Critical Infrastructure

Optimized

Permanently Islanded:
no energy provided from grid, assuming

Rooftop availability: 1357 m² assuming 4 PV: ~477 kW

In the wake of Hurricane Maria (2017), these municipalities experienced

Rooftop availability: 366 m²

56,999.5

87,599.5

357 / 479

100%

Critical infrastructure was identified to estimate critical load levels for each municipality. Critical infrastructure data extracted from [2] and [3].

Model Formulation

Minimize

Investment Cost

Subject to constraints:

Assumptions

Investment cost from [6].

Planning Scenarios

• Performed analysis for several planning scenarios which varied in load levels and hydro participations.

Scenario

PV

ES

Hydro

Load 

Connected

Available (MW)

Available (MW)

Available (MW)

Connected

System

Connected

Connected

Available (MW)

Connected

Connected

Connected

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