

# Evaluation of Renewable Energy Infrastructure in the Dominican Republic



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## Why Change to Renewable Energy?

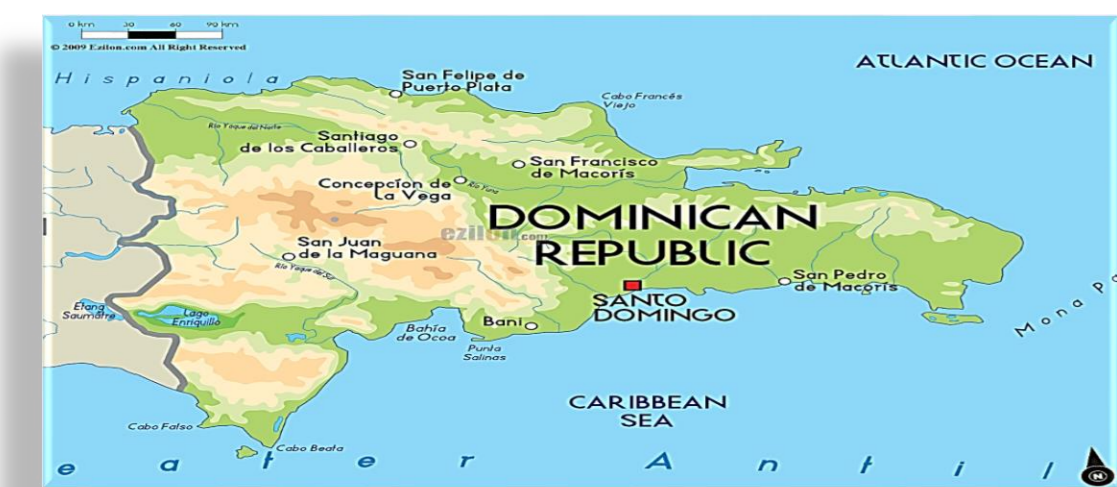
Developing countries lack the social-economical means to implement known renewable energy measures and utilization of their natural resources. As such they most find new and innovative ways to achieve these goals. Such is the case of the Dominican Republic (DR).

## Methodology

Qualitative Research

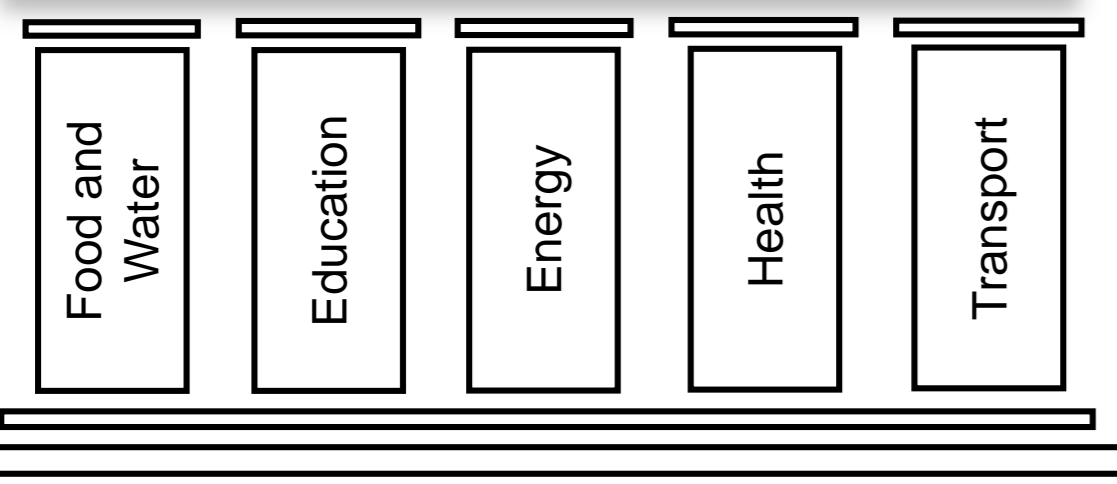


## The Pillars of a country's Development



The development of any country is based on 5 sectors or pillars:

These represent the key points of development and the areas that need to be enhance to successfully achieve an optimum quality of life.

