



Clean Energy and Sustainability Symposium: Australia-Colombia

21-22 March 2024 – Bogota

Challenges of a Just Energy Transition - multicriteria analysis

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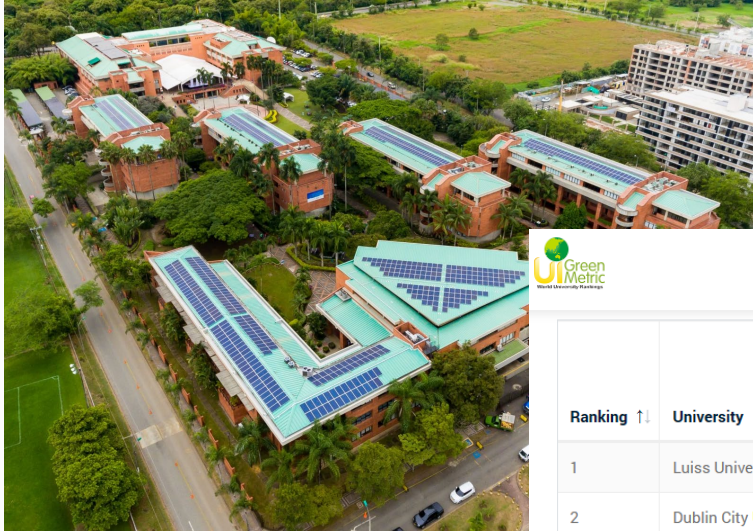
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A Sustainable University Campus



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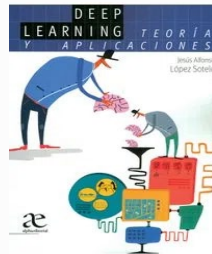
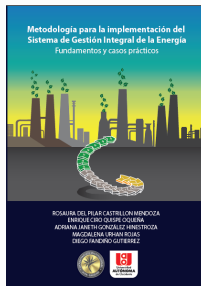
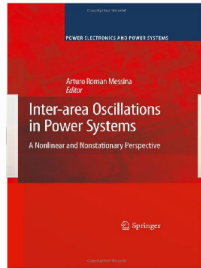
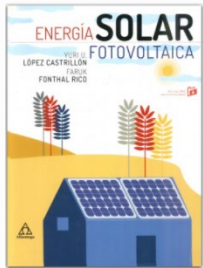
[Questionnaire](#)

Ranking ↑↓	University	Country	Total Score ↑↓	Setting and Infrastructure ↑↓	Energy and Climate Change ↑↓	Waste ↑↓	Water ↑↓	Transportation ↑↓	Education ↑↓
1	Luiss University	Italy	9175	1125	1975	1575	1000	1700	1800
2	Dublin City University	Ireland	9355	1205	1950	1800	1000	1700	1700
3	Leiden University	Netherlands	9200	975	1950	1800	1000	1800	1675
4	University of Turin	Italy	9075	1200	1950	1725	900	1500	1800
5	Leuphana Universität Lüneburg	Germany	8975	1050	1950	1800	800	1650	1725
6	Universidad Autónoma de Occidente	Colombia	8625	1175	1950	1650	850	1300	1700

GIEN



- Research Group on Energies that develops projects in Renewable energies, power systems and energy efficiency. Ranked **A1 MINCIENCIAS**.



