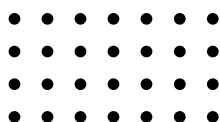




# 2024



## Ghana's progress report on engagements in international carbon markets



March, 2025



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# Message from the Minister

- In 2024, my carbon market team maintained active engagement. The team worked closely with several stakeholders to promote the Government's vision of establishing a beneficial international carbon market for everyone while supporting Ghana's NDC.
- I want to highlight some tangible milestones for 2024, thanks to the hard work of our partners and the carbon market team:
- **Milestone 1:** In December 2024, Parliament passed legislation to facilitate the implementation of an international carbon market in Ghana. This complements the publication of Ghana's framework on the international carbon market and non-market approaches in 2023.
- **Milestone 2:** We have increased our bilateral cooperation to five nations: Switzerland, Sweden, Singapore, South Korea, and Liechtenstein. While the agreement with Switzerland, signed in 2020, is currently under implementation, the agreements with Sweden and Singapore were signed in 2024. The agreement with South Korea has reached the cabinet level.
- **Milestone 3:** Ghana has received 70 carbon market projects at various stages of development for consideration and approval.
- **Milestone 4:** In 2025, my team will focus on supporting the implementation of authorised projects, leading to real results that benefit everyone.



**Hon. Dr. Ibrahim Murtala Muhammed**  
*Minister of Environment, Science and Technology.*

A handwritten signature in black ink, appearing to read 'Ibrahim Muhammed', written in a cursive style.

- **Milestone 5:** Unlocking about US\$1.1 billion in financial flows by 2030.
- 12 projects being developed by Klik Foundation under the Ghana-Switzerland agreement have reached investment decision points.
- The projects are set to leverage up to approximately USD 1.1 billion from direct investment, carbon revenues, and fees by 2030.
- These 12 projects are expected to create a minimum of 5,000 green jobs, save 8 million tonnes of GHG emissions and increase access to clean cooking, renewable energy, electric mobility and green cooling.

# EPA CEO's Message

- Ghana is leveraging the international carbon market under Article 6 of the Paris Agreement as a strategy to achieve the country's NDC mitigation target of -64 million tonnes of carbon dioxide equivalent (MtCO<sub>2e</sub>) and beyond.
- As of 2024, Ghana has authorised three carbon market projects for international transfer, amounting to a total credit of 5.9 MtCO<sub>2e</sub> (internationally transferred mitigation outcomes—ITMOs).
- The 5.9 million tonnes of ITMOs account for 25% of the minimum 24 MtCO<sub>2e</sub> budget allocated for Article 6 transactions.
- The 3 projects are sustainable rice cultivation (alternate wetting and drying rice cultivation), waste-to-compost and transformative cookstoves.
- Following the authorisation, Ghana fulfilled the mandatory reporting to the UNFCCC by submitting its initial Article 6 report in 2023, a technical review and a biennial update transparency report in 2024.
- Ghana's total carbon market project pipeline has reached 68 projects seeking authorisation, with a potential 402 MtCO<sub>2e</sub> of credits.
- Of the 70, 45 projects are under 4 bilateral cooperation engagements, and 25 are Voluntary Carbon Market (VCM) projects.
- 20 VCM projects are being considered for authorisation of carbon credits for international transfer.

- In 2025, Ghana will also focus on operationalisation of the carbon market regulatory provisions in Act 1124, 2025 by establishing the carbon market committee; setting up the GHG mitigation fund and developing legislative instrument to include the relevant aspect of the Act.
- Revise the Ghana's NDC greenhouse gas mitigation target with the aim to increase its ambition.
- Continue the work on strengthening of the functionality of Ghana's carbon registry, with a focus on inter-operability.
- Double the listing of carbon market project on the GCR from 17 to 45 by Q3.



**Prof. Nana Ama Browne Klutse,**  
*Acting CEO - EPA*

A handwritten signature in black ink, appearing to read 'Nana Ama Browne Klutse', written over a white background.

**Scale up carbon market projects development in Ghana**

**Maximise benefits from local content participation**

**Increase the ambition of implementation of NDC through Article 6**

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The final electronic version of this report is readily available for download on the CMO website at ([www.cmo.epa.gov.gh](http://www.cmo.epa.gov.gh)).

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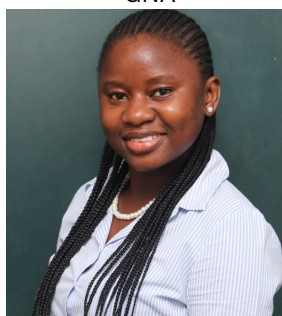
Derek Sarfo-Yiadom, EPA



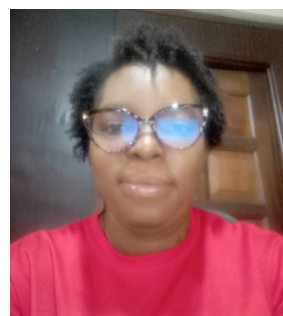
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Paul K. Ocran, HSL Carbon



# 2024 in review - key highlights

3 bilateral agreements	↑ 200%
70 carbon market projects	↑ 89%
3 granted authorisations	↑ 50%
1 project at examination	↑ 25%
7 projects at validation	↑ 133%

~ 5,000 green jobs created

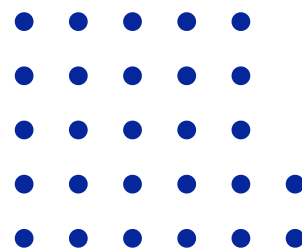
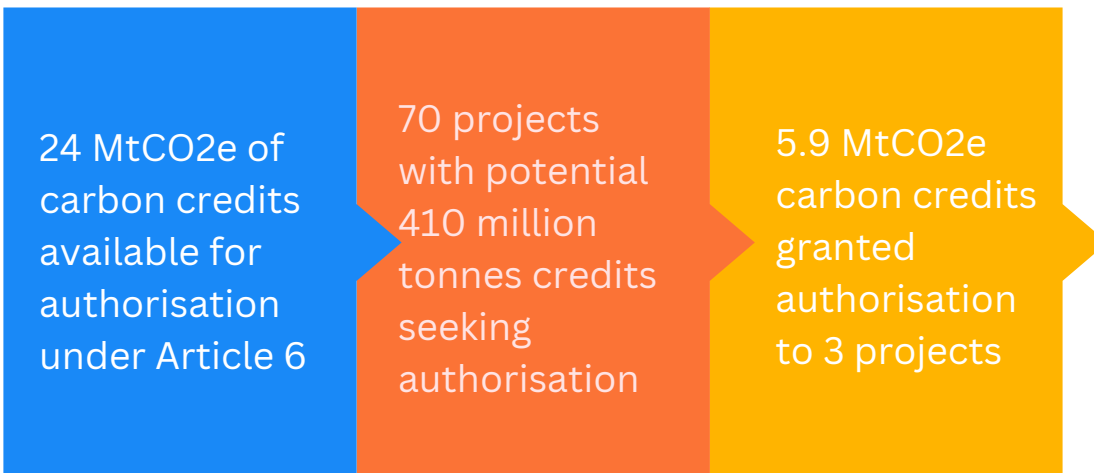
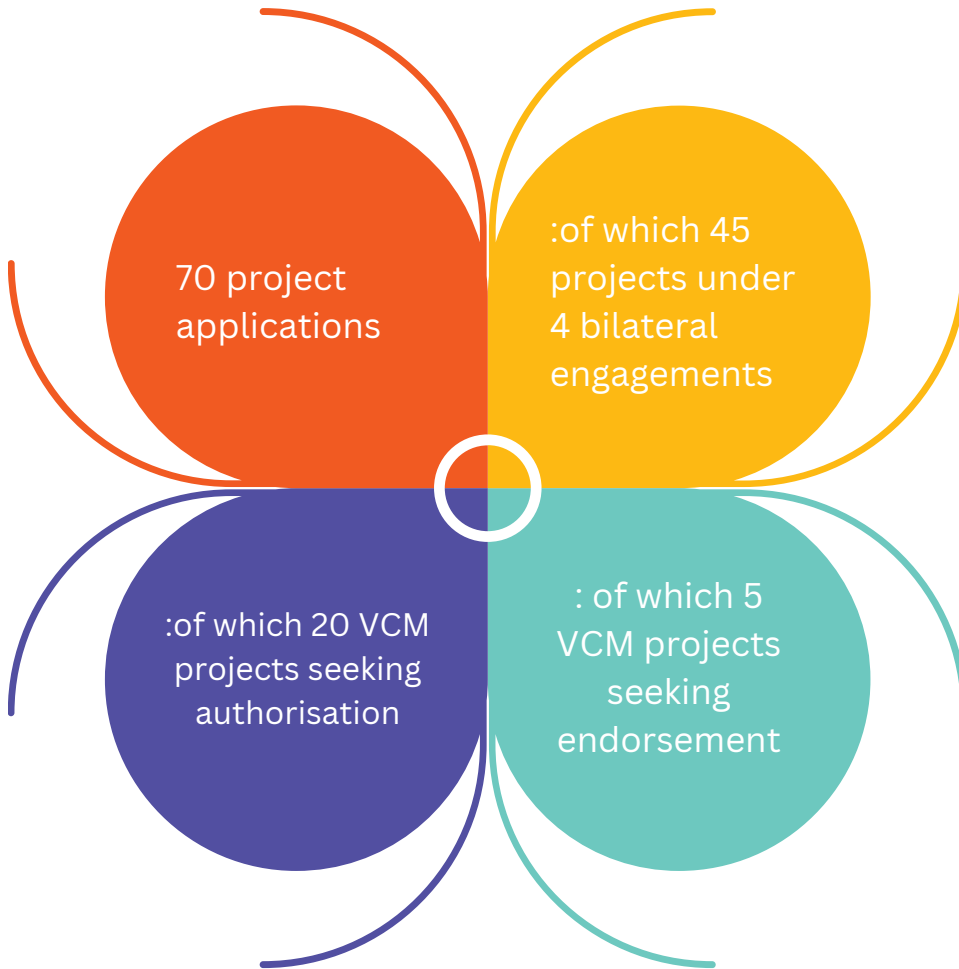
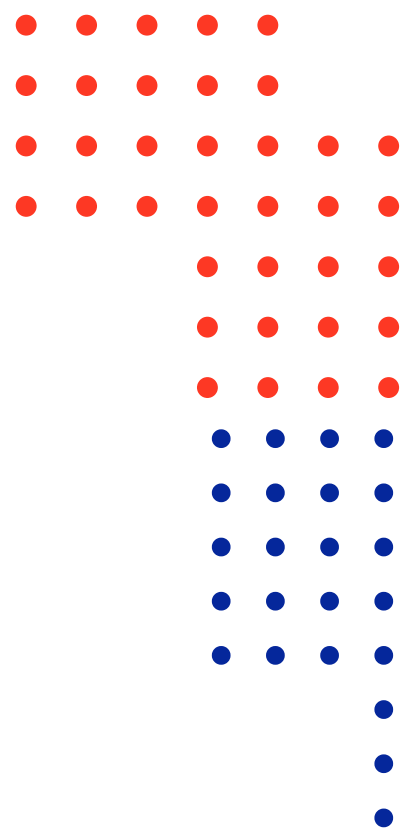
\$ ~1.1 billion  
potential investments by 2030

~ 8 MtCO<sub>2</sub>e of ITMOs generated by 2030

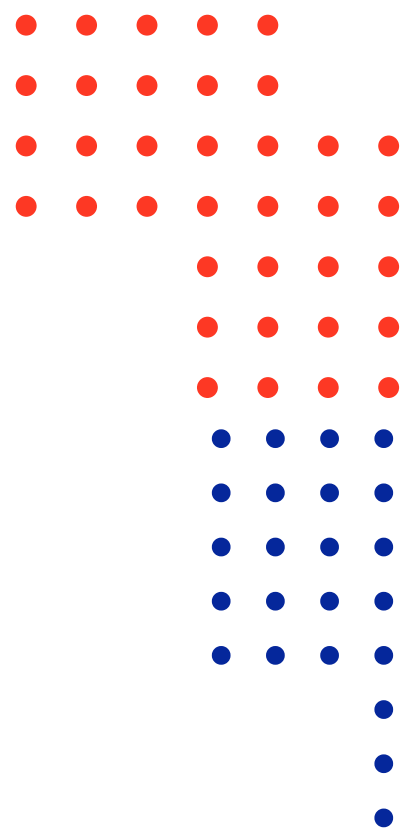
12 projects under KLIK Foundation



# 2024 in review - key highlights



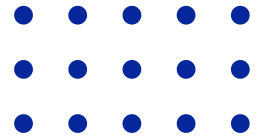
# 2024 in review - key highlights



3 projects are seeking to install ~338 MW of solar PVs

1 project seeking to process 3.8 kilotonnes of waste per day into compost

6 local experts participated validation of carbon projects



# 1. Climate actions and international carbon markets in Ghana

Ghana's strategy for addressing climate change prioritises development, is firmly rooted in scientific principles, and demonstrates a pragmatic approach. Consequently, its Nationally Determined Contributions (NDCs) for 2015 and 2021 emphasise essential climate actions aligning with development and climate protection objectives.

