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Transición energética en la 4ta revolución industrial



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Energy Transition for rural development: A preliminar case study in Colombia for improving artisanal fishing

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Contents

- I. Introduction**
- II. Renewable energy and rural development**
 - A. Potential of Renewable Energy Sources (RES)**
 - B. Energy Poverty in Colombia**
 - C. Transportation sector energy consumption in Colombia**
- III. Energy in the fishing sector**
 - A. Socioeconomic description**
 - B. Fishing infrastructure**
- IV. Results**
- V. Conclusions**
- VI. Questions**

I. Introduction

Energy transition is increasingly regarded as a promising opportunity for the economic development of rural areas and becomes an alternative to lower costs and increase the productivity of Marine Small-Scale Fisheries, Food Security and Poverty Alleviation.



View of the port of Guapi, Cauca



Meeting with the community

I. Introduction

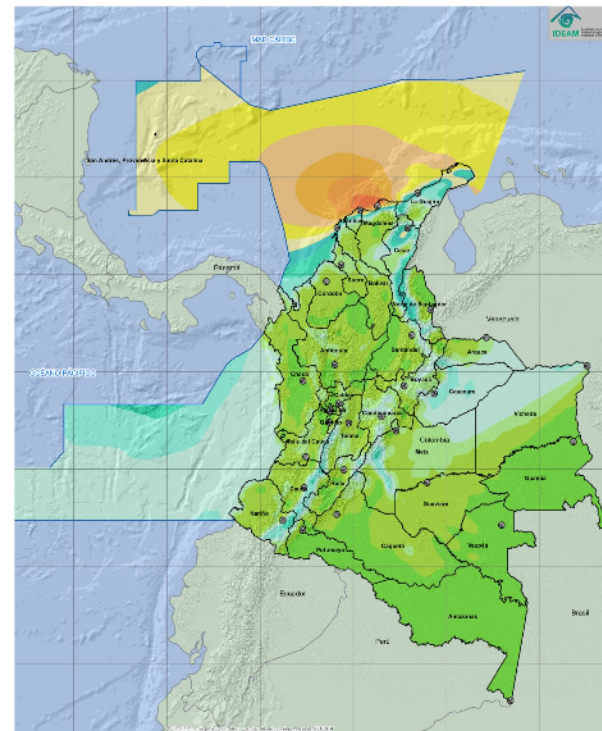
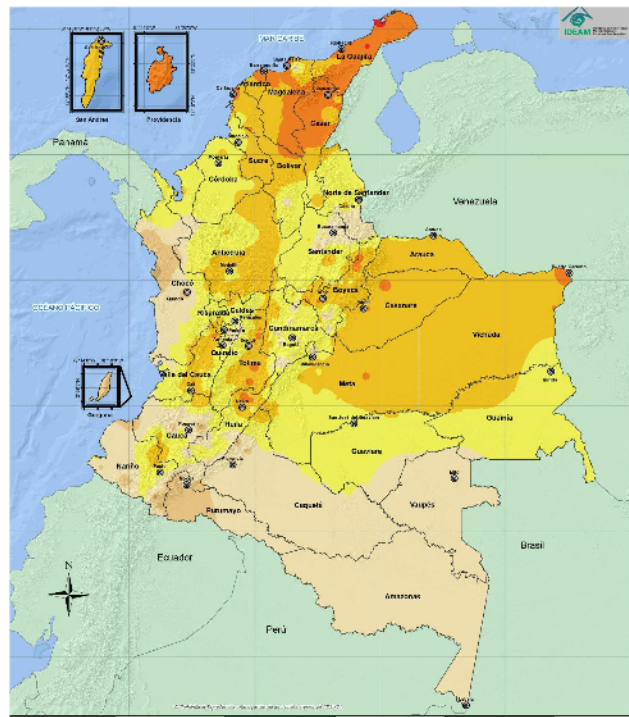
Fishing operations have energy consumption to make this work safer and more efficient



