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### Data Article

# Data supporting the assessment of biomass based electricity and reduced GHG emissions in Cuba



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#### ABSTRACT

Assessing the biomass based electricity potential of developing nations like Cuba can help to reduce the fossil fuels dependency and the greenhouse gas emissions. The data included in this study present the evolution of electricity production and greenhouse gas emissions in Cuba. Additionally, the potentialities to produce biomass based electricity by using the most significant biomass sources in Cuba are estimated. Furthermore, estimations of the potential reductions of greenhouse gas emissions, resulting from implementing the biomass based electricity potential of the different sources discussed in the study, are included. Results point to the most promising biomass sources for electricity generation and their potential to reduce GHG emissions.

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## Specifications table

Subject area	<i>Renewable energy, environment</i>
More specific subject area	<i>Carbon dioxide emissions.</i>
Type of data	<i>Table</i>
How data was acquired	<i>From documents and own calculations.</i>
Data format	<i>Raw, filtered, analyzed, etc.</i>
Data source location	<i>Cuba</i>
Data accessibility	<i>Data is available at <a href="http://www.one.cu">www.one.cu</a> Complementary data is available in literature (see reference list)</i>
Related research article	<i>The current potential of low-carbon economy and biomass-based electricity in Cuba. The case of sugarcane, energy cane and marabu (<i>dichrostachys cinerea</i>) as biomass sources “in press”.</i>

## Value of the data

- This data contains key information for the biomass production and the GHG emissions in Cuba.
- This data can be used to estimate the biomass based electricity potential of Cuba.
- This data can be used to estimate the reduction of GHG emissions that could result from implementing the different biomass based electricity potentialities existing in Cuba.
- This data permits to focus on the largest biomass sources for energy production in Cuba.

### 1. Data

The data presented in the article is related to the research article: *The current potential of low-carbon economy and biomass-based electricity in Cuba. The case of sugarcane, energy cane and marabu (*dichrostachys cinerea*) as biomass sources* [1]. The data corresponds to the evolution of the electricity production and of the GHG emissions in Cuba, and includes the biomass potential of the largest sources and the estimation of the associated biomass based electricity generation and greenhouse gas (GHG) emissions potential. The data of the evolution of the electricity production and of the GHG emissions was collected from the National Statistics Office of Cuba, when needed complemented with information from literature and databases. The estimations of the potentialities of biomass based electricity production and GHG emissions reduction in Cuba are calculated to highlight the main features.

### 2. Materials and methods

Based on the available biomass sources (between 2011 and 2016) estimations of the biomass based electricity potential and the possibilities to reduce GHG are developed. The biomass based electricity potential was calculated as:

$$E = LHV_w \cdot \eta_{\text{elect}} \quad (1)$$

where:

$E$  – Electricity potential (kWh/t)

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