National network on energy efficiency:
<http://reciee.com/>

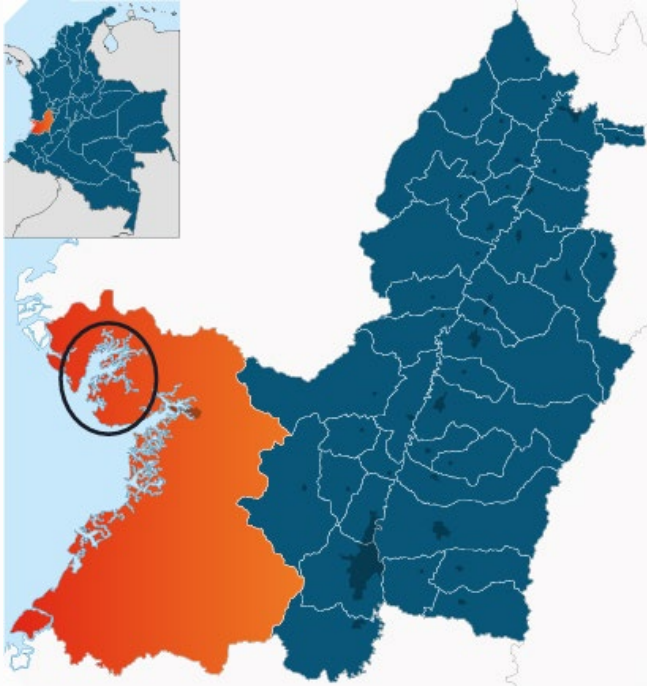
New: Red Nacional de conocimiento minero-energética 2023-2024

CYTED

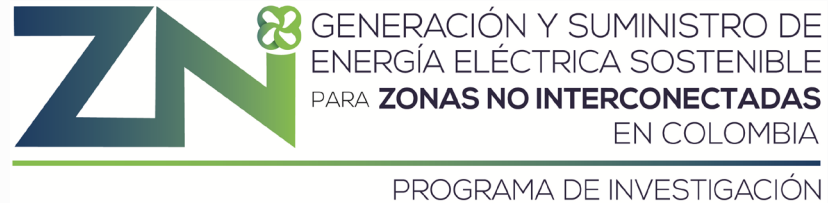
National and international alliances.

RESEARCH PROJECTS

Affordable Technical-Economic Model in Energy Systems Based on Renewable Sources for Rural Microgrids 2016-2019



Universidad Autónoma de Occidente
Universidad del Valle
Universidad Federal de Rio de Janeiro
Universidad de Quintana Roo



1. A multicriteria diagnosis to evaluate several aspects



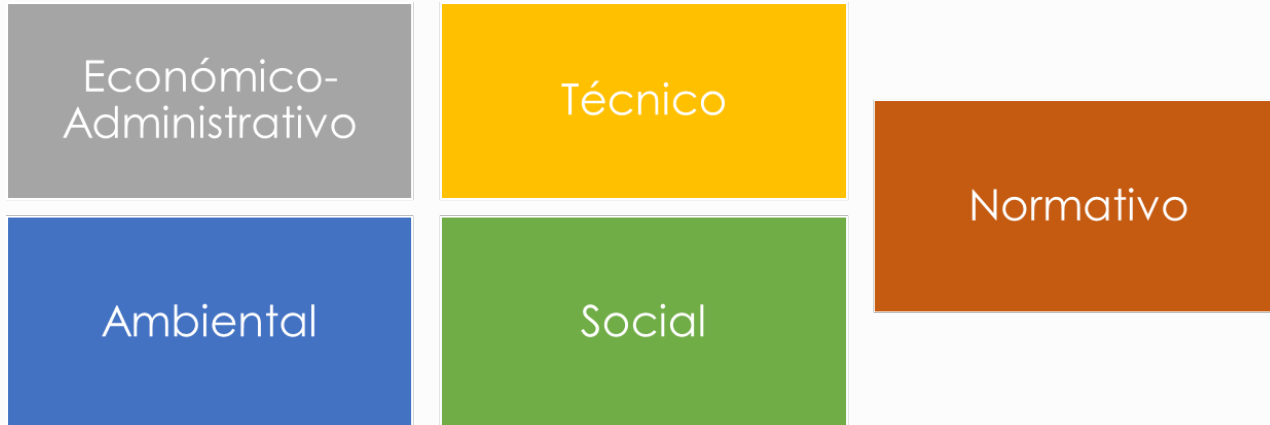
- Social
- Environmental
- Technical
- Economical

Criteria and subcriteria defined



METODOLOGY

The multi-criteria methodology considers sociocultural, technical, economic, environmental, environmental AND POLITICAL aspects of designing projects in isolated populations. In addition to the usual criteria, we consider here the norms, regulations, and governmental decrees that apply to Afro-descendant communities and ethnic minority groups, as well as special regulations on gender equity. Likewise, governance in our community is considered, identified, respected, and is led by the Bahía Málaga Community Council.



