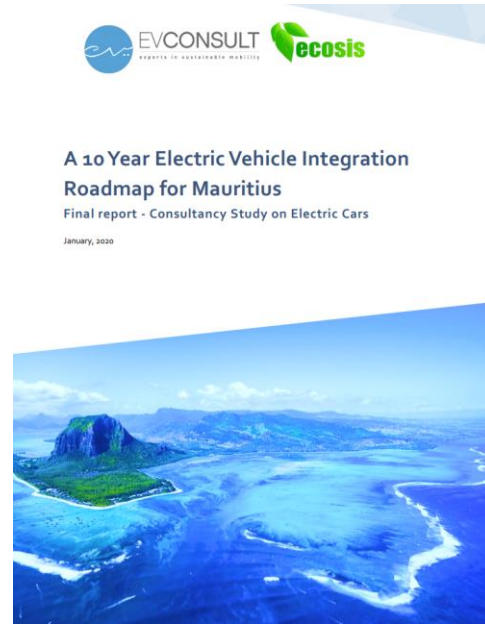
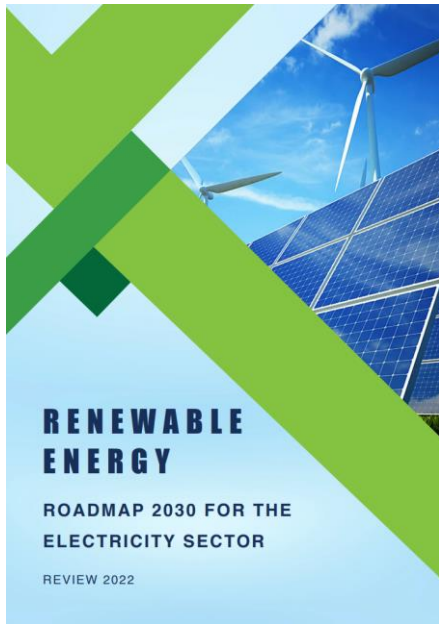


Ex-ante estimation of mitigation of emissions/removals with GACMO using NDC Exercise with GACMO model Day 1

Training workshop for Anglophone African countries:
Deep dive into tracking NDC mitigation commitments
under the Paris Agreement

Aiyngul Kerimray

UNEP Copenhagen Climate Centre



Mauritius National Climate Change Mitigation Strategy and Action Plan 2022-2030

Sources of information on mitigation actions in Mauritius

Sources of information on Start Year and assumptions

- Statistics Mauritius “Energy and Water Statistics” Publication
 - data on energy production, imports, consumption
 - Energy prices
- BUR1
 - GHG emissions inventory

https://statsmauritius.govmu.org/Pages/Statistics/By_Subject/Energy_Water/Energy_Water.aspx
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SEARCH

Energy and Water Statistics

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Senior Statistical Officer
Ministry of Energy and Public Utilities Atchia
Building,
Cor Suffren and P I street Streets

This section presents statistics on energy and water. It includes data on imports of energy fuels, generation and sales of electricity, consumption of energy by sectors, rainfall, storage level of reservoirs and water sales.

Monthly Release
Electricity Generation

Economic and Social Indicators
Energy and Water Statistics
Year 2021 | Year 2020 | Year 2019 | Year 2018 | More

Digest of Energy and Water Statistics


Republic of Mauritius

First Biennial Update Report (BUR1) to the
United Nations Framework Convention on
Climate Change



Ministry of Environment, Solid Waste Management and Climate Change
December 2021

Exercise 1 Assumption

Grid Emission Factor

CO₂ emissions from power plants in Mauritius in 2021 was 2378 kt CO₂ eq.

Electricity generation from power plants in Mauritius in 2021 was 2992 GWh.

(These values were estimated using the Energy Report for 2021 published by Statistics Mauritius)

Estimate Grid emission factor in tCO₂/MWh


Insert resulting value in the Sheet “assumptions”

Discuss how grid emission factor can affect mitigation potential of renewable energy technologies.