The Ghana NDC delineates 47 climate-priority actions spanning eleven sectors. Its primary objective is to reduce greenhouse gas emissions by 64 million metric tonnes, enhance resilience to climate-related impacts, and diminish vulnerability. Moreover, it aims to avert 2,900 premature deaths through improved air quality, generate over 1 million employment opportunities, and unlock a minimum of US\$9.3 billion by 2030.

Ghana has identified 16 unconditional climate actions (tier 1), perceiving them as immediate opportunities that can facilitate the mobilisation of financial resources necessary for their implementation. Conversely, executing the remaining 31 conditional climate actions (tier 2) necessitates international collaboration, private capital investment, and carbon financing. To bolster these conditional actions and enhance its long-term aspirations, Ghana strategically leverages Article 6 of the Paris Agreement, emphasising cooperative approaches within the international carbon market.

Ghana is actively participating in three cooperative initiatives with the nations of Switzerland, Sweden, and Singapore. These initiatives involve Internationally Transferred Mitigation Outcomes (ITMOs) to fulfil its NDC while enhancing its ambition. Accordingly, Ghana has established the National Carbon Registry to document and monitor ITMOs.

With support from the UNDP, the country is enhancing the registry's capabilities to ensure its robustness and transparency, including through the public disclosure of transactions and the utilisation of unique identifiers. A national carbon market framework has also been developed, which is underpinned by legislation established through Act 1124 in 2024.

To facilitate the implementation of Article 6 within Ghana, the Carbon Market Office (CMO) has been established as a secretariat within the Climate Change Unit of the Environmental Protection Authority (EPA). The CMO is mandated with providing administrative and technical support to authorised public and private entities under the stipulations outlined in the aforementioned "framework" and section 148(a) of Act 1124, 2025.

The vision for the CMO is to evolve into a trusted regional hub for the transaction of credible Article 6 carbon assets, thereby empowering businesses, governments, and global partners. Thus, this report has been prepared by the CMO in line section 148 of Act 1124 as the designated national authority for carbon market in Ghana.



- 64  
MtCO<sub>2</sub>e

### 2030 TARGET

2019 base year  
2-tier fixed-level type  
Single year by 2030  
Gases - CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, HFC  
Sectors: Energy, Waste,  
LULUCF, IPPU  
Indicator: net GHG reductions  
Use of cooperative approach

- 25  
MtCO<sub>2</sub>e

### 2030 TIER 1 TARGET

Unconditional target  
9 PAMs  
Domestic measures

- 39  
MtCO<sub>2</sub>e

### 2030 TIER 2 TARGET

Conditional target  
25 additional PAMs  
International cooperation

- 24  
MtCO<sub>2</sub>e

Part of conditional target  
achieved via Article 6

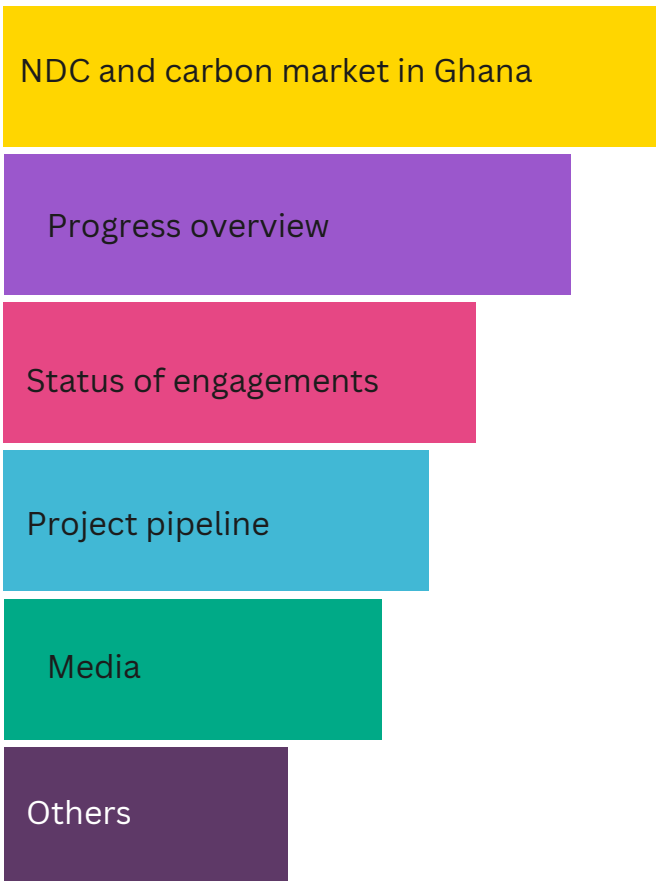
The CMO offers a wide range of services listed below:

- Ensures alignment between Ghana's NDC and Article 6 on the international carbon market.
- Facilitates the development of bilateral cooperative and unilateral approaches.
- Manages NDC GHG emission baselines upon which authorisation may be granted.
- Supports match-making of project developers and buying partners.
- Supports Article 6 project activation and origination.
- Reviews and publishes eligible Article 6 project scopes.
- Grants approval to A6.4 projects Ghana intends to host, including crediting periods.
- Recommends methodology and standards for Article 6.2 transactions.
- Receives and evaluates all authorisation requests.
- Monitors the performance of independent validators and verifiers.
- Manages Ghana's carbon market registry for tracking ITMOs.
- Administers Article 6 project development cycle.
- Performs corresponding adjustments on the annual emission balance.
- Liaises with the Article 6.4 Mechanism Supervisory Body
- Reports Article 6 operations to UNFCCC.
- Facilitates local content participation in Article 6 project development in Ghana
- Trains corporate bodies on carbon accounting and carbon markets.
- Publishes guidelines on technology and procedures for market actors.

## 1.1 Structure of the 2024 progress report

The CMO releases an annual report as part of its public engagement strategy, offering a thorough overview of Ghana's advancements and achievements in the international carbon market. The 2024 report marks the second edition in these series. The inaugural edition emphasised the progress Ghana has made in forming bilateral agreements, establishing national conditions, and sourcing projects.

The 2024 CMO annual progress report highlights the new achievements for the year. The structure of the 2024 report is outlined below:



## 1.2 Progress overview

In the year under review, the United Nations successfully finalized its endeavours in developing the Article 6 rulebook, as stipulated by the Paris Agreement in 2021. The conclusion of the Article 6 rulebook signifies a considerable milestone in enabling the commencement of comprehensive implementation on a global scale. Consequently, during the year 2024, Ghana maintained its active engagement in the international carbon market across multiple dimensions.

The engagements involved the processes for developing and authorisation of bilateral agreements, strengthening the functioning of the national arrangements for authorisation, project activation and sourcing from public and private entities, carbon registry operations and reporting. Below is a summary of the key achievements for the year under review:

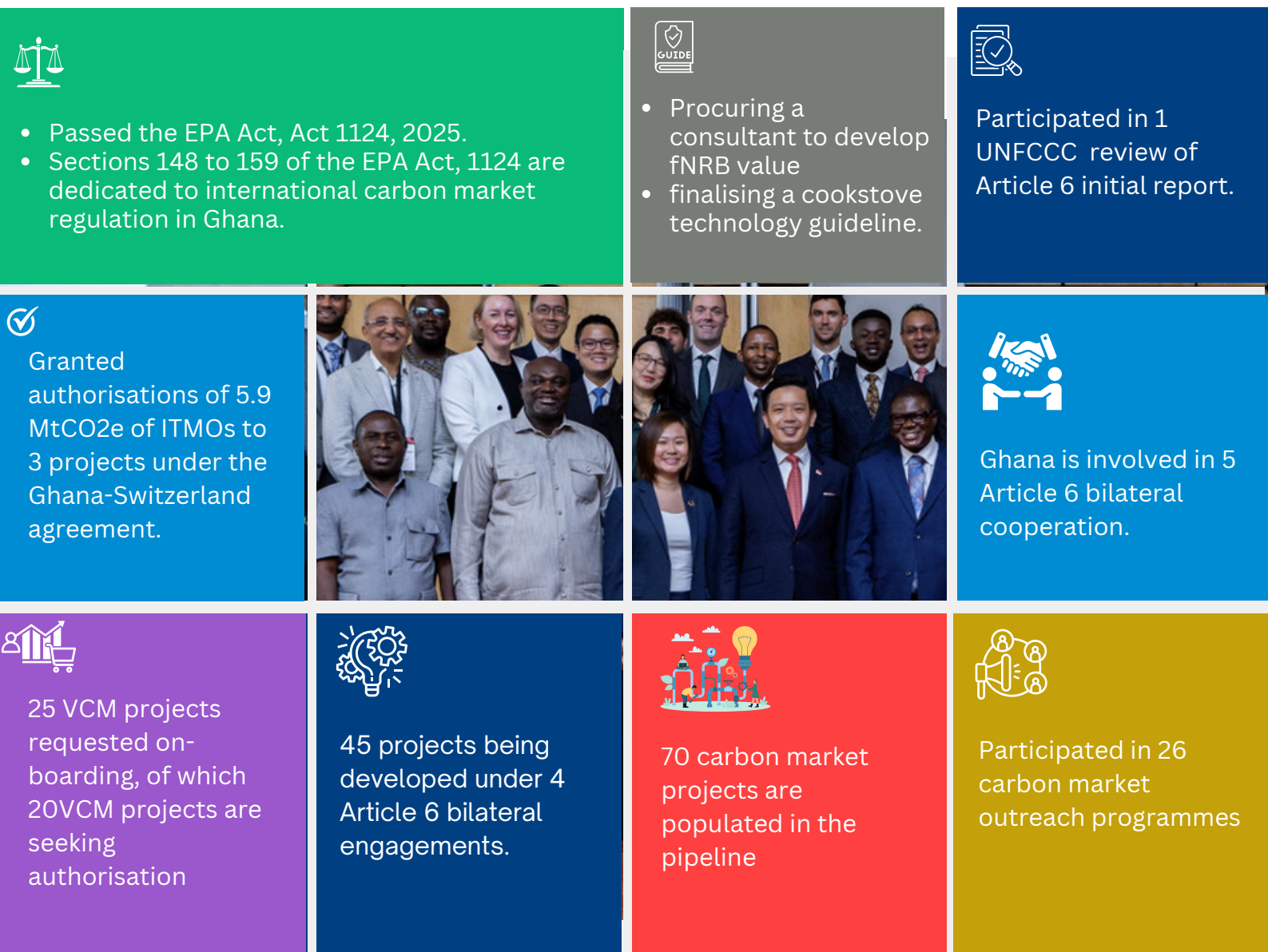
## Legislation for the international carbon market in Ghana

- Ghana successfully promulgated the Environmental Protection Act, Act 1124, 2025, to legislate and provide for the legal basis for environmental management and climate change.
- Sections 148 to 159 of Act 1124 captured the provisions guiding the implementation of Article 6 of the Paris Agreement (international carbon market).
- Sections 153 to 159 established the GHG “mitigation fund” and its operational modalities.
- Section 150 establishes the Ghana Carbon Registry with clear functions.
- Sections 151 and 152 establish the carbon market committee.
- Section 159 mandates the EPA to develop regulations for the carbon market framework.