Research Impacts expected

- To Produce energy with local renewable resources
- Social inclusion and technological transfer of knowledge to communities.
- Improvement of life quality
- Energy poverty decrease.



Just Energy Transition for Rural Afrodescendent Communities.

2022-2023

Interdisciplinary work



Project subjects

Cofounded by World
Women Bank WWB
Colombia

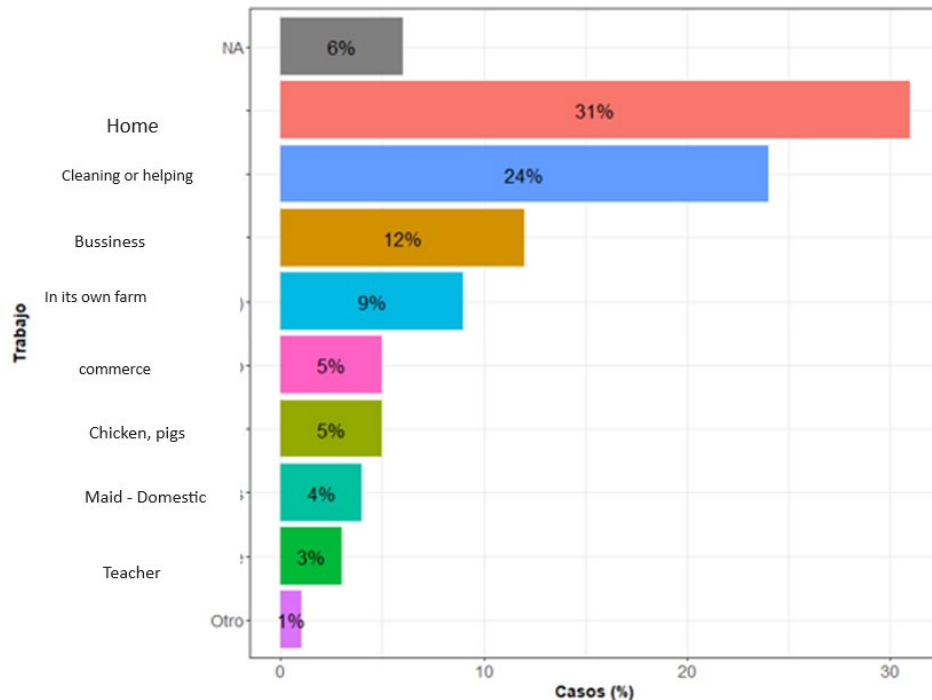
- Analyze barriers and opportunities for the implementation of energy communities with women
- Train women's productive associations in renewable energies with teachers and students
- Installing solar PV energy systems to strengthen their productive projects reducing the electricity bill.



Phase 1: Diagnostic – Energy demand and local renewable resources.

Social,
productive and
educational
diagnosis

Labour activity distribution



Trainings in Renewable energies and energy communitites



Particular assessment



- We work with each entrepreneur to guide them on identifying efficient uses of energy for its productive use.
- Topics: Energy efficiency
- Solar PV systems
- Biodigesters

Finally: how to team with other.

Final Workshop



Seven proposals for energy systems were developed to meet the needs of the productive processes.

Winners:

- traditional farm food production
- Ancestral products transformation project
- Laying hens Project
- Association for reconcile Young people
- traditional farm food production and fish farming
- Medicinal plants.



Benefits – Opportunities



ROBLES community



- Promote energy transition
- Increase Social Responsibility index
- Test and validate a energy community model under its service.
- Increasing resilience on energy matrix.
- Take advantage of this installations.
- Learning on renewable energy and transition.
- Produce electricity from a natural free source and reduce the bill.
- To increase their community sense
- Empower themselves to participate in a novel hot topic in Colombia.
- Validate the technical-economic model for energy communities research process.
- Development of research in rural areas of Afrodescendants.
- Strengthen the MULTICRITERIO methodology for project development.
- Develop and validate our own E.C. model to be published.
- Understand and validate digital technology (hardware and software). Microgrids - Smart grids

¡Thanks!

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