

CARBON MARKET

PROFILE  RWANDA



Key assumptions

- Data referring to the CDM (projects and programmes) has been taken from the UNEP DTU CDM project and PoA pipelines as of November 2020. In order to remain conservative, we only include registered activities. We did not assess data quality with regard to whether a project is still active, as UNEP is the commonly recognized database drawing directly on UNFCCC Secretariat data. While there is a high degree of uncertainty with regard to the issuance and upscaling potential of individual activities, these are difficult to assess and will be affected by future political decisions. Only PoAs which have an included component project activity (CPA) in the profiled country have been counted. Only PoAs which have an included component project activity (CPA) in the profiled country have been counted
- While it is clear that in particular the 2030 potential is subject to political decisions and therefore theoretical, it is included as the numbers are based on current CDM activity documents. Whilst all emission reductions may be highly unlikely to be achieved under the CDM, the emission reduction volume may still be relevant e.g. for own NDC contributions by host countries. Moreover, PoAs may experience significant upscaling if carbon market demand increases, which would add further mitigation potential, since we only included emission reductions from actually included CPAs.
- Any future mitigation potential is expressed in kilotons of carbon dioxide equivalent ($\text{ktCO}_2\text{e} = 1000 \text{ tCO}_2\text{e}$) in order not to prejudge the type of certification that post-2020 mitigation outcomes may be using.
- Voluntary carbon standard data has been taken from the official databases of the respective standard. Verified Carbon Standard data is as of December 2020. Data on Gold Standard (GS) activities have been obtained from the GS registry and complemented by information provided directly from the GS in December 2020. Plan Vivo data was obtained directly from the standard in October 2020.
- Assumptions on CDM transition are based on the current status of the COP25 draft decision documents. While these may change, the delay of COP26 to November 2021 rules out that a final decision can be taken before. Therefore, we give a brief indication of what the proposed cut-off dates for CDM transition may mean on a country level. A recent short study on CDM transition and its relevance for Africa explains key issues in detail.
- Due to the lack of a definition or common understanding of what an Article 6 pilot is, we also include initiatives that aim at implementing carbon market activities beyond the CDM. This includes readiness activities and others aiming at emission reduction transactions.

Introduction

EXECUTIVE SUMMARY

Rwanda is the first Africa country in submitting its revised Nationally Determined Contribution (NDC). Unlike its first NDC, the revised version sets mitigation targets for 2025 and 2030. Rwanda's NDC aims at reducing greenhouse gas (GHG) emissions by around 4.6 million tCO₂e in 2030 against business as usual (BAU) emissions of 12.1 million tCO₂ in 2030: 1.9 million tCO₂e will be reduced through domestically supported measures and policies, while 2.7 million tCO₂e are subject to the provision of international support (Republic of Rwanda, 2020).

Rwanda's NDC builds on the National Strategy for Climate Change and Low Carbon Development. The strategy was launched in 2011 and aims to transform Rwanda into a developed climate-resilient, low-carbon economy by 2050 (Republic of Rwanda, 2011).

Full implementation of the NDC requires USD 11 billion (5.7 billion for mitigation and 5.3 billion for adaptation measures). Rwanda is committed to mobilize domestic financial resources of around USD 4.1 billion while the remaining USD 6.9 billion is required from the international community. In order to achieve its conditional target, Rwanda intends to use different climate finance sources including international market mechanisms and cooperative approaches under Article 6 of the Paris Agreement, where appropriate, building upon the experience of the CDM.

The Rwanda Green Fund (FONERWA, French acronym for the National Fund for the Environment and Climate Change) was established in 2012 to mobilize domestic and international climate finance and is accredited to the Adaptation Fund and the GCF.

In total over 2,250,000 carbon credits have been issued in Rwanda from the Clean Development Mechanism (CDM) and the Voluntary Carbon Market (VCM) standards.

Rwanda hosts 4 CDM projects and 12 Programmes of Activities (PoAs)¹ with 55 Component project Activities (CPAs). All CDM activities have issued around 720,000 CERs.