## Bilateral and unilateral carbon market engagements

- The Article cooperation engagements involve the following countries: Switzerland, Sweden, Singapore, South Korea and Liechtenstein.
- Snapshot of the status of the bilateral engagements is provided in the next section.

The summary of the 2024 milestone are presented below.



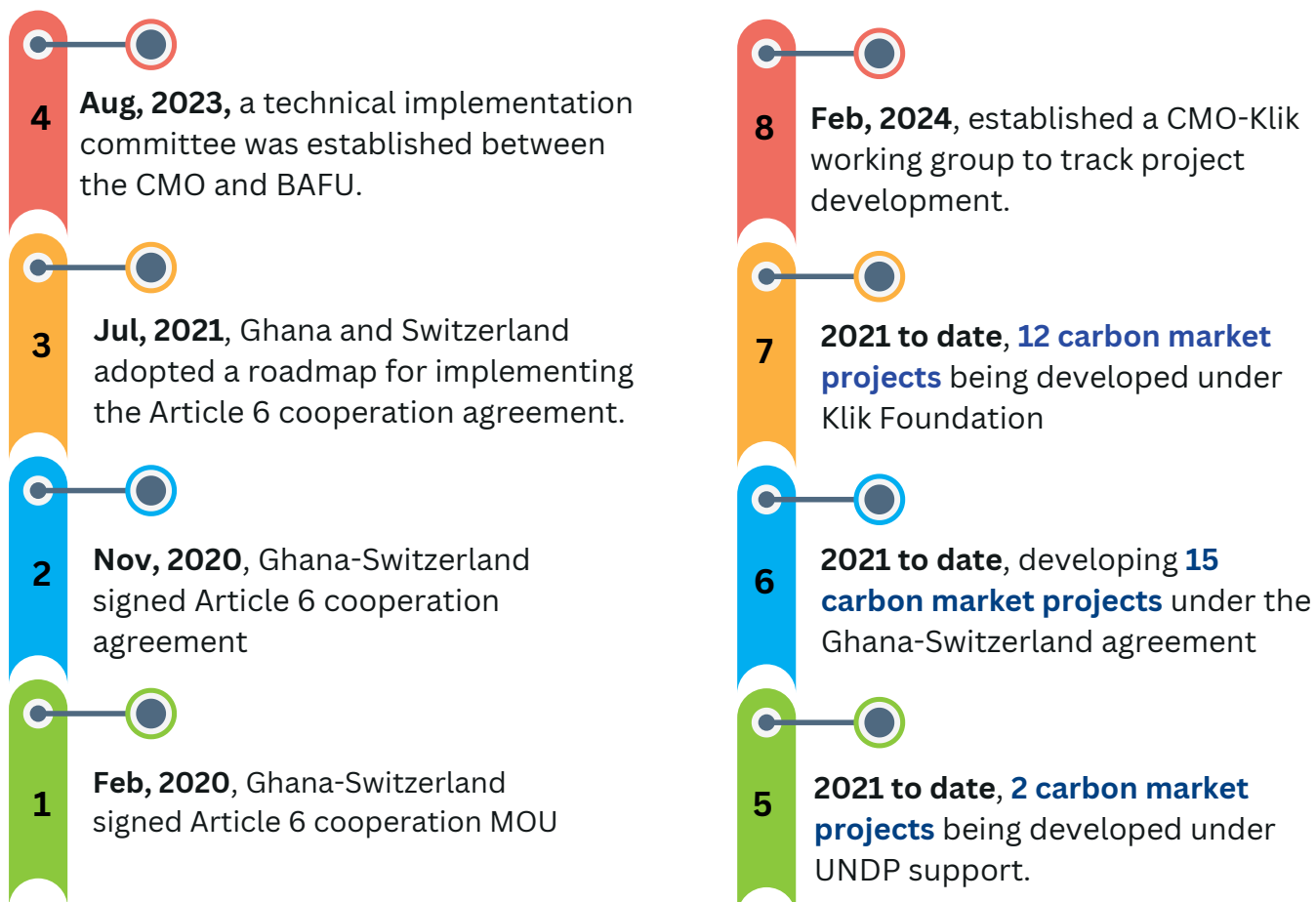
## 2. Status of international carbon market engagement



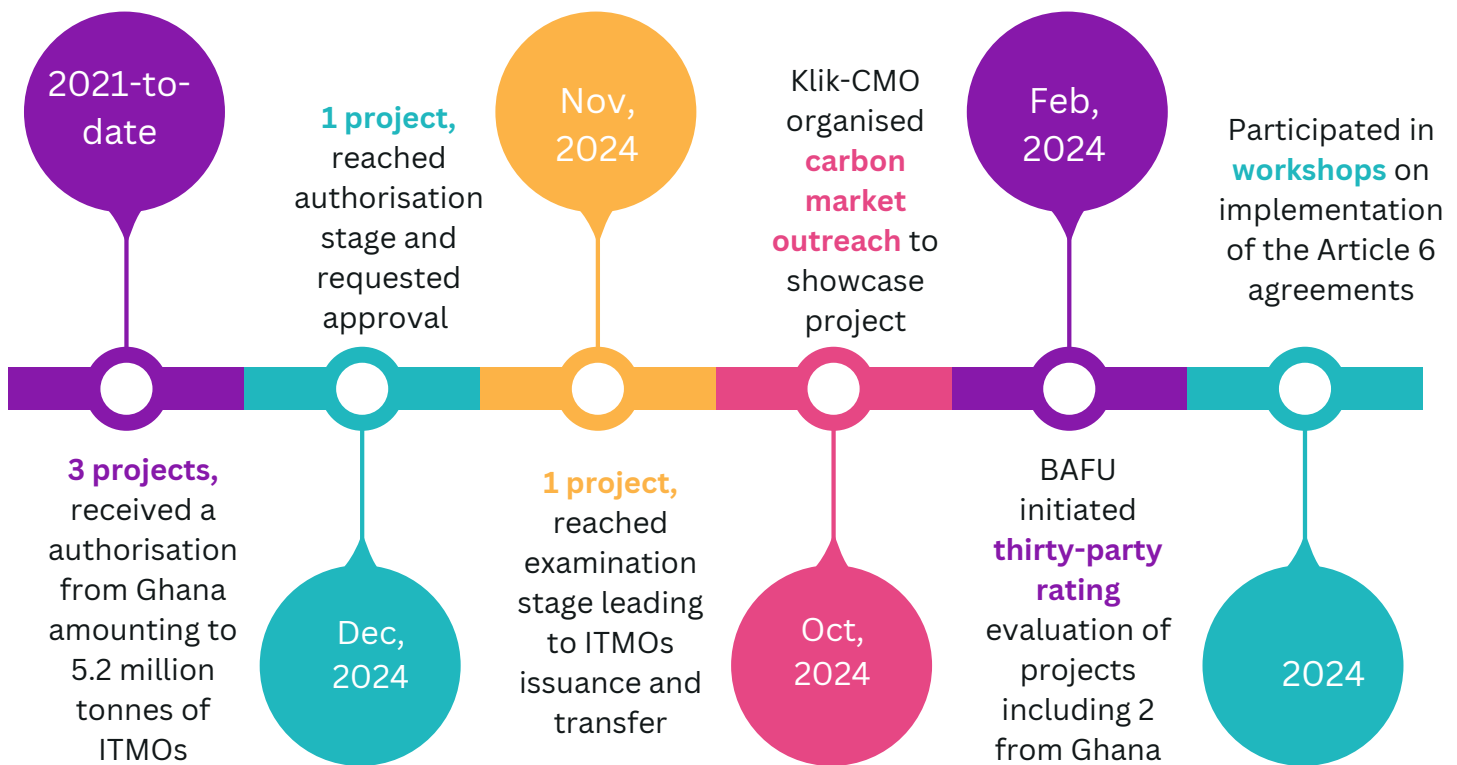
CMO-Klik carbon market event held in Accra

### 2.1 Ghana - Switzerland bilateral agreement - milestone timelines

The implementation of the Ghana-Switzerland bilateral agreement has steadily evolved from setting up rules and modalities to project sourcing in 2024. So far, 14 projects have been sourced under the Klik and UNDP tracks. From 2025 onwards, the focus will be on implementation and monetisation of the mitigation outcomes. The key milestones for 2024 of the agreement is presented below.







## Expected impacts of the Ghana-Swiss bilateral agreement - Klik track

Since 2020, the KliK Foundation has partnered with CMO to create initiatives in clean cooking, renewable energy, biogas, and electric mobility, all aimed at reducing emissions as part of the Ghana-Switzerland climate agreement. Currently, there are **12 programmes under development**. Thus the KliK Foundation:

- anticipates that these identified programmes will generate about **8 million ITMOs by 2030**, to be exchanged between the two countries.
- has allocated an estimated budget of **USD 250-300 million for the delivery of Internationally Transferred Mitigation Outcomes (ITMOs)**, which will only be disbursed if the targets are successfully met. Payments are primarily result-based, meaning any deviations from the plan may reduce disbursements from the KliK Foundation.
- estimates its programs will generate around **USD 40 million in fees** for Ghana's mitigation fund.
- expects that its carbon revenue payments, which can be viewed as subsidy payments for the operation of the programmes, will **leverage direct investments of around USD 500-850 million by 2030**, mainly in the form of investments into technical equipment like e-Bikes and air conditioning units, as well as infrastructure investments such as solar PV systems and other renewable energy plants.

Overall, the portfolio of programmes is expected to create **approximately 5,000 jobs**.

The potential impact of the twelve projects outlined below is significant and holds great promise. However, the actual outcomes will depend on the successful execution of each initiative. It is crucial for the CMO to actively support their implementation in order to maximise these benefits. The summary of the potential impacts of the twelve projects is listed below.

12 projects	~ 8 million tonnes of carbon credits	~ US\$ 300 million of carbon revenues	~ US\$ 850 million investment leveraged by the carbon revenues
US\$ 40 million in fees	~ 5000 green jobs	~ US \$1.1 billion total investment by 2030	~ 1% GDP contribution

Table 1 presents an overview of the Klik Foundation's carbon market project pipeline along with its current status. This pipeline features various technologies that would not be deployed without the support of carbon finance. The projects include electric mobility, solar photovoltaic systems, biogas, and efficient cookstoves. The majority of these initiatives are at the Mitigation Activity Design Document (MADD) development and validation stage.

