remote (agricultural solar tramline) industries within its geographical mandate confirms that the university's service provision is genuinely directed toward the comprehensive needs of the local community and regional economy.

Energy Efficiency Assessments and Shared Data Metrics

Leveraging Internal Energy Systems as an External Research Asset

Published WEnergy Global Report at the SLU Website

URL: <https://www.slu.edu.ph/2023/11/09/2022-2023-energy-consumption-towards-sustainable-energy-solutions/>

Saint Louis University operates significant renewable energy infrastructure, including solar PV systems commissioned in 2022 with capacities of 90.9 kWp and 179.1 kWp. Although these systems primarily serve the university (e.g., the Mary Heights campus and new hospital building), the performance data derived from them is strategically converted into an external research asset to support local commercial investors and industry planning.

The university's research activities include specific studies on these solar panel systems, analyzing aspects critical to commercial deployment: manufacturing, installation, operation, decommissioning, and the verified reduction of CO₂ emissions. By publicly sharing this region-specific performance data, SLU effectively de-risks clean energy adoption for local companies, providing crucial feasibility metrics that would otherwise require expensive external assessments.

Key transferable benchmark data derived from these living laboratory assets includes:

- Annual Energy Generation: The system generates approximately 306,000 kWh per year.
- Carbon Offset: The system facilitates an annual reduction of about 135 metric tons of CO₂ emissions.
- Emission Reduction Percentage: Studies confirmed a CO₂ emission reduction efficacy rate of 92.5%.

These verifiable figures, particularly those contextualized within the regional environment, serve as essential benchmarks for local industrial and commercial entities considering similar investments. The performance analysis transforms internal consumption efforts (documented, for instance, in energy consumption reports by WEnergy Global) into a verifiable, externally useful research service.