Rwanda has 49 registered VCM activities that have issued over 1.5 million emission reductions. All of these projects are certified under the Gold Standard and entirely focused on improved cookstove activities.

1. 5 of these PoAs are multi-country PoAs.

Carbon Market Portfolio

CDM performance and potential

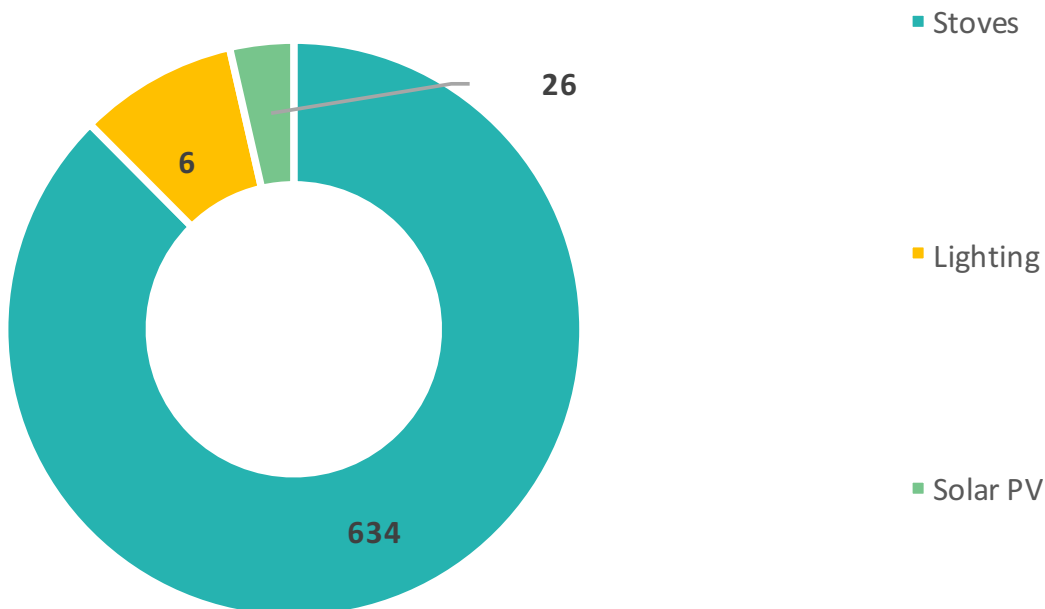
Rwanda hosts 4 projects (1 lighting, 2 solar water disinfection, and 1 solar lamp) and 12 PoAs (8 Energy Efficient stoves, 2 hybrid renewable, 1 solar PV, and 1 water purification) with a total of 55 CPAs.

The country has issued CDM letters of approval for 14 PoAs in total.

4 activities have successfully issued around 720,000 CERs: 1 CDM project (lighting) issued around 64,320 CERs; 3 PoAs (2 improved cookstoves and 1 solar PV) have issued almost 660,000 CERs. Energy efficient cookstoves dominate with about 87% of total CERs issued, while lighting and solar PV together represent around 9%

Total mitigation potential by 2020 reaches 8.5 million tCO₂e and around 18 million tCO₂e between 2021-2030.