Table 1: Overview of Klik project pipeline

No	Project title	Project developer(s)	Status/Stage
1	Transformative cookstove activity in rural Ghana	ACT/Envirofit	Examination
2	Electric buses programme in Ghana	Aera/SolarTaxi	MADD development
3	Ghana Biogas Program	Sistema Bio	MADD development
4	Sustainable Artisanal Palm Oil Processing	Solidaridad	MADD development

No	Project title	Project developer(s)	Status/Stage
5	Biogas systems for farmers in Ghana	HomeBiogas	MADD development
6	Zuza Akyem – Transformative Biomass to Energy Impact	Zuza Akyem Ltd.	MADD development
7	Ghana Green Cooling	KliK/GIZ	Validation
8	Electric bicycle manufacturing and distribution for GIG economy workers and commuters in Ghana	Wahu Mobility	Authorisation request
9	Building pathways to Electric Cooking in Ghana	Up-energy Group	Validation
10	Reducing Charcoal Consumption Through Improved Cookstoves	Up-energy Group	Validation
11	Distribution of electric cookstoves for households in Ghana	BURN	Validation
12	National Clean Energy Access Programame	KLIK	Validation

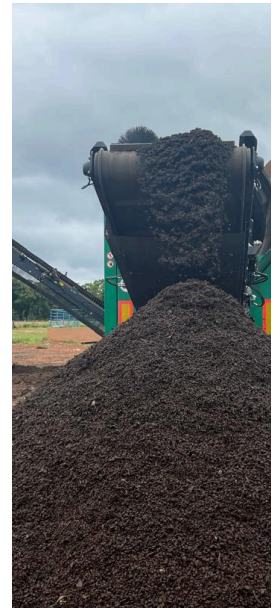
## 2.2 Carbon market project development under the UNDP track

The bilateral agreement between Ghana and Switzerland fosters the advancement of carbon market initiatives in collaboration with UNDP. The 2023 CMO annual progress report provided insights into the AWD rice project and the IRECOP compost project.

Both projects received authorisation from Ghana and Switzerland totalling 2.7 million tonnes of ITMOs by 2030. The breakdown of the authorised ITMOs amount are as follows:

- 1.2 million tonnes for rice AWD
- 1.5 million tonnes for composting

Consequently, this 2024 Article 6 report offers an overview of the progress achieved in implementing the following two carbon market projects:



### Status: Rice AWD

### implementation & monitoring

- Procured and distributed 4,752 piezometers to onboarded farmers to support implementation efforts
- Procured 15 tablets to support field data collection.
- Connectivity Enhancement: SIM cards with an annual data package procured to ensure continuous internet access.
- Adopted a custom-Built KoboCollect App.
- Increasing operational presence on the ground.

### Status: IRECOP composting

### implementation & monitoring

- Procurement of emission monitoring equipment.
- Development project monitoring and database system.
- Production of compost.
- Recruitment and training of staff.
- On-going monitoring of performance of project.
- Installation of compost capping material.



## Progress of IRECOP's composting project

### Jospong Group carbon market projects

The Jospong Group is in the implementation phase of two key projects, managed by the Jospong Green Transition Office. The projects are:

- Integrated Recycling and Composting Plants (IRECOP),
- Alternate Wetting and Drying (AWD) Rice Project.

### Employment, SDGs and Gender Inclusivity

- IRECOP project has created 158 new jobs of which 90% are youth, including 47 female employees.
- Women occupy approximately 30% of positions in waste sorting, composting, and operational management.

### Deployment Monitoring Equipment

- Procurement of emission monitoring equipment.
- Training of staff to monitor and capture accurate data daily.
- Development project monitoring and database system.
- Integration of automated weighbridges.
- On-going monitoring of the performance of the project.
- Installation of compost capping material.

### Monitoring, Reporting & Verification (MRV)

Regular monitoring, reporting, and verification are conducted to track progress, ensuring that operations adhere to strict protocols and contribute to the successful delivery of ITMOs. The project is expected to complete its first cycle of monitoring by 2025, which will allow for the subsequent verification and examination stage to begin.

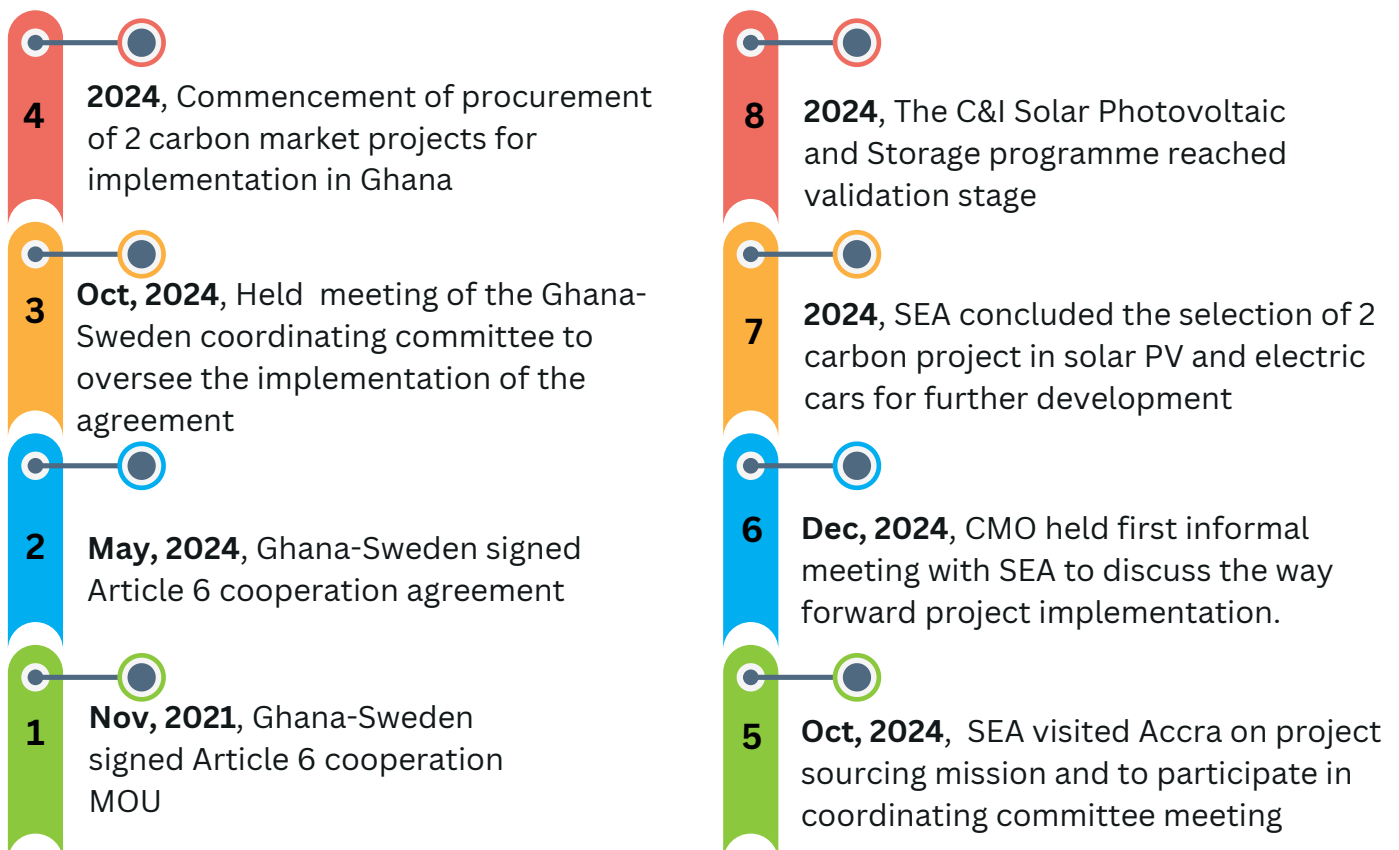


## 2.3 Ghana - Sweden bilateral agreement



*CMO-SEA meeting of the coordinating committee held in Accra*

The implementation of the Ghana-Sweden bilateral agreement was finalised and signed in 2024. Consequently, both countries have commenced efforts to translate the agreement into investment projects. In 2024, the coordinating committee, comprising technical experts from both nations, convened its inaugural meeting in Accra. The meeting discussed issues concerning the committee's terms of reference, project sourcing, international reporting, and authorisation. Highlights of the agreement's implementation status are provided below:





## 2.4 Ghana - Singapore implementation agreement - milestone timelines



*Ghana received Singapore delegation mission on carbon market*

After 18 months of engagement, Ghana and Singapore signed the carbon market implementation agreement in May, 2024. In July, 2024 a Minister of State for Trade and Industry led an inaugural carbon credits business mission to Ghana. The visit brought together a business delegation comprising 22 Singapore-based companies with expertise ranging from project developers, traders and financiers. Ghana and Singapore has since made the first call on carbon market project.

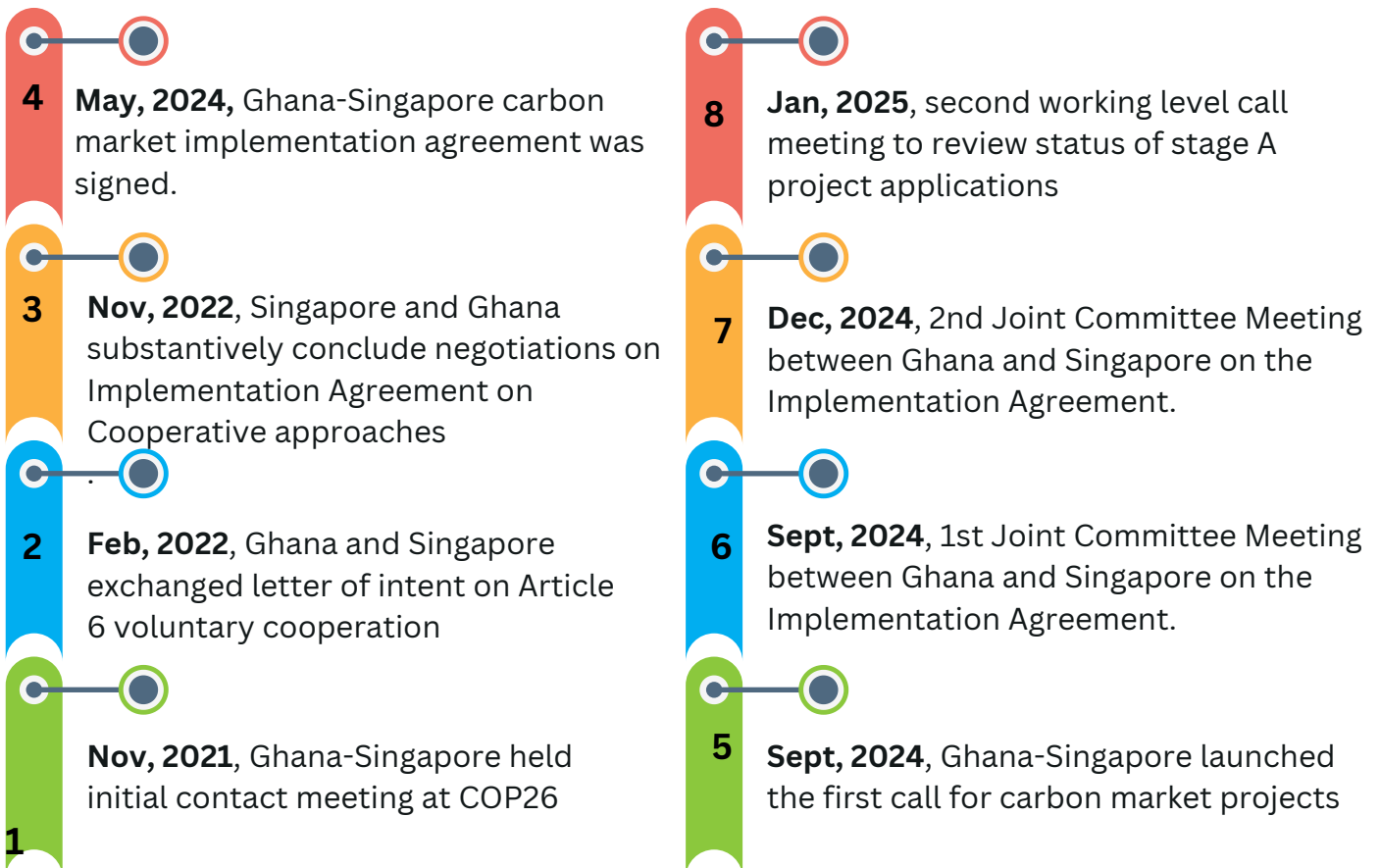


Table 2: overview of stage A project applications and status

No	Project title	Project developer(s)	Status/Stage
1	Alternate Wetting & Drying Technology for Sustainable Rice Production Located in Volta Region of Ghana, Central Tongu District	Farmer Globale	Ineligible at stage A
2	Clean cookstoves technology for smallholder farmers in the Volta Region of Ghana, Central & North Tongu District	Farmer Globale	Letter of Intent
3	Production of biodiesel from non-food oil seeds	Kombat Energy Limited	Ineligible at stage A
4	AI- ML IoT driven automated disinfection, monitoring for potable water in rural Weija Gwabe and GA South of Greater Accra Region	Expert365 Pty Ltd.	Letter of Intent
5	Ghana Clean Cooking Initiative located in Ashanti and Central Regions	EcoLinks Co., Ltd	Letter of Intent
6	Improved Agricultural Land Management for verified carbon emission reduction and removal in Wa West District	Eco-Bliss Climate Ltd	Letter of Intent
7	Transformative Cookstove Project in Rural and peri-Urban Ghana II	ACT Climate Solutions B.V	Review
8	LPG Clean Cookstove Initiative in Ghana	ACT Climate Solutions B.V	Review
9	AquaCarbon Safe Community Water (VPA1)	Element15	Review
10	Clean Water Supply in Schools in Ghana	Impact Water LLC	Review



