**DATA Kenya HERON model**

[This World Bank Survey is a great source](https://www.enterprisesurveys.org/en/data/exploreeconomies/2018/kenya" \l "infrastructure)

**Project Assumptions**

Project life: 20 years

[Discount rate](http://i-rep.emu.edu.tr:8080/xmlui/bitstream/handle/11129/1775/GhanbariaminRoksana.pdf?sequence=1): 12%

**Water**

[Tariff structure in Mombasa](https://wasreb.go.ke/mombasa/)

$0.55 - $1.50 per m3 depending on customer category (currency conversion on 1/23/2023)

Let’s do a sweep with **$0.50, $1.00, and $1.50/m3**but use $1.00 for the non-sensitivity cases

**Diesel Generator**

CAPEX: Let’s do $650/kW from [Lazard 11](https://www.lazard.com/media/450337/lazard-levelized-cost-of-energy-version-110.pdf)

Fuel cost: MAXIMUM of $4.90/gallon ([legal requirement](https://www.epra.go.ke/wp-content/uploads/2020/07/15th-December-2022-14th-January-2023.xlsx))

<https://www.eia.gov/energyexplained/units-and-calculators/> : 137,381Btu/gallon = 40.26 kWh/gallon

So with $/kWh = ($/gal)\*(gal/kWh) = 4.90\*(1/40.26) = 0.122 $/kWh-th = 0.370 $/kWh-e

Current cost is $5 ([source](https://www.globalpetrolprices.com/Kenya/diesel_prices/)) so let’s go with the legal maximum of $4.90 per gallon

**Desalination**

* See desalination\_costs spreadsheet for O&M and CAPEX costs regressions

[Reverse osmosis](https://s3.amazonaws.com/suncam/docs/389.pdf): 3.25kWh/m3

**Nuclear**

CAPEX: $4,572/kWe from [our very own Jason, Will, Anna, etc.](https://www.osti.gov/servlets/purl/1886660)

OPEX: $10.52/MWh from same source (this is assumed to be a greenfield application of a PWR)

**Industrial Demand**

565 kW thermal

357 kW electric