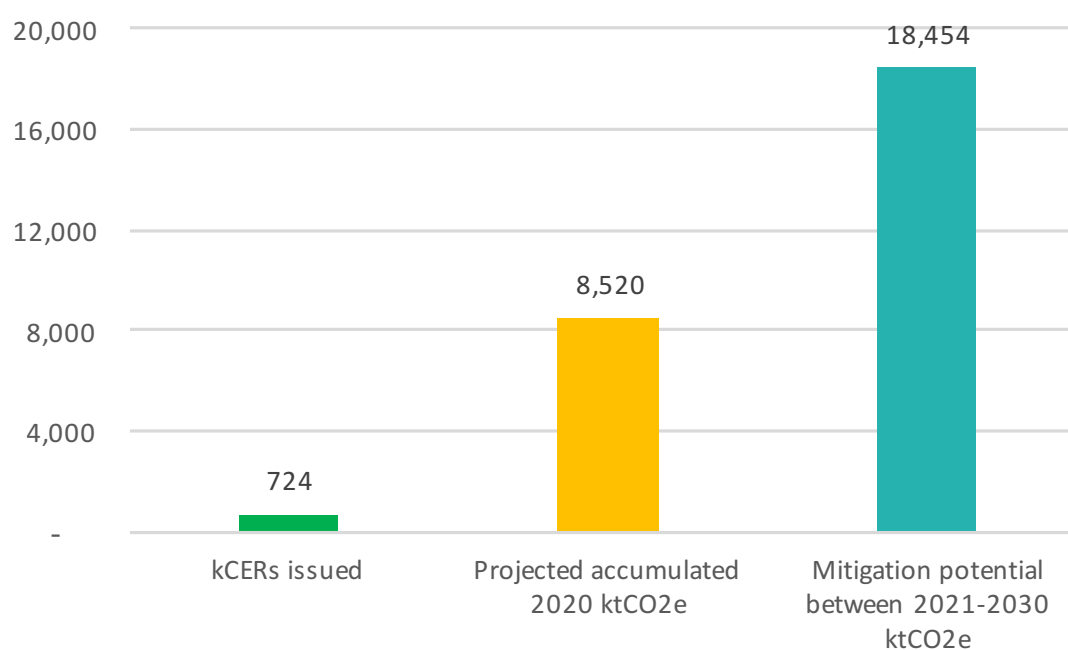
CDM Issuance by sector



Volume of CER issuance and potential of currently registered CDM activities by sector

Activity Type	Sub-sector	No. of PA	No. of PoA	No. of CPA	kCERs issued	Projected accumulated 2020 ktCO ₂ e	Projected accumulated 2030 ktCO ₂ e
Overall		4	12	55	724	8,520	18,454
EE Service	Water purification		1	1		90	136
EE Households	Stoves	0	8	47	634	7,430	17,428
	Lighting	1		85	64	239	
	Solar lamps	1				389	97
Solar	Solar water disinfection	2				55	5,227
	Solar PV		1	1	26	61	353
Hybrid renewables	Hydro dam		2	6		256	690

Issued CERs and 2020&2030 mitigation potential



Voluntary carbon standards

Key statistics/facts

Rwanda has 76 VCM activities that have issued over 1.5 carbon credits.

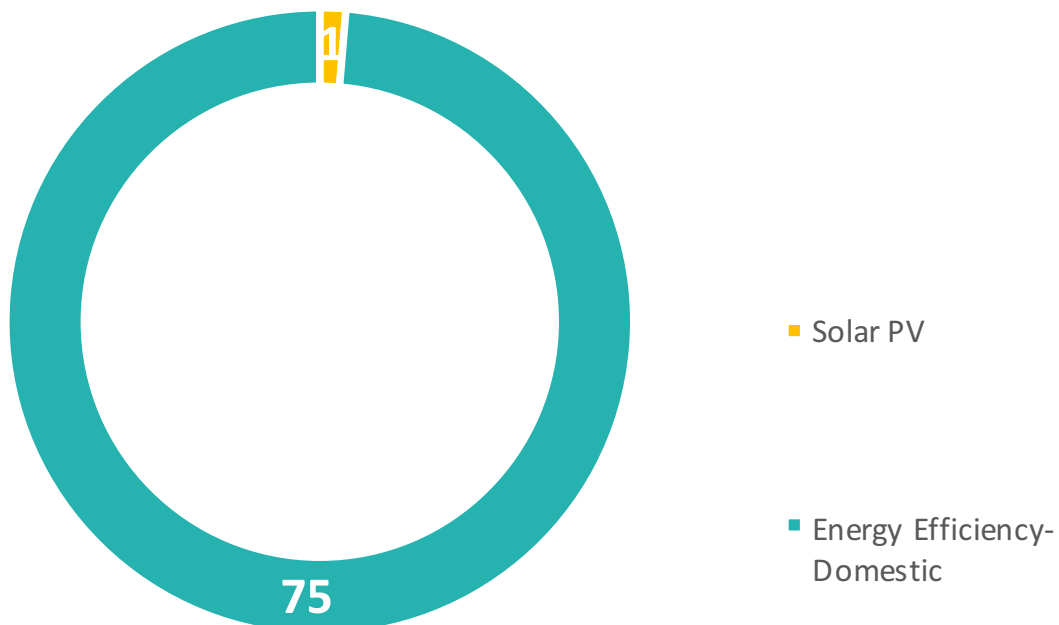
Gold Standard (GS)