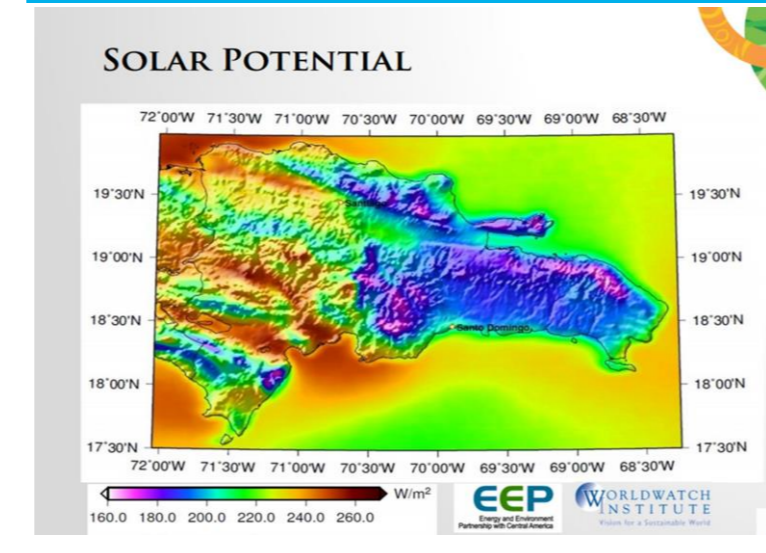


## The Dominican Republic



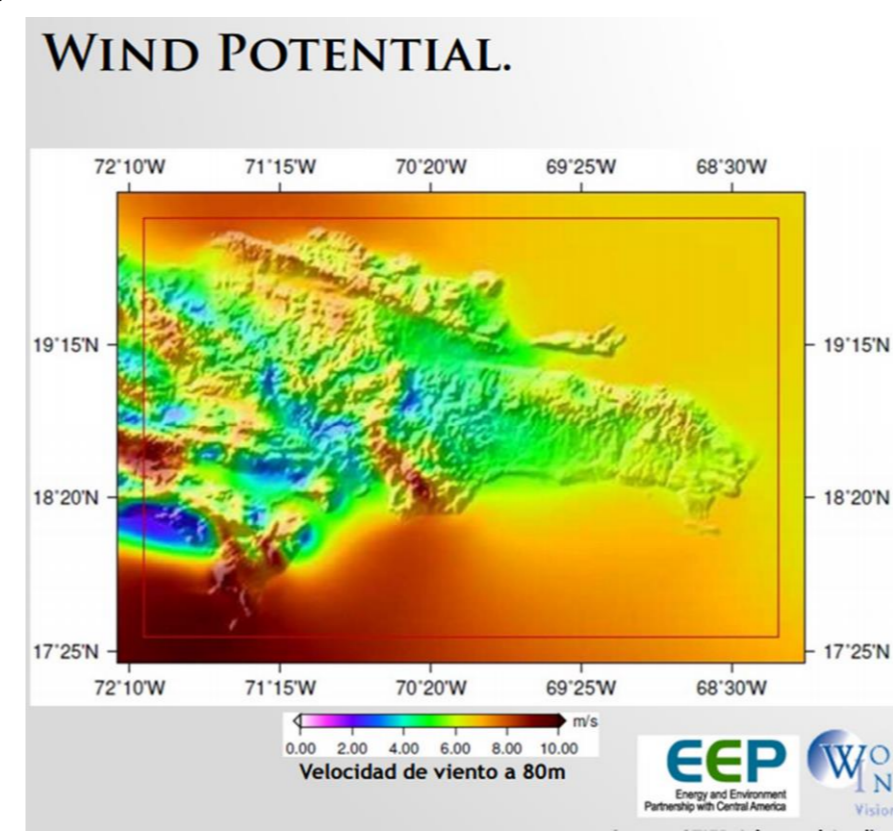
The DR is primed to become a major proving ground for the viability of renewable energy in the Caribbean region; because of the local wind potential and the tremendous solar potential that the country possess but does not use.