No	Project title	Project developer(s)	Status/Stage
11	Electric cookstoves for households in Ghana	BURN and Effective Climate Solutions	Review
12	Improved cookstoves for households in Ghana TPDDTEC v4.0 E	BURN and Effective Climate Solutions	Review
13	Gyapa Improved Cookstoves in Ghana, all Regions of Ghana	Relief International	Review
14	100% data-auditable, electric smart stove ITMOs with verifiable direct carbon payments to households in Ghana	A TEC	Review
15	Safe water and clean cooking for Ghana	Up Energy Group	Review
16	Kinetic 7 Hydrogen Stoves for Ghanaian Schools	Kinetic7	Review
17	The Ghana Community Based Mangrove Conservation and Reforestation Project	Gaia Climate	Review
18	Ghana Cocoa Agroforestry and Resilience Program	X Carbon	Review

## 2.5 Ghana - South Korea bilateral engagement

- The technical negotiations regarding the bilateral agreement between the two Republics, Ghana and South Korea, have been concluded, and both countries have met the county participation requirements.
- The minutes of the negotiation between the two countries were adopted during the COP28 in Dubai in 2023.
- The Office of the Attorney General and Ministry of Justice finalised a legal review of the draft agreement in March 2024.
- The Ministry of Environment, Science and Technology submitted the draft agreement for consideration by the cabinet in July 2024.
- Ghana hosted 2 missions by carbon project developers from South Korea during the period under review.
- In 2025, the Ministry of Environment will follow up with the new cabinet for approval.
- After the cabinet approval, the agreement will be for Parliament ratification before signature.
- June 2024, The Ministry of Trade, Industry and Energy (MOTIE), in collaboration with the Korea Trade Investment Promotion Agency (KOTRA), hosted the Global Net-Zero Connection in Korea to provide visibility on the engagement
- The Embassy of the Republic of South Korea in Ghana organised the Korea- Ghana Energy Corporation Seminar 2024 to explore ways both nations can optimise energy-related activities under Article 6 of the Paris Agreement.
- Five projects on clean cooking, waste management, and water treatment are undergoing onboarding and feasibility studies for future development in anticipation of the agreement.
- Two South Korean carbon marker project developers embarked on a country-mission to the CMO and engage local stakeholders on potential project development in Ghana.

African Sustainable Charcoal Initiative in Ghana with Advanced Large Kiln Facilities by ECONexus Carbon Credit Co. Ltd.

African Sustainable Charcoal Initiative in Ghana with Micro Gasifier Stove Facilities by ECONexus Carbon Credit Co. Ltd.

International GHG Reduction Project through Water Purification System Installation and Supply by EWC/IBK Securities and Glory Tech

## 2.6 Unilateral engagements

### 2.6.1 Ghana is cooperating with 2 non-sovereign unilateral entities

Private sector entities are increasingly interested in ITMOs for CORSIA and VCM. Ghana has attracted the attention of several international organisations regarding a potential unilateral cooperation design.

In 2023, Ghana initiated discussions with British Petroleum (BP) and Mercuria Energy to establish a robust framework that ensures regulatory certainty for generating CORSIA-labelled credits. These discussions are at various stages of progress.

Ghana's engagement with BP is the most advanced, with hopes of reaching a conclusion by 2025. As for Mercuria Energy, talks are expected to continue into 2025.

#### Growing VCM project pipeline

Furthermore, the CMO has received 25 VCM projects, of which 20 are seeking authorisation and 5 aim to obtain endorsement to generate mitigation contribution units (MCU).

The 20 projects primarily comprise existing VCM initiatives that align with Article 6 requirements to obtain authorisation and international transfer against Ghana's NDC baseline.

The 20 projects are evenly split between efficient cookstove and forest restoration.

The remaining 5 project that are seeking to generate MCUs covers mangroves, soil regeneration, cookstoves and forest restoration.



Unilateral approaches

2

BP agreement



80% complete

VCM project pipeline

25

VCM projects seeking authorisation

20

VCM projects seeking to generate MCU

5

# 3. Carbon market project pipeline

## 3.1 Project development trends

### 68 carbon market project pipeline, 26 onboarded onto the GCR

- In 2024, the CMO received 69 Article 6 project requests in its pipeline, of which 17 were fully onboarded onto the GCR and assigned mitigation activity participant identification numbers (MID).
- One authorisation was granted in 2024 to a clean cookstove project under the Ghana-Switzerland bilateral agreement.
- This brings the total authorisation to 3 mitigation activities namely: sustainable rice cultivation by UNDP and waste to compost by Jospong and UNDP and transformative cookstove activity in Ghana by ACT/Envirofit.
- The total volume of ITMOs authorised amount to 5.9 MtCO<sub>2</sub>e, representing 21.7% of the total authorisable volumes of at least 24 MtCO<sub>2</sub>e over Ghana's NDC baseline.
- Ghana intends to authorise additional at least 8 MtCO<sub>2</sub>e of ITMOs for the about 12 carbon market projects in the country.

### 44 under Article 6.2 cooperation, 20 VCM projects seeking authorisation, 5 VCM projects seeking endorsement

- 17 projects under the Ghana-Switzerland bilateral agreement.
- The technology scope of the project pipeline include: biogas, electric mobility, solar PV, biomass power plant, green cooling, electric/biomass stoves, sustainable charcoal.
- 19 projects under the Ghana-Singapore implementation agreement under consideration. The technology scope for this project pipeline include water treatment, soil restoration, clean cooking stoves; mangrove restoration; hydrogen stoves etc.
- 3 projects are being prepared under Ghana-Sweden bilateral cooperation agreement at a minimum of 200,000 tonnes per project. The technology scope of the projects are: solar PVs and e-mobility.
- Implementation and monitoring of the 3 project will continue in 2025 by three local private companies.
- 5 projects are under feasibility studies and boarding in anticipation of the Ghana-Korea bilateral engagement
- 20 VCM projects seeking authorisation mainly cookstove projects.
- 5 VCM projects not seeking authorisation are mainly agriculture.



Biomass/hydrogen/  
electric/LPG stove is the  
leading technology



Water treatment and  
distribution has the  
potential to grow.

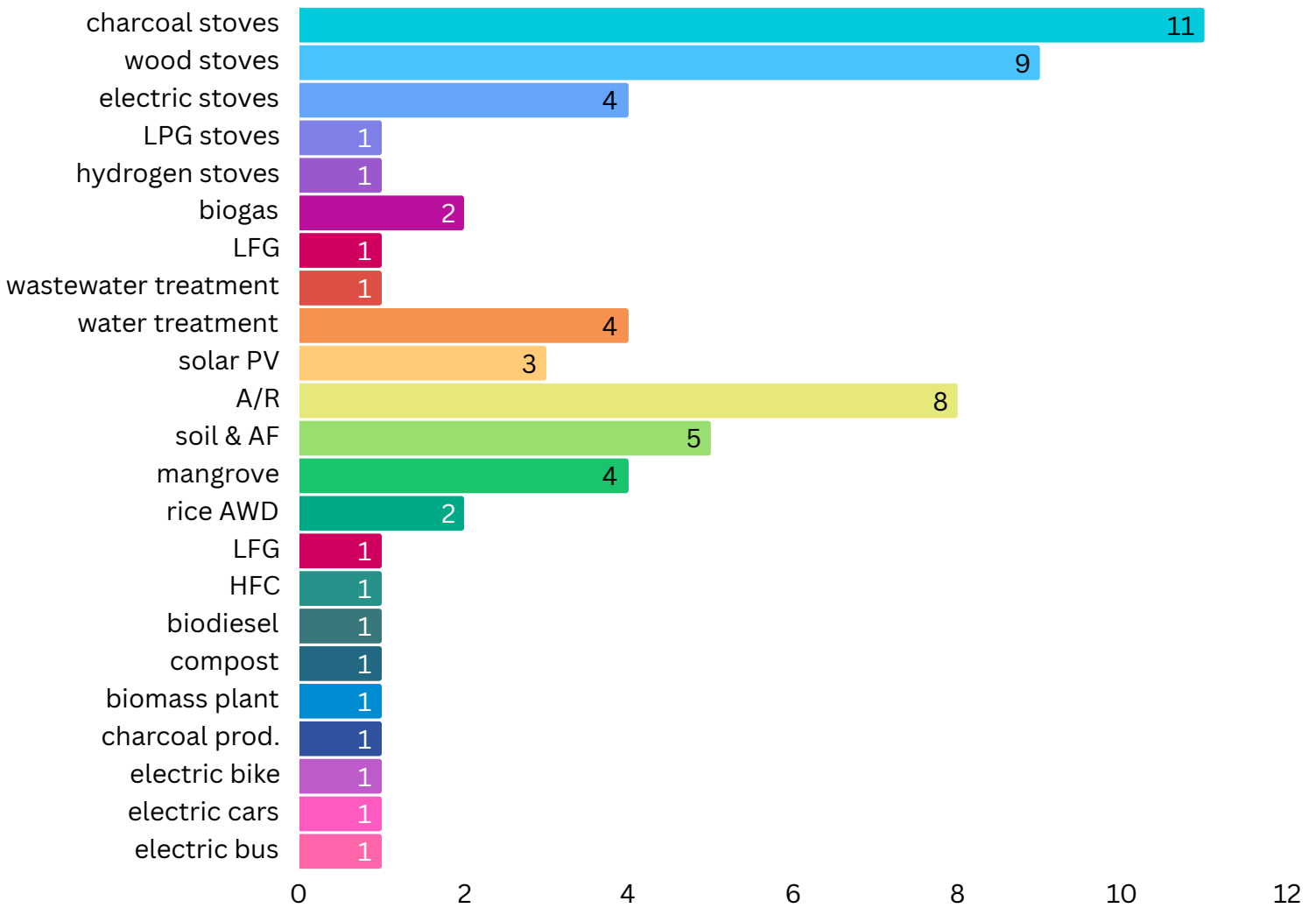


EV technologies is poised to  
expand as the local market  
expands.



### 3.2 Technology scope of the carbon market project pipeline

Clean cooking technology dominates the project pipeline, making up 39% of the total project applications. Among the cookstoves, efficient charcoal is 42%, followed by woodstoves of 35% and electric stoves. The rest LPG and hydrogen with each application. The 26 clean cookstove project applications aim to disseminate 9.1 million of energy efficient stoves by 2030. For EVs, the projects are aiming to distribute 120,160 which is made of 3,000 buses and 117,160 e-bikes, 422,500 ha covered by nature-based solution (A/R, soil and AF and mangrove and AWD rice) projects. Three projects are seeking to install about 338 MW of distributed and grid-tier solar PVs.