- Hosts 76 GS activities (74 VPAs in 6 GS programmes and 2 standalone projects);
- 49 GS activities have issued over 1.5 million VERs

Additionally, there are:

- 497,330 GS CERS
- The registered GS activities mainly focus on energy efficient cookstove projects, while 1 project falls under solar PV

Registered Voluntary Carbon Standard activity by sector



Showcase Activity

Showcase 1 Activity

The Improved Cook Stoves programme for Rwanda (Ref no. 6207) is the earliest registered PoA in Rwanda, with 8 included in the country. The PoA has registered additional 2 CPAs in another country. Atmosfair gGmbH is the Coordinating and Managing Entity (CME). The PoA aims at developing employment opportunities by producing improved cookstoves fully manufactured in Rwanda, although it also allows the use of imported and assembled ones. In Rwanda, the CPAs have issued around 91% of the total CERs issued, i.e. around 0.66 million CERs. These CPAs have an estimated mitigation potential of around 7.8 million tCO₂e by 2020 and almost 18.3 million tCO₂e between 2021-2030. This could be significantly up-scaled if new CPAs are being added.



Source: <https://www.atmosfair.de>

CDM transition

46 registered CPAs have a renewable crediting period of 7 years, 9 CPAs have a fixed 10 year crediting period

What is at stake?

Rwanda has been a comparatively early mover in the African CDM context. Therefore, some of Rwanda's CDM activities will reach the end of the fixed crediting periods shortly after 2020 and can thus not transition to Article 6. Others could become eligible for transition to Article 6, provided UNFCCC rules remain as in current draft documents, even though early cut-off dates may put the eligibility of some activities at risk. Although Rwanda hosts few registered single projects, a relatively strong PoA portfolio with many CPAs has been developed. The mitigation potential could be increased if registered PoAs can be transitioned to Article 6 and new CPAs can be included. Moreover, the potential for scaling up, including by expanding the portfolio to additional technologies should be investigated further, focusing on NDC priority sectors.

- 3 CDM projects (2 solar PV and 1 lighting)) have been registered before 2012. Between 2012 and 2016, 8 PoAs have been registered. The latest CPA inclusion occurred in 2019.
- 1 CDM project (lighting) has a crediting period until 2020. 2 CDM projects (solar PV water purification) have crediting periods until 2021, 1 other CDM projects until 2022 (all non-renewable). 46 registered CPAs have a renewable crediting period of 7 years, 9 CPAs have a fixed 10 years crediting period.
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New market mechanisms and Article 6

The World Bank Carbon Initiative for Development (Ci-Dev) is piloting the Standardized Crediting Framework to one pilot activity on a registered CDM PoA, the DelAgua Public Health Program in Eastern Africa (ICS) (Ref. no. 9626) (UNEP DTU, 2020b). The PoA has registered 27 CPAs in Rwanda which is the largest number of CPAs in a PoA in the country. So far, the PoA have successfully issued 273,612 CERs. Ci-Dev plans to buy emission reduction units generated from the programme (Ci-Dev n.d.). The funds will be used for awareness raising campaigns, training, and repair and maintenance services.

Rwanda's newly updated NDC indicates Rwanda's strong interest to participate in international carbon market mechanisms under Article 6 of the Paris Agreement for reaching its NDC targets.

Role of CORSIA

Rwanda has 37 CPAs (31 stoves, 6 hydro) and additional Gold Standard activities that are eligible for supplying carbon credits to airlines under the CORSIA mechanism.

Rwanda plans to participate in the voluntary stage of the CORSIA starting in 2021 (CORSIA, 2020). RwandaAir is the main airline operating in Rwanda.

References

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Promoting Climate Action in Eastern and Southern Africa



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