## Potential



There is strong solar potential across the country, with average global horizontal irradiance (GHI) generally ranging from 210 to 250 watts per Square Meter (W/M2).

For wind resources, the DR possesses 78 sites with a capacity factor of over 30 percent, as well as Wind variability, which is high, however, this means that wind development will need to consider geographic diversity as a way to address intermittency issues.



## Challenges and Drivers for the DR

Some of the key challenges in the DR, are the high cost of electricity, generation peaked facilities, and a distribution system with major energy loss (42%) and instabilities in the power flow quality. Despite all of the challenges and obstacles that the DR faces the country continues to try to better its existing energy business plan and there for the energy infrastructure itself.

### Challenges

- Losses in Distribution
- Cost of Electricity
- Inadequate infrastructure
- Dependency of Fossil Fuel
- Lack of a Renewable energy Market
- Continuity

### Drivers

- Economic Stability and Growth
- National Development
- Energy stability
- Growth/Creation of Jobs
- Climate change goals

## Preliminary Conclusions

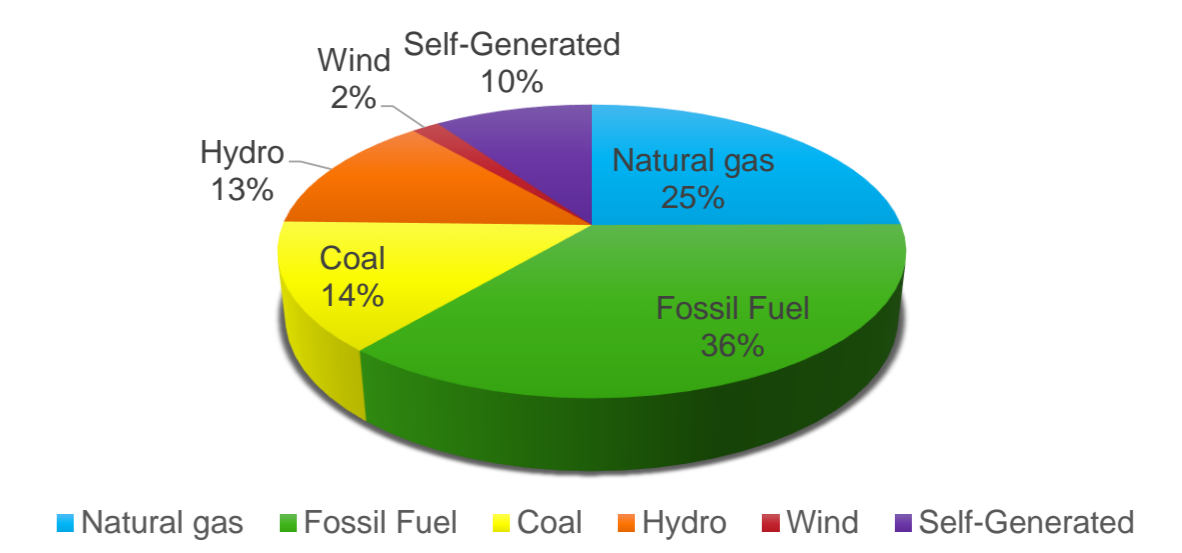
The first steps in this research have been completed. The Literature review, and have demonstrated that the change need can be done. However, the design, development and implementation of the framework for this goal must be carefully plan for a successful implementation.

The Dominican Republic is the third largest energy consumer in the Caribbean, after Cuba and Puerto Rico. Electricity generation accounted for more than 63.6 percent of the country's primary energy consumption in 2012.

Future work in this research to be done :

- Pilot Study
- Data Collection
- Data Analysis
- Framework
- Conclusions

Annual Electricity Generation in the Dominican Republic, by Fuel Type, 2013



## Reference

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