Exercise 2

Electricity price

Electricity price in Mauritius is 0.12 US\$/kWh
(Source Statistics Mauritius)

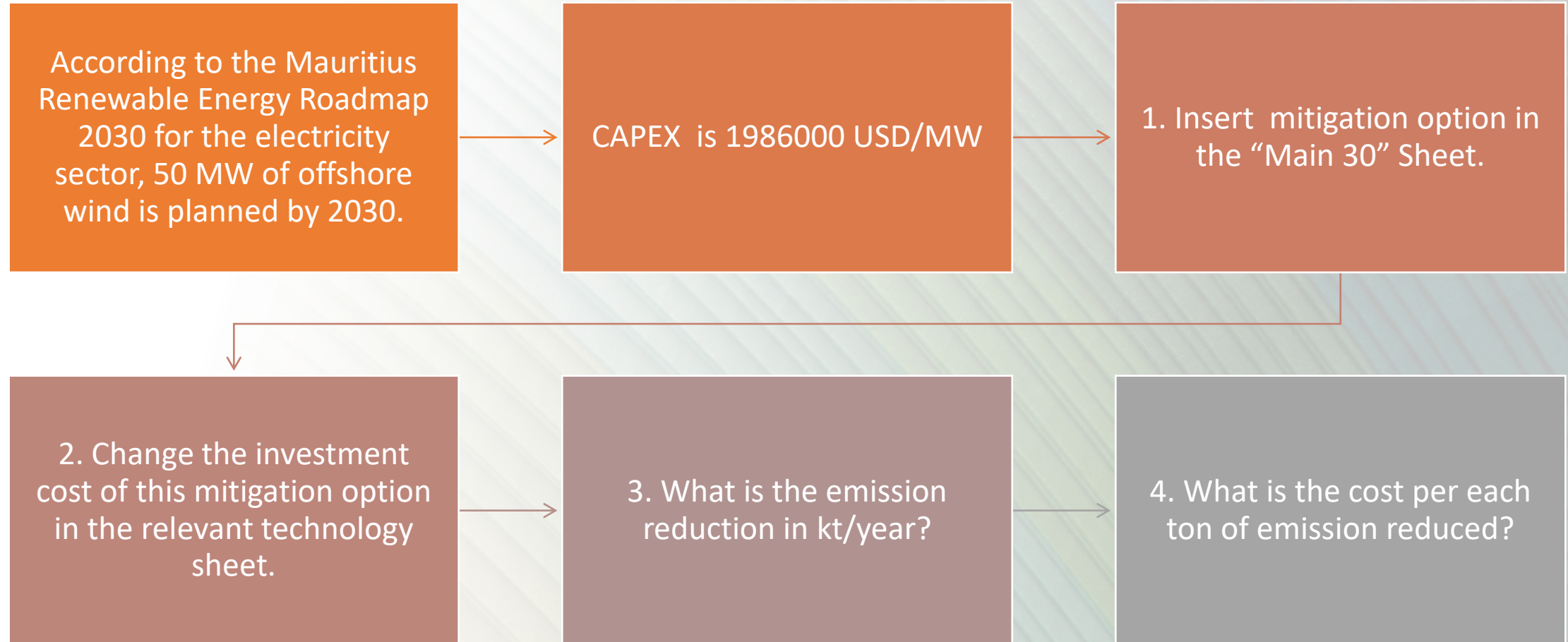


Insert resulting value in the Sheet "assumptions"



