

# Modeling of alternative scenarios for decarbonization of the energetic sector of the Dominican Republic through OSeMOSYS to 2070



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Energy Modelling Platform for Latin America and The Caribbean (EMP-LAC)

2023



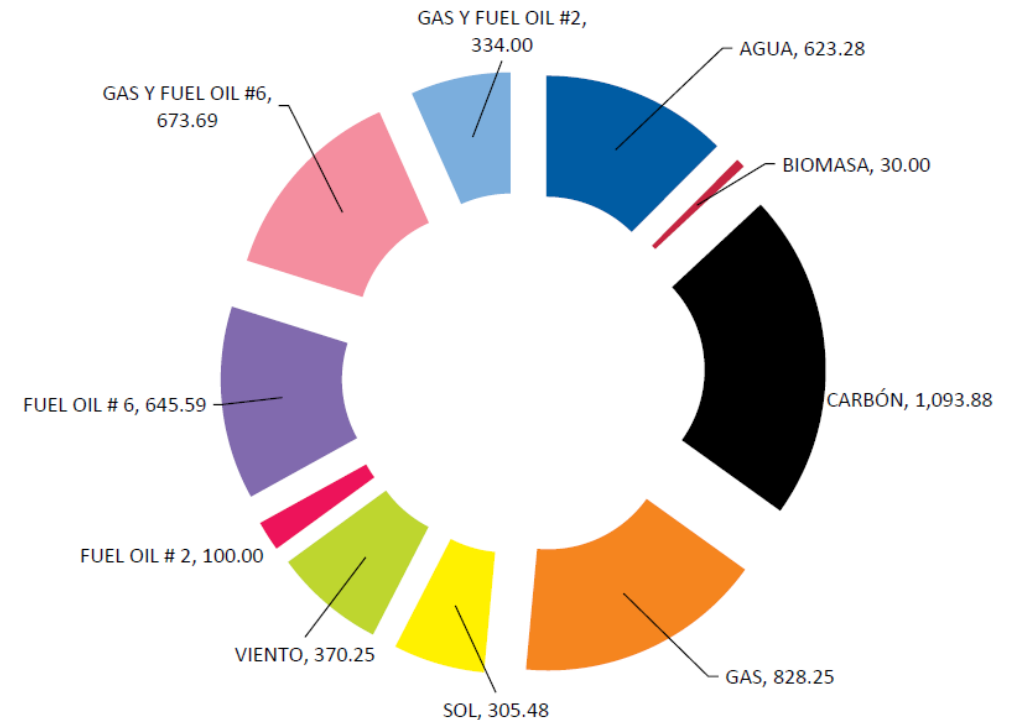
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# Context, Challenges, and Main Findings

- Current energy system in Dominican Republic is highly dependent on fossil fuels.
- Total installed capacity 5 004.41 MW of coal plants there are 1 093.88 MW in operation representing 21,8% of the system.

MW installed capacity in the Dominican Republic 2021



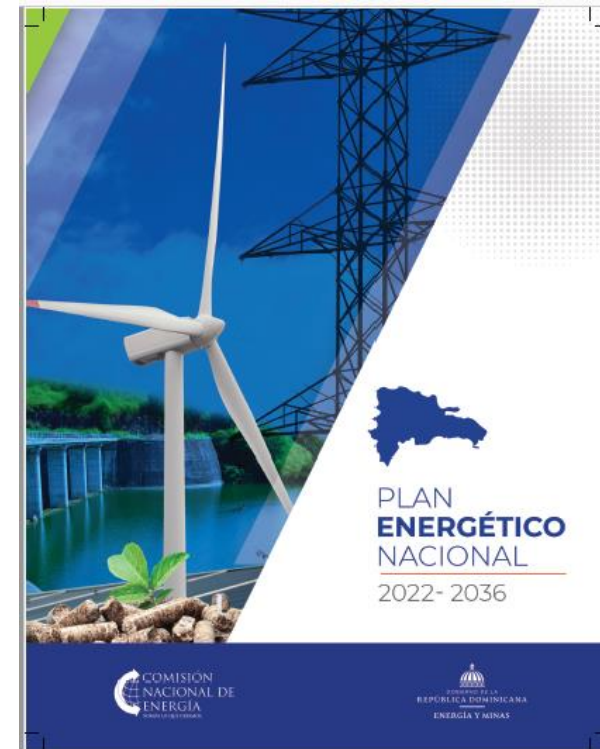
2021 Report Organismo Coordinador SENI.

Retrieved from

<https://www.oc.do/Informes/Administrativos/Memoria-Anual>

# Context, Challenges, and Main Findings

- The energy plan proposes a plan until 2035
- BAU the generation park there are more projects that, at the end of August 2021.
- Renewable increment 2025 (17 %), 2030 (13 %), 2035 (12 %).
- Sensitivity Vision National Energy Commission (CNE)



## 2022 -2035 National Energetic Plan

<https://www.cne.gob.do/documentos/plan-energetico-nacional-pen/>

# Context, Challenges, and Main Findings

- **What must be done in the Dominican Republic until 2070 to maintain a more sustainable energy matrix.**
  - What are the possible strategies or scenarios that would allow a transition to a more sustainable matrix?
  - What changes will the energy mix undergo?
  - What changes will CO2 emissions undergo?
  - What role will alternative technologies provide?

# Scenarios

Using the OSeMOSYS Linear Programming Energy System Model the following scenarios were investigated:

Scenario Label	Scenario Description	Key Assumptions
BAU	Business as usual	The carbon generation is maintained and the tendered energy projects are added.
PENR	Projection of sustainable energy plan (CNE)	The Carbon generation is maintained but all the renewable technologies stipulate in the energy plan 2035 Dominican Republic is considered
RET+REC	Reconversion coal technologies and integration technologies renewables	The 1 093.88 MW of coal plants are converted and the will be integrated all project energy plan 2035 Dominican Republic.