Some elements used during the fishing

II. Renewable energy and rural development

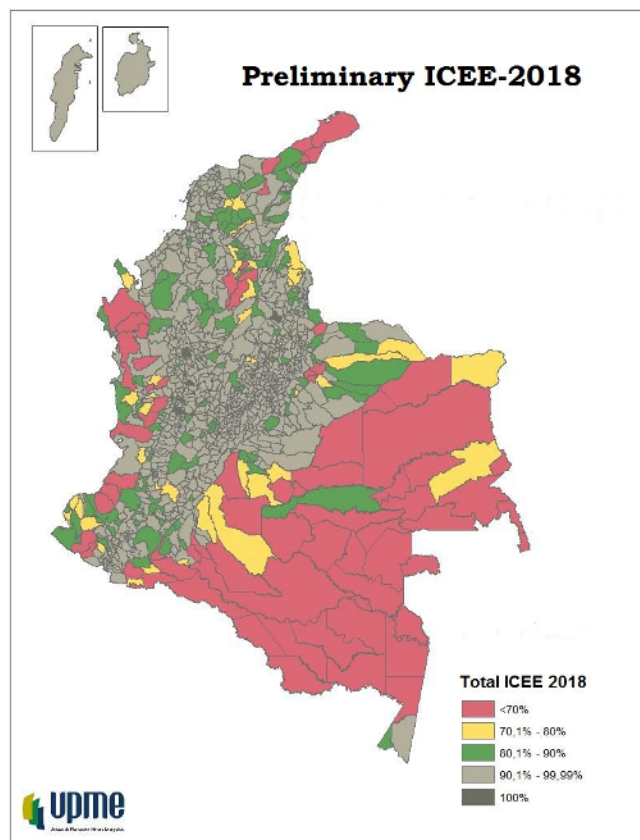
A. Potential of Renewable Energy Sources (RES)



Map of average daily horizontal global irradiation

Map of average surface wind speed

B. Energy Poverty in Colombia

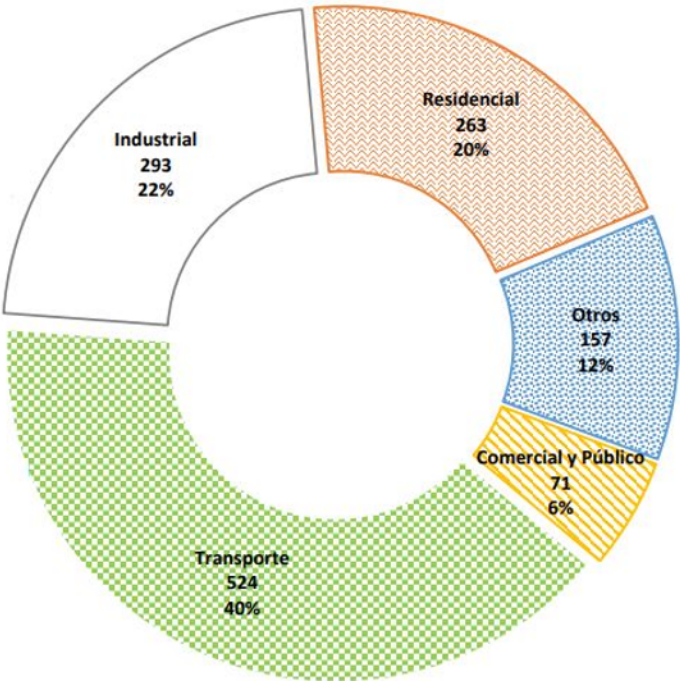


The result of the last Electricity Coverage Index 2018 (ICEE) showed that the percentage of ICEE for Colombia is 96.44%, this represents 505,981 non-energy housing units, of which 53,461 are in urban areas and 452,520 in rural areas, with rural coverage being 12 percentage points lower than urban coverage.