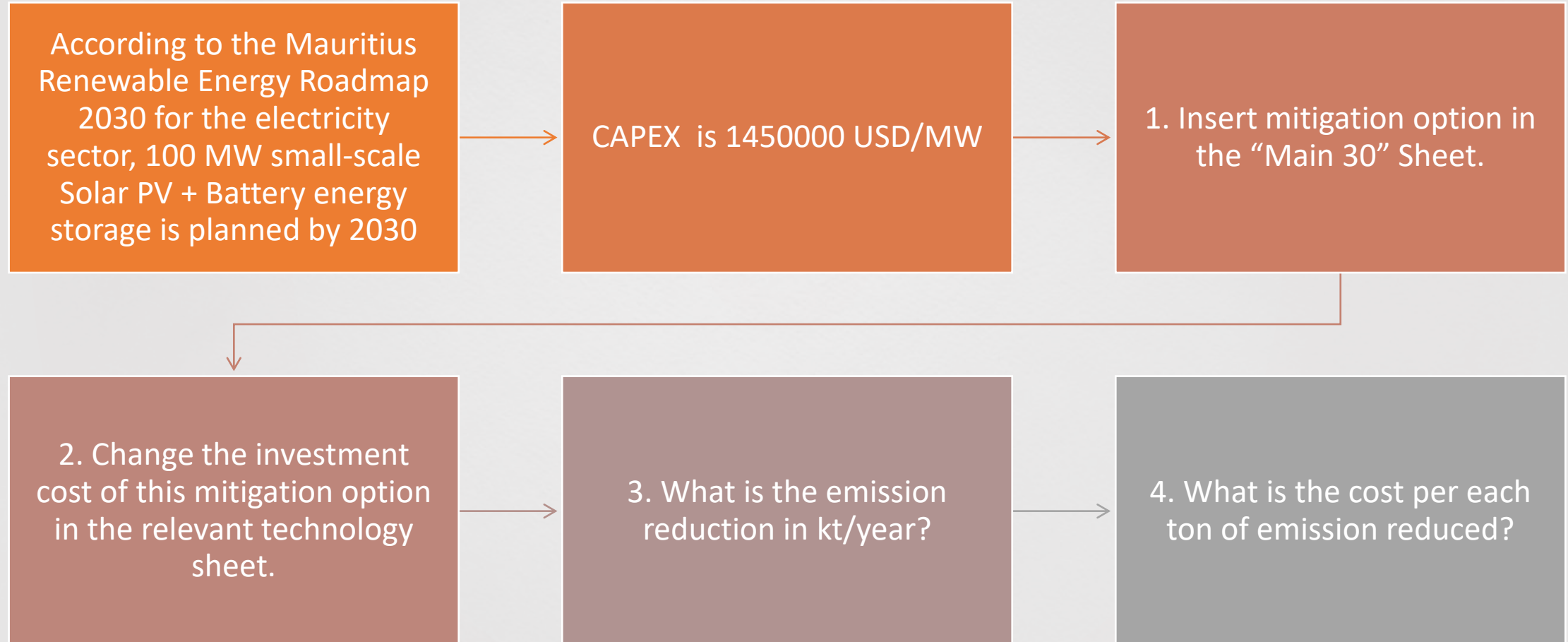
Discuss how electricity price can affect cost/revenue of mitigation options

Exercise 3 Offshore wind



Exercise 4 Renewable Energy Hybrid Facilities

Solar + battery storage



Exercise 5 Electric vehicles

According to the 10 Year Electric Vehicle Integration Roadmap for Mauritius, 26000 of electric vehicles is planned by 2030.

The average price of EV is 25450 USD.