Nature-based solution (NBS) projects are the second largest in the Article 6 pipeline, constituting 27% of all applications. The NBS project applications that the CMO has received for consideration include afforestation/reforestation (A/R) projects, soil restoration, agro-forestry, mangrove and AWD rice cultivation. Electric mobility is another major category of the pipeline. It covers a range of electric mobility modes from electric bike, electric cars and electric bus. The overview of the project pipeline and status as at December, 2024 is presented below.

ineligible at stage A <b>2</b>	On-boarding <b>7</b>	Review stage <b>15</b>	LOI request <b>15</b>	LOE request <b>10</b>
MADD development <b>3</b>	validation stage <b>7</b>	authorisation request <b>1</b>	monitoring stage <b>2</b>	examination stage <b>1</b>

## 4. Tracking NDC emissions accounting

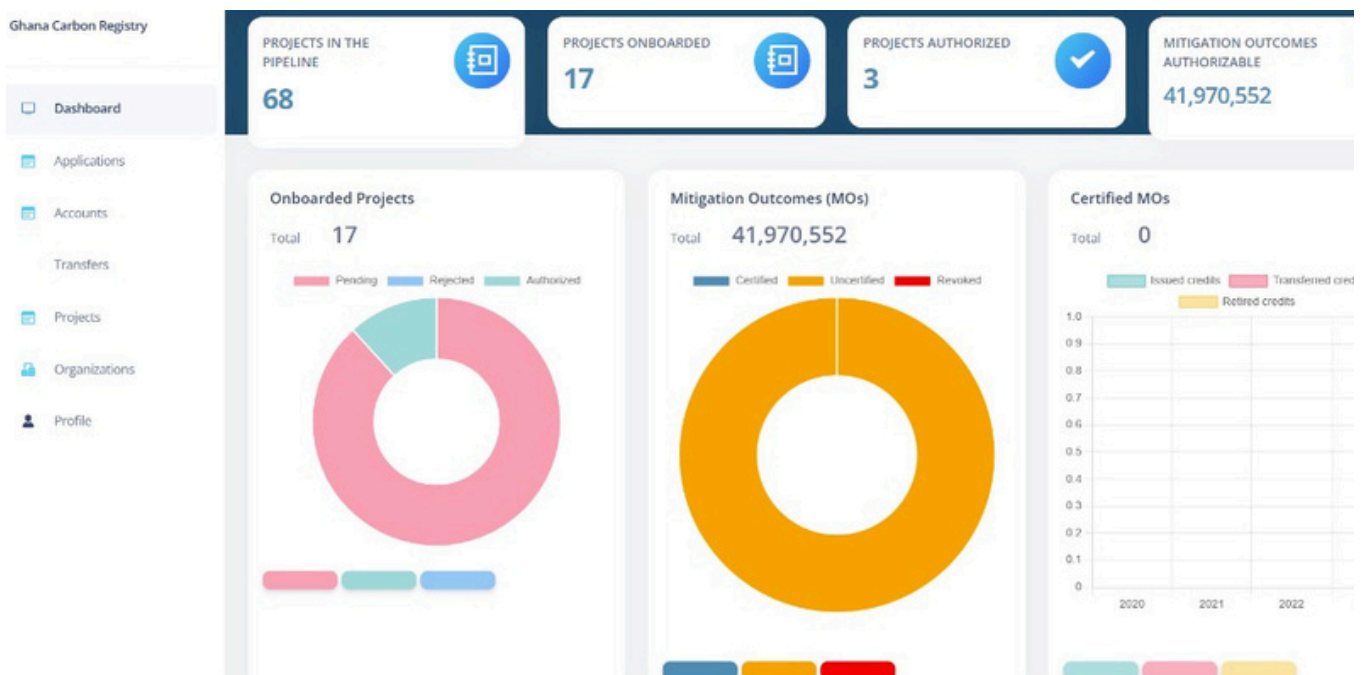
No	Indicator	Parameter	Value	Unit	Parameters
1	Baseline	2019 total GHG emissions	58.9	MtCO <sub>2</sub> e	88% coverage
2	BAU	2030 BAU emissions	100	MtCO <sub>2</sub> e	Not economy-wide
3	NDC	2030 NDC target	-64	MtCO <sub>2</sub> e	Tier 1 & Tier 2
	Tier 1	2030 unconditional NDC target	-25	MtCO <sub>2</sub> e	Climate finance secured. Red list
	Tier 2	2030 conditional NDC target	-39	MtCO <sub>2</sub> e	Additional mitigation with carbon credits
4	Outside NDC	Accountable emissions	36	MtCO <sub>2</sub> e	Additional mitigation potential
5	Minimum to authorise	% of conditional for Article 6	-24	MtCO <sub>2</sub> e	Minimum authorisable volumes
6	ITMOs	Total ITMOs authorised in 2024	-5.9	MtCO <sub>2</sub> e	ITMOs authorised from conditional NDC and outside NDC
	ITMOs	: of which authorised from conditional NDC	-1.5	MtCO <sub>2</sub> e	Compost project under Ghana-Switzerland agreement
	ITMOs	: of which authorised from conditional NDC	-3.2	MtCO <sub>2</sub> e	Cookstove project under Ghana-Switzerland agreement
	ITMOs	: of which authorised from outside NDC & included in latest GHG inventory	-1.2	MtCO <sub>2</sub> e	Rice AWD project under Ghana-Switzerland cooperative approve

No	Indicator	Parameter	Value	Unit	Parameters
7	ITMOs Transfer	ITMOs authorised for international transfer	-0	MtCO2e	% of authorised ITMOs verified, positively examined, issued ITMOs for transfer
8	Recognised ITMOs as first transfer	ITMOs recognised as first transfer	-0	MtCO2e	% of ITMOs recognised by receiving party as first transfer
9	ITMOs cancellation	Cancellation of first transfer ITMOs	-0	MtCO2e	First transferred ITMOs cancelled on GCR
10	ITMOs use cases	Confirmation of uses of ITMOs	-0	MtCO2e	% first transfer ITMOs
		of which	-0	MtCO2e	NDC
		of which	-0	MtCO2e	IMP
		of which	-0	MtCO2e	OIMP
		of which	-0	MtCO2e	OMGE
11	Annual emission balance	Annual GHG inventory	-0	MtCO2e	Annual GHG inventory under NDC
12	CA of ITMOs	CA of ITMOs	-0	MtCO2e	Ghana apply CA to ITMOs used for the purpose it was authorised for transfer in annual emission balance

# 5. Ghana carbon registry

## 5.1 Ghana registry operation updates

- The World Bank conducted a comprehensive assessment of the Ghana Carbon Registry (GCR) to evaluate its readiness for interoperability with national, private, and international registries.
- A team of experts conducted an in-depth analysis of Ghana’s technical and legal pathways for integrating the GCR with the CAD Trust meta-registry and other registries.
- Moreover, the study underscored the importance of establishing a standardised communication framework to enable smooth data exchange among registries. Additionally, automation possibilities for ITMO were examined, including the potential development of an API to improve software integration.
- With support from UNDP, the CMO is developing comprehensive operational manuals that establish clear guidelines, standardised operating procedures, and robust protocols to ensure an effective, and efficient operation of the GCR.
- In 2024, the GCR expanded significantly, onboarding 17 projects with the document uploaded on the GCR.



Screenshot of Ghana carbon registry

LinkedIn Impressions



GCR web Users



CMO web users



Reactions





## 6. Carbon market outreach

Upscaling the project requires stakeholder engagement. Collaborating with business associations, government entities, local bankers, investors, project financiers, and technical providers can enhance carbon market opportunities and investment potential. A coordinated approach with stakeholders can expedite the creation of high-integrity credits.

- In 2024, the CMO organised a series of engagements in the carbon market for all sectors. This series aims to streamline and showcase project opportunities across various sectors, reduce sourcing costs for potential investors, and improve matching for prospective developers. The cookstove engagement series was the first sector implemented during the review year.
- As part of the engagement series, a team of officers from the Ministry of Environment, Science and Technology, the Environmental Protection Authority - Carbon Market Office, in collaboration with the Ministry of Energy, the KNUST Cookstove Testing and Expertise Laboratory (C-Lab), the Technology Consultancy Centre (TCC), and the Ghana News Agency, with support from USAID, undertook a five-day field visit to cookstove facilities and distribution sites in Accra, Kumasi, and Sunyani.
- The purpose of the visit was to gather first-hand information on the production processes and standards, observe the various distribution models, obtain feedback for improvements within the sector, and promote best practices to inform a draft guideline that has been developed.
- This was succeeded by a series of cookstove initiatives that united participants in the cookstove value chain. These included manufacturers, project developers, private sector investors, clean cooking business associations, testing centres, researchers, and relevant government entities. The goal was to increase awareness of new reforms in the carbon market, discover opportunities, and build partnerships.
- The meeting discussed Ghana's carbon market framework, participation requirements, and the role of cookstoves in its NDC under the Paris Agreement. It also gathered stakeholder feedback on a draft guideline for the authorisation of cookstove mitigation outcomes in Ghana's carbon market.
- The forthcoming guideline will establish a minimum acceptable criterion for developing cookstove carbon projects in Ghana. It will also streamline cookstove processes across key sector institutions, ensuring consistency and compliance with national standards.
- Additionally, it will serve as a comprehensive information resource for activity developers, providing clear guidance on project design, implementation, and regulatory requirements.
- The guideline will further enhance efficiency and effectiveness, facilitating smooth authorisation processes in Ghana.

In 2024, the CMO had the opportunity to undertake other outreach programmes locally and internationally. Below are some key programmes that were attended;

- Progress and Opportunities for Article 6 Cooperation with the Government of Singapore
- What Businesses want from Article 6; Launch of the IETA- A6IP Article 6 Business Survey
- Round table discussions and field visit on the implementation of rural telephony solar project implemented by GIFEC
- Future for Energy Conference by ACEP.
- Singapore- Ghana carbon market Roundtable event.
- Are Global Carbon markets ready to take off, and what does it mean for Africa; Zero 13
- Is Article 6.2 ITMO Trading ready to take off, and what does it mean for Ghana in the context of Singapore and Beyond
- The future trajectory of Africa's carbon markets, emphasising the importance of national ownership and collaboration in shaping effective carbon strategies by SE4ALL
- Regional Workshop to Strengthen Climate Action to Develop an Alliance for Carbon Market and Climate Finance in Central Africa (Yaounde-Cameroon)
- MRV for Climate Action Community of Practice, Tamale
- Energy, Trade and Climate Dialogue III: Opportunities to Link Sustainable Development and Economic Growth (Maputo, Mozambique)
- Enhancing Regional Collaboration and Climate Financing Capacity in Eastern and Southern Africa Johannesburg, South Africa
- Africa Region Workshop on the Implementation of Article 6 of the Paris Agreement, Victoria Falls, Zimbabwe.
- PolicyLink Media Capacity Building Event on Climate Change and Carbon Market
- Climate Finance conference dubbed “Climate Financing in Ghana: Mobilizing Resources for Adaptation and Mitigation,” organised by the USAID through the Feed the Future Ghana Mobilizing Finance in Agriculture Activity in collaboration with Policy LINK, Market Systems and Resilience (MSR), and Africa Trade and Investment (ATI)
- 2024 Korea-Ghana Energy Cooperation Seminar.
- Graduate Research Associate Training on Carbon Credit Measurement for Shea Parklands under the KCL-UDS-GSA AAKTP 23\_24 R3 Project Funded by Innovate UK
- The Global Net-Zero Connection in Korea 2024.
- First A6IP Advisory Group meeting convened on March 7th and 8th, 2024, in Hayama Town, Kanagawa Prefecture, Japan
- Summit on Clean Energy Cooking in Africa, Paris, France on May, 2024.
- Consultation on the Article 6 crediting protocol / “playbook”, an initiative by the Government of Singapore, Gold Standard and Verra to support countries in their use of Article 6 to achieve their NDCs and sustainable development goals



*IETA side event on what Businesses want from Article 6 at the Launch of the IETA- A6IP Article 6 Business Survey at COP29*



*Liechtenstein and Ghana met at COP29*



*Panel discussion segment with ACMI at COP29 in Baku*





Zero 13 side event at COP29 in Baku with a focus on global carbon market and what it means for Africa



Envirofit production facility in Kumasi, Ghana



RediCAP2024: Regional Workshop on Carbon Pricing and Carbon Market



## 7. Performance and non-conformance assessment of validation and verification bodies in Ghana

Ghana understands the importance of Validation and Verification Bodies (VVBs) in maintaining integrity and credibility in the carbon market. To ensure compliance, Ghana has set forth specific eligibility criteria, approval processes, and management guidelines within its framework for carbon market and non-market approaches.