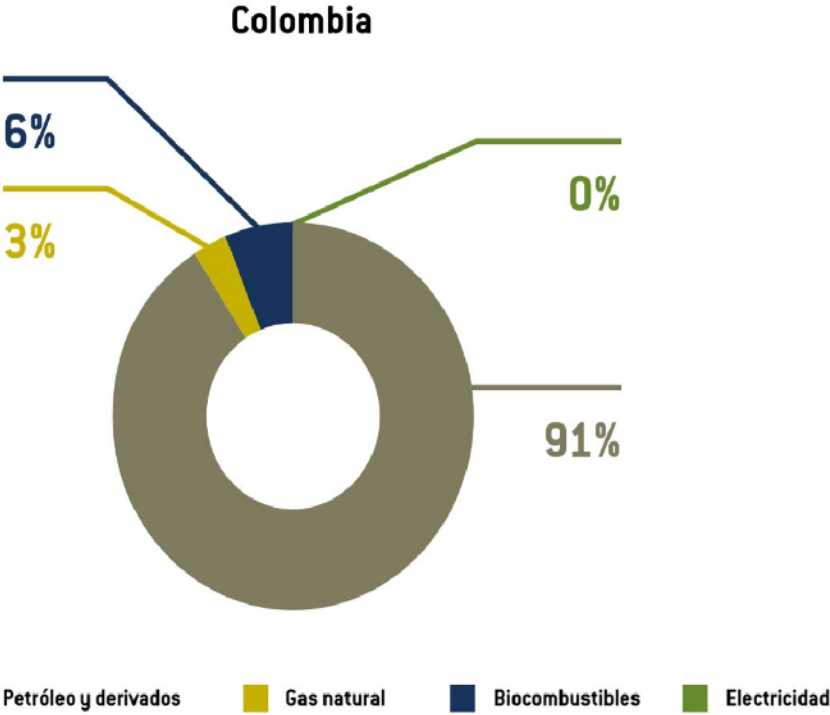
Map of the preliminary total ICEE 2018 at the municipality level

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C. Transportation sector energy consumption in Colombia



Final energy consumption in Colombia 2018 (PJ)



Energy consumption in the transport sector

III. Energy in the fishing sector



Fishing day

According to the Food and Agriculture Organization of the United Nations (FAO), the artisanal fishing can be defined as the traditional activity involving fishing households using relatively small amount of capital and energy, relatively small fishing vessels, making short fishing trips, close to shore, and devoting their capture mainly for local consumption.

The fishing community states that the main cost of operating their work is the acquisition of fossil fuel and that their fishing activities present a high life risk.

A. Socioeconomic description



Geographical location of Guapi

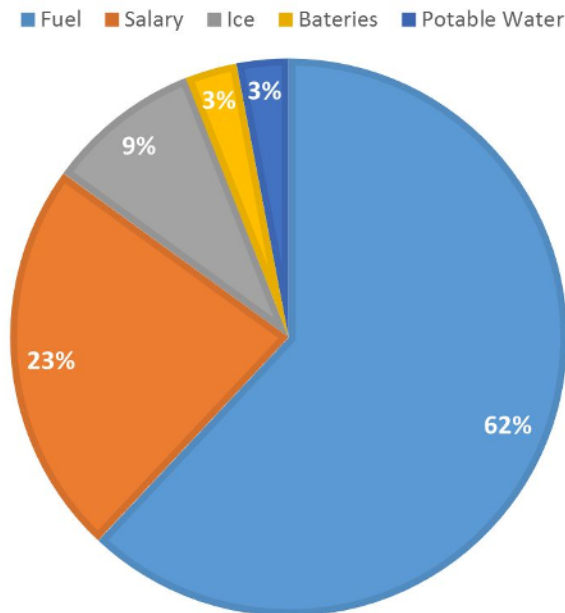
The main economic activities in that town, in terms of employment generation, income and energizing local economies, are currently fishing, mining-traditional, coconut, artisanal sectors and basic local commerce and services. Around 80% of the families of the municipality depend on fishing and agriculture, because their income depends on the work they do daily, but they do not have logistic, financial or services support