Average kilometres driven per year by one car is 25000 km

1. Insert this mitigation action in the “Main 30” Sheet.

2. Change the investment cost and of annual distance of this mitigation option in the relevant technology sheet

3. Change the price of gasoline in the Sheet “Assumptions”.

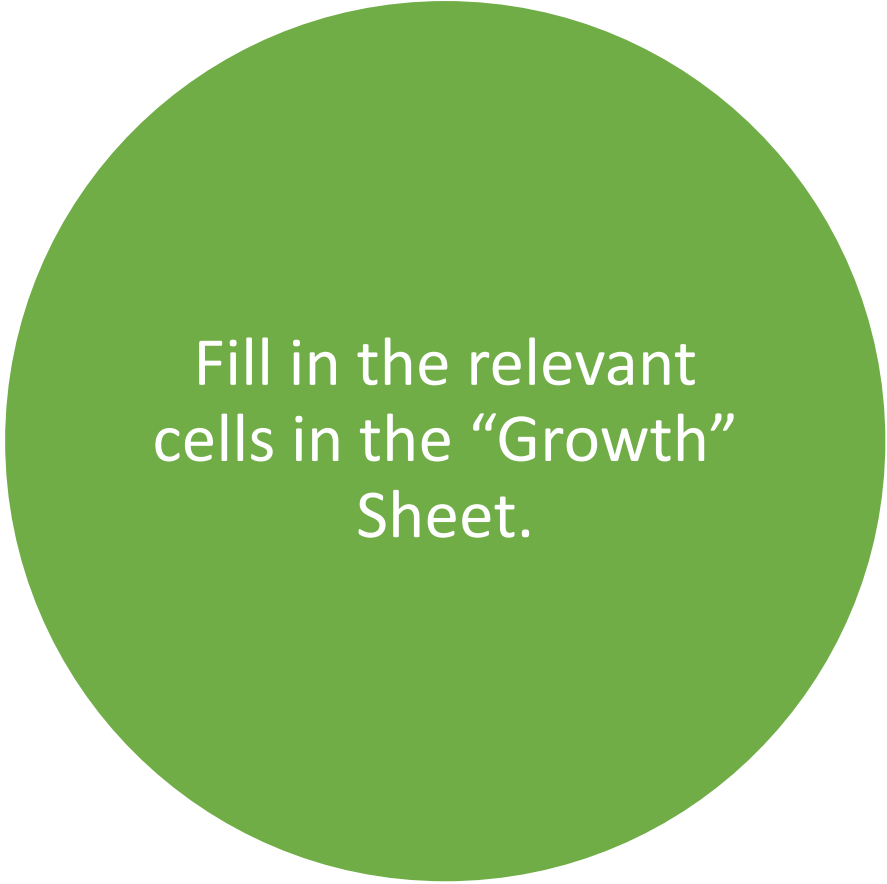
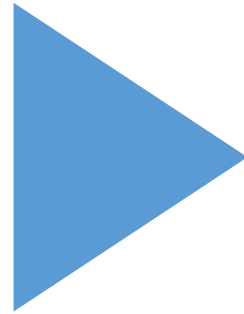
3. What is the emission reduction in kt/year?

4, What is the cost per each ton of emission reduced?

Exercise 6 Assumption GDP Growth rate



Assuming that GDP is expected to expand by 3% (annual growth rate) until 2030 and by 2% (annual growth rate) from 2030 to 2050



Fill in the relevant cells in the "Growth" Sheet.

Exercise 7.

Mitigation actions in the Forestry sector

- According to the Mauritius National Mitigation Strategy and Action Plan, one of the mitigation actions is **afforestation**.
- Insert this mitigation action in the sheet “Main30”.

Strategy 2: Afforestation	The strategy consists of investigating the impact of afforesting 1,750 ha of abandoned sugar cane land. It is assumed that all of the 1,750 ha of land is available in the agro-ecological zone of Dry Lowland (DLL).			
Time period	Area planted with native tree species (ha/yr)	Area planted with exotic trees (ha/yr)		
		Araucaria	Eucalyptus	Tabebuia
2021-2025	5	1.25	2.5	1.25
2026-2030	20	5	10	5
2031-2035	30	7.5	15	7.5
2036-2040	35	8.75	17.5	8.75
2041-2045	40	10	20	10
2046-2050	45	11.25	22.5	11.25

Exercise 8.

Comparison of mitigation actions

- Compare different mitigation actions in terms of emissions reduction and costs.
- Which mitigation actions are the **most/least efficient**?