The framework includes a list of recognised entities accredited by international crediting standards, such as CDM or PACM, the Gold standard, and the verified carbon standard, eligible to operate in Ghana.

Per schedule 9 of the framework, the CMO is to conduct annual performance and conformance assessments of all recognised VVBs operated in Ghana. Based on the assessment results, the CMO may add new VVBs or remove underperforming VVBs.

The indicators for performance and conformance assessments of the VVB will include the following:

- Timely on-boarding
- Organisation of work
- Scope of field-work
- Relationship with client
- Consultations
- Involvement of local experts
- Feedback mechanisms
- Mode of communication
- Fraud detection and declaration
- Professionalism
- Risk management

14 VVBs have been on-boarded onto the GCR with local experts. So far, we have observed that local experts participated in limited scope and time of the VVB services.

They were engaged in stakeholder mobilisation, managing appointments, phone calls, language interpretation, alongside field data collection and processing. The CMO has expressed considerable concerns regarding the local expert's lack of involvement in the technical aspects of the work. Consequently, the CMO will ensure the following with respect to the local expert's participation:

- Publish a list of local expert on the CMO website from which the VVBs are to select from.
- UIN to the VVB will only be granted to VVB only when the CMO is satisfied that the TOR for the local expert balance the administrative and technical tasks.
- Conduct job closure interviewing with local experts to collect feedback on their involvement in the task. The feedback of the interview will feed into the annual performance and non-conformance scores of the VVB.

Next year, the CMO plans to evaluate the performance of all VVBs onboarded on the GCR based on several key performance indicators in accordance with schedule 9 (performance and non-conformance assessment) of the framework. These will include validation and verification performance, compliance levels, reporting accuracy, stakeholder engagement and challenges such as delays and inconsistencies in submissions. This in effect will strengthen credibility and integrity within Ghana's carbon market.

VVBs involved in MRV services in Ghana in 2024

VVB Name	Client Name	Project name	Technology scope	Type of services	Status
Carbon check Private Limited	Up Energy Ghana Limited	Reducing Charcoal Consumption Through Improved Cookstoves	biomass stove	validation	completed in 2024
Carbon check Private Limited	Up Energy Ghana Limited	Building Pathways to Electric Cooking	electric stove	validation	completed in 2024
Earthhood Services Pvt. Limited	Envirofit/ACT Commodities	Transformative Cookstove in Rural Ghana	biomass stove	validation	completed in 2024
Earthhood Services Pvt. Limited	Infra Futura Ghana Limited	Solar PV & Storage programme for the commercial and industrial sector	solar Pv	validation	on-going
TUV SUD South Asia Private Limited	WAHU Mobility	Electric Bicycle Manufacturing and Distribution for Gig Economy Workers and Commuters in Ghana	e-bike	validation	completed in 2024
Earthhood Services Pvt. Limited	Burn Manufacturing	Distribution of Electric Cookstoves for Households in Ghana	electric stove	validation	completed in 2024
Earthhood Services Pvt. Limited	Man and Man Enterprise	Improved Cooking Stoves Programme in Ghana (VPA4 – Central Region)- MAMICS 1	biomass stove	validation	completed
Earthhood Services Pvt. Limited	Man and Man Enterprise	Improved Cooking Stoves Programme in Ghana (CPA1 – Brong Ahafo Region)- MAMICS 2	biomass stove	validation	completed

VVB Name	Client Name	Project name	Technology scope	Type of services	Status
TÜV NORD CERT GmbH	GIZ GmbH	Transformation through the Introduction of Green Split ACs	energy efficient ACs	validation	completed in 2024
TÜV NORD CERT GmbH	CookClean Ghana Limited	Improved Cookstoves and Sustainable Fuel Dissemination Program in Ghana	biomass stove	validation	completed in 2024
TÜV SÜD and EBP Switzerland	Klik Foundation	National Clean Energy Access Program	solar PV	validation	completed in 2024
Carbon check Private Limited	UNDP	Promote adoption of AWD technology in rice growing areas in Ghana	Rice AWD	validation	completed in 2023
Earthhood Services Pvt. Limited	UNDP	Promote adoption of AWD technology in rice growing areas in Ghana	Rice AWD	verification	Ongoing
Aenor	Jospong Group of Companies	Integrated Waste Recycling and Composting for Methane Reduction in Ghana.	composting	validation	completed in 2023
Earthhood Services Pvt. Limited	Envirofit/ACT Commodities	Transformative Cookstove in Rural Ghana	biomass stove	verification	completed in 2024

## 8. Participation in international initiatives

### 8.1 Climate market club

Ghana joined the climate market club in 2022. As a member, the CMO and the Ministry of Environment, Science and Technology represent the country during its formal meetings. Experts from the CMO participated in the climate market club hosted by the World Bank as club members throughout 2024. The CMO engaged in club discussions and occasionally provided icebreaker comments following presentations on specialised technical topics related to carbon markets. Below is a list of the meetings in which the CMO participated in the club. The list of the meetings attended in 2024 is below:

- 28th Meeting of the Climate Market Club held 5th April online. The club discussed a paper on the International Organization of Securities Commissions (IOSCO) and the voluntary market as well as draft guidance regarding listing by Commodity Futures Trading Commission (CFTC). Ghana gave an icebreaker comment on the technical paper and draft guidance after the presentation.
- The 29th Meeting of the Climate Market Club was held online on July 29, 2024. The club discussed issues related to the letter of authorisation. Ghana provided an icebreaker input on the draft authorisation letter after the technical presentation.
- Joint Meeting of the Climate Market Club and Carbon Action Forum held online on October 16th, 2024 to discuss the Letter of Authorization and the Letter of Acknowledgement

### 8.2 Carbon market mechanisms working group

Ghana is a member of Climate Perspectives Carbon Market Mechanism Working Group (CMM-WG). The CMO participates in the work of the CMM-WG. In 2024, the CMO contributed to the CMM-WG programmes below:

- Virtual workshop 6 February, 2024 - Operationalising the Methodology and Removals Standards under Article 6.4: where do we stand before the February Supervisory Body meeting.
- Workshop of the Carbon Market Mechanisms Working Group - What does the COP29 outcome on Article 6 mean for the Carbon Market Mechanisms Working Group's work in 2025? 17 December 2024.
- CMM-WG: Authorisation workshop, 24 September, 2024. The workshop discuss how implemented authorisation processes relate to negotiation discussions and what lessons should be taken into account.
- CMM-WG evening reception at SB60, 11 June, 2024. The reception discussed different perspectives on Article 6 implementation and the status of the negotiations.
- Workshop of the Carbon Market Mechanisms Working Group, May, 2024 - Stocktake of the methodological work of the Article 6.4 Supervisory Body.
- Workshop of the Carbon Market Mechanisms Working Group, April, 2024 - Policy & sectoral crediting – potential and challenges.
- Workshop of the Carbon Market Mechanisms Working Group, May, 2024 - Policy crediting – potential and challenges



### 8.3 Paris Agreement Article 6 Implementation Partnership

Ghana is a partner country in the Article 6 Implementation Partnership of the Paris Agreement (A6IP), hosted by the Ministry of the Environment of Japan. As a participant, the Carbon Market Office (CMO) actively engages in A6IP activities. In 2024, the CMO participated in Japan's inaugural in-person advisory group meeting. Forty-eight participants, including twenty-three who participated remotely, convened from various regions worldwide, predominantly comprising practitioners affiliated with Article 6 of the Paris Agreement from diverse nations. The agenda concentrated on three principal areas: (1) discussing the initiatives and activity plans of A6IP, (2) evaluating the current status of Article 6 implementation and capacity-building efforts across individual countries and organizations, and (3) exchanging insights on collaborative strategies aimed at enhancing the effective implementation of Article 6.



### 7.4 West Africa Alliance on carbon market and climate finance

In 2024, Ghana played a significant role in the activities organized by the West African Alliance on Carbon Markets (WAA), leveraging the alliance's initiatives to enhance its carbon market strategies and contribute effectively to regional climate objectives. These initiatives have served as vital platforms for knowledge exchange, collaboration, and capacity building.

Ghana actively participated in key engagements, including the SB60 Preparation Workshop (May 28), where representatives provided insights on Article 6 negotiations, the Biennial Transparency Report, and NDC 3.0.

On June 3, the WAA launched its official website in Bonn, with Ghana providing feedback on key features, particularly the section dedicated to the country (<https://westafricanalliance.org/our-countries/ghana/>). Additionally, Ghana took part in member meetings (June 3 & 8), contributing to discussions on alliance coordination, negotiation strategies, and the implementation of carbon pricing mechanisms.

Throughout the year, Ghanaian officials benefited from capacity-building workshops on carbon pricing frameworks and actively engaged in collaborations with international partners, including the West African Development Bank and the UK's Department for Energy Security and Net Zero to align national policies with global best practices.

## 9. Partnerships and events

### 9.1. CMO- Klik Ghana Event

The CMO and the Klik Foundation successfully organised a compelling one-day event titled “Showcasing the Success of Article 6 Implementation in Ghana.” This impactful event occurred on Thursday, 17 October 2024, at the Conclave Meetings and Events in Osu, Accra. It emphasised the significant impacts, lessons learned, and challenges encountered since the partnership was established under the Ghana-Switzerland Bilateral Agreement.

The event highlighted the successful implementation of carbon projects in Ghana and detailed the various projects Klik funded under Article 6 of the Paris Agreement. Importantly, it also emphasised the climate and sustainable development co-benefits delivered by these projects. Additionally, the event presented the technologies and projects in Klik’s pipeline while discussing the economic and social impacts of Klik’s investments. It also clarified the requirements and established the working relationship between the CMO and Switzerland’s Federal Office of Environment (FOEN).



*Photo at the Klik-CMO carbon market event*

Notably, members of the Parliamentary Select Committee on Environment, including the Chair and Ranking Member, the Honourable Ebenezer Okletey Terlabi and the Honourable Dr. Emmanuel Marfo, respectively, were present. A delegation from the Embassy of Switzerland in Accra, led by Her Excellency Ambassador Simone Giger, also attended this event.

The event was divided into four sessions. The first session featured keynote addresses and messages from the Parliamentary Select Committee on Environment, the Swiss Ambassador, and the Ministry of Environment. Following this, various presentations were delivered by the FOEN, the CMO, and the KliK Foundation. This session showcased the perspectives of Ghana and Switzerland, highlighting how their collaboration has fostered the current implementation efforts through a presentation and a panel discussion.



The next session provided participants with insights into various projects through the exhibition of pipeline initiatives. The branded booths represented several projects under the KLIK pipelines, including electric mobility, biogas, clean cooking, green cooling, and sustainable artisanal palm oil processing. The final evening session delighted participants with a selection of Ghanaian and continental dishes, accompanied by music.



