

# REDUCTION OF GREENHOUSE GAS (GHG) EMISSIONS

**Reduction of Greenhouse Gas emissions has been a major focus for EACOP**

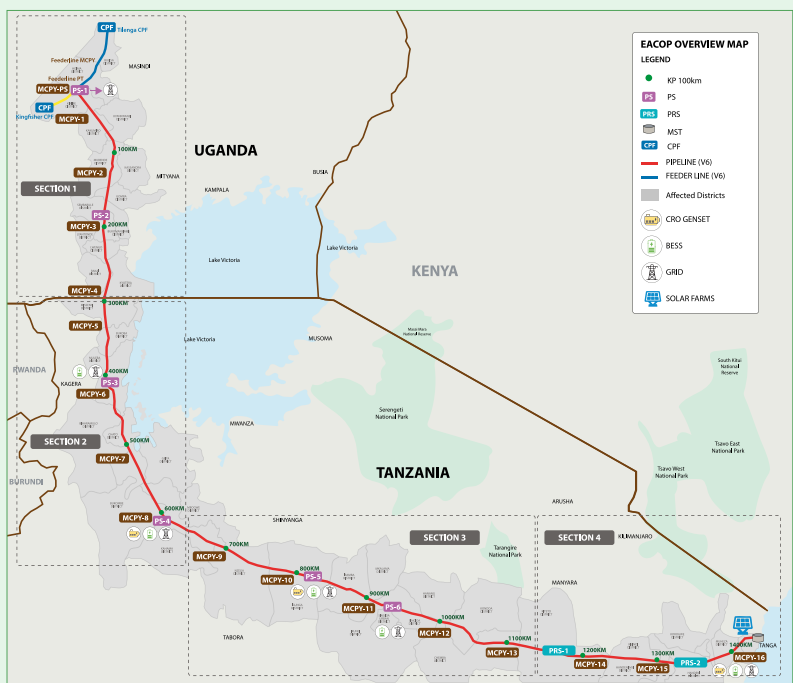
**International practice categorises emissions as Scope 1, 2 and 3:**

**SCOPE 1** emissions from EACOP owned or directly controlled sources:

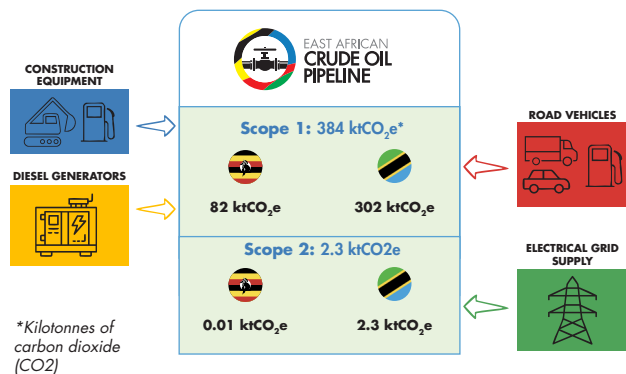
- During construction - mainly from vehicles, transportation, construction vessels, generators and land use change.
- During operation - mainly from power generation used to back up power importation from grid.

**SCOPE 2** emissions arising indirectly from the electricity purchased by EACOP from Ugandan and Tanzanian energy companies during construction and operations.

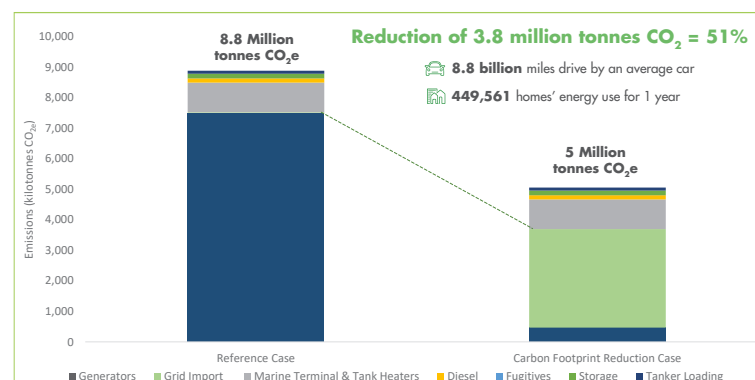
**SCOPE 3** emissions from activities during construction or operations related to EACOP but occur from sources not owned or controlled by the company, including the upstream oil producing facilities, third-party transportation of purchased goods as well as downstream EACOP - shipping, refining, transport of products to points of sale and consumption of the refined products.



## Construction Phase Scope 1 & 2 GHG Forecasting

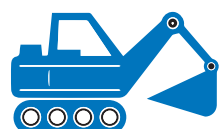


## Lifetime Uganda and Tanzania Operational CO<sub>2</sub> Emissions by Source



EACOP only has custody of the oil whilst it is in transit through the EACOP pipeline system. Scope 3 emissions from both upstream and downstream sources, particularly for end usage, significantly exceed Scope 1 and 2 emissions from EACOP construction and operations.

### Construction phase GHG emissions reduction measures:



Timely maintenance of equipment to maximise fuel efficiency and reduce emissions.