B. Fishing infrastructure

Fishing organization in the region

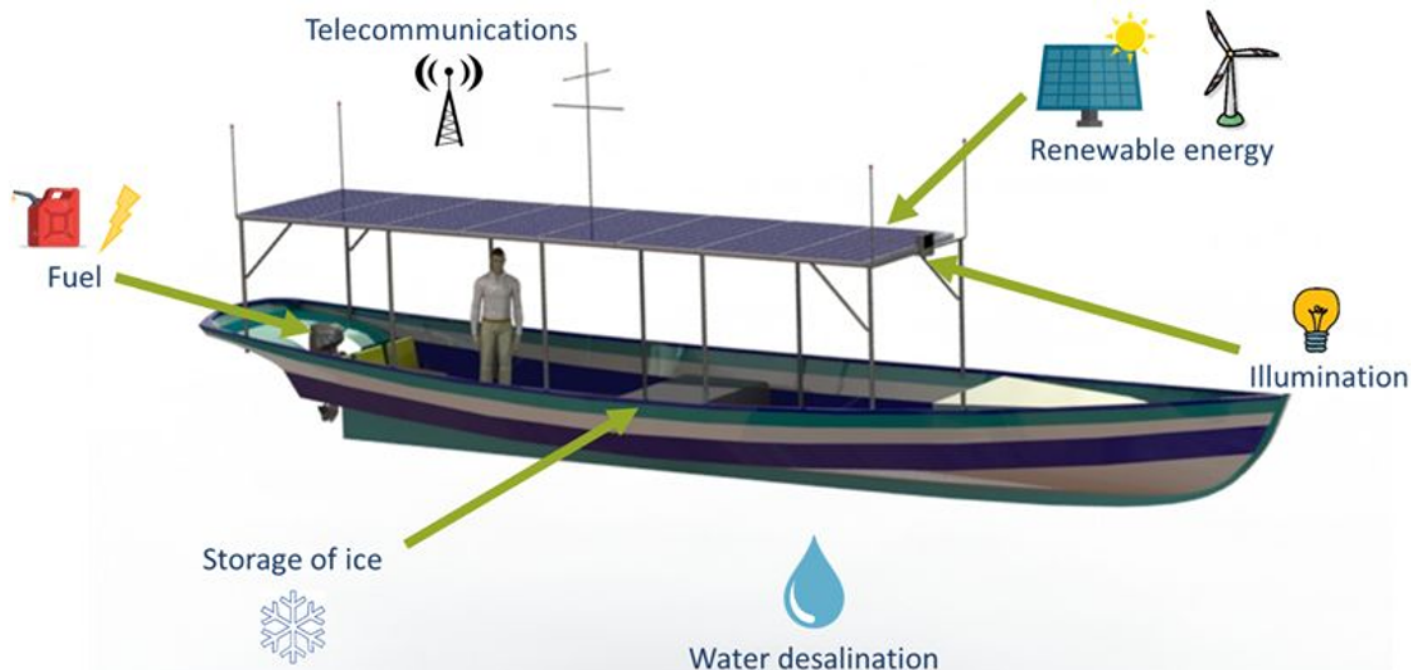
Organization's name	Women	Men	Total
Servipesca	9	11	20
Renacer progresista guapireño	2	9	11
Asociación Nueva Bella Vista	5	10	15
Total	16	30	46

COST



Fishing cost

IV. Results



Conceptual design of the proposed boat

V. Conclusions

- Different definitions can be found about the concept of the energy transition, and what they all agree on is basically that a path must be drawn toward the transformation of the energy sector to reduce the use of fossil fuels to a level of zero emissions for energy production, and they are set as a target for this the second half of this century.
- It is appropriate to link the issue of energy transition in Colombia to reducing energy poverty, how the use of new technologies eliminates dependence on fossil fuels in isolated areas where the cost is higher and the impact of not having quality service and continuous energy decreases the progress of the regions.

VI. Questions