Turning off engines when not in use.

Consideration of how to minimise vehicle movements.

GHG emissions reduction starts with the construction phase. EACOP sets an annual construction phase GHG emissions target based upon forecasting calculations and reports the emissions externally to governments as a performance indicator.

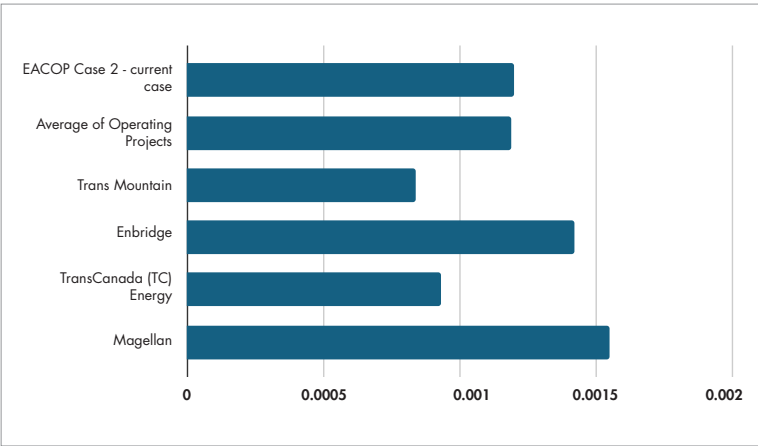
For operations, significant reductions in Scope 1 and Scope 2 GHG emissions have been achieved through the analysis of alternatives using best industry practices and Best Available Techniques (BAT). In Uganda, the 2 pumping stations will be fully electrified with electricity from the national grid with back-up power from the upstream facilities in times of disruption to the electricity supply. Uganda grid electricity is mainly 'green energy' generated from hydroelectric plants. In Tanzania, there is a significant reduction in Scope 1 and 2 from connecting the pumping stations and the marine terminal to the national grid which gets much of its power from renewable sources.

Voltage drops and short duration black-outs in the grid will be managed using a Battery Energy Storage System (BESS) to ensure that the export pumps will continue to operate. A solar farm will provide further power at the marine terminal to support the recharging of the BESS. Generators powered by oil from the pipeline would only be used as a backup in the event of a significant disruption to the grid supply, assumed to be required for 5% of the time.

EACOP's internal Carbon Footprint Reduction (CFR) Task Force is exploring further reduction of Scope 1 GHG operations emissions such as through further use of renewable energy at EACOP facilities.

Benchmarking of EACOP GHG emissions intensity with other long distance oil pipelines demonstrates that EACOP is the same as the average when compared to equivalent pipelines in North America.

Physical climate change risks and risks from transition to a lower carbon global economy have been addressed in two Climate Change Risk Assessments (CCRAs) with measures to manage risks being discussed in each analysis.



	PHYSICAL RISKS	TRANSITION RISKS
Definition Task Force on Climate-related Financial Disclosures. (TCFD)	Physical risks resulting from climate change can be event driven (acute) or longer-term shifts (chronic) in climate patterns e.g.: <b>Acute</b> - increased severity, frequency of droughts, storms, floods, heat waves and wildfires. <b>Chronic</b> - sea level rise and longer-term temperature increase.	Transitioning to a lower-carbon economy may entail extensive policy, legal, technology, reputation, market changes to address mitigation and adaptation requirements related to climate change e.g., Policy legal risks, Technology risks, Market risks and Reputation risks.
Potential impacts	Financial implications for projects, e.g., direct damage to assets, infrastructure, indirect impacts from disruption to the supply chain, changes in water availability, sourcing quality, extreme temperature changes affecting operations, supply chain, transportation, and employee safety.	Financial Reputation.

EACOP’s Scope 1 and 2 emissions represent less than 1% of national emissions in Uganda and Tanzania and will not impact on the countries meeting their 2030 Intended Nationally Determined Contribution (INDC) targets as part of their climate action plans to cut emissions and adapt to climate impacts.

The EACOP project is fully aligned with Uganda and Tanzania’s energy transition strategies. EACOP is also exploring opportunities support both Governments on climate change adaptation and mitigation strategies, including promoting agroforestry and introducing climate-smart agricultural techniques.

### EACOP is in compliance with international financing requirements:

Requirement	Compliance actions
Analysis of alternatives to reduce GHG emissions.	Best Available Techniques (BAT) assessment.
Completion of a Climate Change Risk Assessment (CCRA) and publication of a summary.	Physical and transition Climate Change Risk Assssments (CCRAs) completed. Summary booklet developed.
GHG calculation methodology.	GHG emissions forecasted in line with internationally accepted GHG Protocol.
Annual public reporting of GHG emissions.	Reporting in line with GHG Reporting Protocol on annual combined Scope 1 and Scope 2 operations GHG emissions and GHG efficiency ratio. Quarterly GHG reports provided to the Ugandan and Tanzanian Governments.

Carbon footprint compensation opportunities are also being explored, including green carbon offsets such as forest restoration / tree planting in Uganda and Tanzania and blue carbon offsets involving seagrass restoration in Tanzania.