The panel session: From the left, Rubie Kortey (EPA, moderator), Dr. Daniel Tutu Benefoh (EPA), Dr. Edgar Kaufmann (FOEN) and Yannick Träris-Kahrman (Klik)



Yannick Träris-Kahrman conducting the Swiss Ambassador Simone Giger during the Exhibition



Pictures of some selected technologies displayed at the event

## 9.2 Singapore business mission for carbon credits collaboration

In May 2024, during the virtual signing ceremony for the Ghana-Singapore Implementation Agreement, the Honourable Ophelia Hayford, Minister for Environment, Science, and Technology of Ghana, alongside the Honourable Grace Fu, Minister for Sustainability and the Environment of Singapore, announced a business mission to identify opportunities presented by the implementation agreement.

Following the announcement, a Singapore delegation visited to prepare for the trade mission, coordinating with the CMO on essential logistics. The mission occurred in Ghana from July 15 to 17, 2024, led by Alvin Tan, Minister of State for Trade and Industry & Culture, Community and Youth. The delegation included representatives from the Ministry of Trade and Industry, such as Fam Wee Wei, Deanna Tan, Alson Soh, and Lydia Tang, as well as Koh Kai Qian and Tan Wei Hao from the National Environment Agency.

The mission included 22 participants from Singaporean companies, such as project developers, traders, investors, and financiers keen to explore the investment landscape and potential of carbon projects in Ghana. Delegation businesses included GreenA Consultants, CIX, GenZero, Macquarie, Morgan Stanley, Carbon Growth Partners, Climate Resources Exchange, Carbon Cap, Conservation International, South Pole, ACT Solutions, VNV Advisory, Trafigura, ENGIE, Hartree Partners, Valency International, and ECOM. The mission design was dynamic in delivering the objectives of the business mission, encompassing conferences, business-to-business meetings, government meetings, and field visits to project sites. The mission commenced with a courtesy call to the Executive Director of the EPA.

Over one hundred participants from Ghana, including project developers and bank financiers, attended the conference. Developers focused on initiatives such as mangrove restoration, biochar production, agroforestry, sustainable rice cultivation, clean cooking solutions, electric mobility (bikes, cars, buses), green cooling technologies, composting, biogas production, landfill gas management, energy efficiency, solar power systems, and waste-to-energy projects. Minister Alvin Tan and EPA Executive Director Dr. John Kingsley Krugu addressed attendees.



*Members of Parliament and the Singapore delegation*



### 9.3 USAID’s collaborative efforts to drive climate solutions in Ghana

The U.S. Agency for International Development (USAID) supports the Government of Ghana in tackling climate change through sustainable and impactful initiatives. These efforts aim to reduce Ghana’s contribution to global emissions while enhancing its capacity to adapt to the impacts of a changing climate. By partnering with the government, private sector, and local communities, USAID promotes a collaborative and resilient approach to effectively address climate challenges.

At the start of 2024, USAID/Ghana and Ghana’s EPA collaborated to promote effective climate solutions, with an emphasis on carbon finance. USAID works closely with Ghana’s CMO in two key areas: providing technical inputs to USAID-supported grantees implementing climate finance projects and assisting the EPA in its coordination efforts to develop Ghana’s carbon market.

USAID issues an annual programme statement to support small and medium enterprises (SMEs) in advancing innovative solutions for mitigation, adaptation, climate-smart technologies, and agriculture-focused climate initiatives that align with Voluntary Carbon Market (VCM) mechanisms. The CMO plays a pivotal role in co-designing these projects as part of the USAID and EPA partnership, reviewing selected proposals to ensure their alignment with Ghana’s carbon market framework and its commitments under the NDCs. By aligning with VCM standards, USAID is aiding small and medium enterprises in accessing global carbon markets and advancing national climate goals.

Ghana’s NDCs underscore the necessity of mobilising a range of funding sources, including climate finance, carbon finance, and both national and international investments from public and private sectors. To achieve its conditional targets under the Paris Agreement, Ghana has adopted the Article 6.2 Cooperative Approach. This strategy focuses on operationalising the Framework for International Carbon Market and Non-Market Approaches, promoting bilateral cooperative agreements, and establishing a dedicated Carbon Market Office. In the second area of collaboration between USAID and EPA, USAID offers coordination and financial support to the CMO for activities aimed at enhancing Ghana’s Framework for International Carbon Market and Non-Market Approaches, as outlined in the EPA’s 2023 request within Ghana’s updated NDC.



Andrew Read, Director – Economic Growth Office, USAID/Ghana



Supported by USAID/Ghana, the EPA collaborated with the Ministry of Energy, the Energy Commission, and other relevant agencies to create guidelines for the clean cookstove sector. This initiative aims to increase awareness about carbon markets and their role in decreasing emissions via biomass cookstoves. To promote this initiative, USAID arranged field visits to six improved cookstove manufacturers in Accra, Kumasi, and Sunyani. These visits highlighted the advantages of improved cookstoves, such as better cooking practices, lower biomass consumption costs, and improved indoor air quality.



After field visits, a stakeholder session raised awareness and developed draft guidelines for the regulatory framework, testing standards, and project developer challenges. A subsequent validation workshop in Koforidua explored sustainable development opportunities in the cookstove sector, refining the guidelines. These efforts will lead to the publication of the Guidelines on Cookstove Technologies and Carbon Markets in Ghana by the end of Q1 2025. The collaboration between USAID/Ghana and EPA is part of the USAID Africa Trade and Investment Activity under the Prosper Africa strategy, aimed at increasing trade and investment within Africa.



## 9.4 PwC hosts “Beyond the surface: Exploring the current state of carbon emissions in Ghana’s extractive industry.”

In September 2024, PwC, a professional services firm, hosted the “Beyond the Surface” forum, a crucial event centred on carbon emissions in Ghana’s extractive sector. This gathering united essential industry stakeholders, including operating companies and regulatory agencies, to explore the challenges and opportunities surrounding carbon emissions, climate action, and sustainability development.

The forum took place at PwC Towers in Accra and included an esteemed panel of experts: Dr. Daniel Tutu Benefoh (Acting Director of the Climate Unit at the Environmental Protection Authority), Adiki O. Ayitevie (Consultant for Sustainability, Communications & External Relations), and Paul Kwesi Ocran (In-country Carbon Market Coordinator for SEforALL). Dr Benefoh offered expert insights into Ghana's evolving regulatory framework for carbon emissions. He also examined the government’s current and future interventions to mitigate the environmental impact of the extractive industry, a major contributor to the nation’s carbon emissions.

As part of the discussions, participants had a deeper understanding of the EPA’s approach to monitoring and regulating emissions, bringing home the need for strict enforcement and continuous review of policies considering Ghana’s climate commitments. Panel members shared varied experiences on other stakeholders' contributions to promoting the climate change agenda and the market’s unique opportunities. The “Beyond the Surface” forum concluded with a call to action for more collaborative efforts between the government, development finance institutions and the private sector to accelerate progress on emissions reduction while ensuring that the extractive sector continues to contribute to economic growth in a sustainable manner.



Panel members during the PwC event

## 9.5 Tanzanian delegation mission to Ghana

In July 2024, a delegation comprising seven members from the Republic of Tanzania, led by the Honourable Ashatu Kijaji, Minister of State in the Vice President’s Office for Union and Environment, undertook a four-day educational visit to the Environmental Protection Authority (EPA) to acquire insights and an understanding of carbon market implementation under Article 6.

The delegation was received by Dr. John Kingsley Krugu, Executive Director of the EPA, along with the management team. During the visit, the delegation also paid a courtesy call to the Honourable Ophelia Mensah-Hayford, Minister for the Ministry of Environment, Science, Technology and Innovation (MESTI).

The tour encompassed both technical sessions and field visits. The technical session entailed an in-depth examination of the policy and technical arrangements, including policy implementation, transaction management, mitigation activity origination and support, monitoring and reporting, and accounting functions. The team further engaged in discussions regarding the CMO’s operational areas.

The delegation also visited the Accra Compost and Recycling Plant, a facility dedicated to waste-to-compost processes, to gain first hand experience of the company's operational practices and to understand how emissions reductions can be initiated within the waste sector.



*EPA team and the Tanzanian delegation*



## 9.6 Partnership Corner - AB & David Africa (Pan African Business Law Firm)

### 9.6.1 Recent Developments and Strategic Steps to Accelerate green transition in Ghana.

In February 2025, the 38th African Union Summit marked a key moment in Africa's green transition as Heads of State adopted sustainable aviation fuels, green hydrogen, energy efficiency, and climate-smart infrastructure strategies. These commitments, stemming from the Nairobi Declaration on Climate Change (September 2023), influence national strategies. For example, Ghana aims for net-zero emissions by 2060, focusing on biofuels for aviation and shipping. South Africa's Just Energy Transition Implementation Plan (2023-2027) emphasises renewable energy investments and climate-smart rail infrastructure, supporting its 2050 energy transition goals.

The private sector increasingly contributes to Africa's low-carbon transition via public-private partnerships. For instance, the 200 MW Sanankoroba Solar Power Station in Mali, launched in May 2024 under a PPP with NovaWind, will enhance Mali's renewable energy capacity as West Africa's largest solar plant. In South Africa, the 140 MW Umsinde Emoyeni Wind Power Station, under construction, will serve Sibanye-Stillwater through a 20-year power purchase agreement, led by a consortium including African Clean Energy Developments and Energy Infrastructure Management Services.

Private sector climate financing in Africa is gaining momentum, moving away from external public funds. In January 2025, the Climate Investment Funds issued a \$500 million bond to mobilise private investment for low-carbon technologies, attracting over \$3 billion in orders. Funding for private sector-led climate action is also becoming accessible. In July 2024, Helios Investment Partners launched the Helios Climate, Energy Access, and Resilience Fund, securing \$200 million for mid-sized African companies in low-carbon energy, climate-smart agriculture, sustainable mobility, recycling, and digital climate solutions, backed by major development finance institutions like the UK's development finance institution, the European Investment Bank, and the Dutch Development Bank.

In 2025, a key year for updating Nationally Determined Contributions under the Paris Agreement, Africa's top greenhouse gas emitters are expected to enhance their emissions reduction goals. Focus areas include increasing renewable energy investments, boosting energy efficiency, adopting electric vehicles, and decarbonizing high-potential sectors. Africa must tackle challenges, leverage opportunities, and consider factors critical to its green transition's success.

Africa's green transition faces severe constraints due to a financing gap, with only 17.8% of mitigation and 20% of adaptation finance needs met from 2021 to 2022. Its heavy reliance on external public funding—76% from multilateral and bilateral donors—is unsustainable, especially with potential cuts from a U.S. exit from the Paris Agreement. To attract private capital, Africa must expand its carbon markets, explore carbon taxes, and enforce take-back obligations in hard-to-abate sectors, requiring legal reforms in oil and gas industries.



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Senegal, Nigeria, Mozambique, Zambia, Uganda, and Zimbabwe are advancing carbon pricing instruments, signalling a regional shift toward innovative climate finance solutions. Countries without carbon market/carbon tax regimes must urgently develop regulatory frameworks to secure investor confidence in navigating risks. As a key component of Africa's green transition, energy transition is often framed as expanding renewables to electrify millions of Africans without power. However, less focus is placed on the business case for private sector-led clean energy investments in productive sectors. Stimulating demand requires strategic policies—tax incentives, tariff adjustments, and industrial policies—to align energy supply with industry needs and drive growth.

Carbon Capture and Storage (CCS) is emerging as a key decarbonisation tool for Africa's high-emitting industries. Countries like Ghana, Uganda, Egypt, Nigeria, and South Africa are integrating it into their energy transition strategies. Many African countries may overlook that CCS could usher in a new era of resource extraction, given the continent's favourable geology, particularly the East African Rift basalts. Africa cannot afford to remain on the sidelines while the rest of the world advances in CCS innovation.

A deep understanding of CCS technology is essential to fully capitalise on this potential. South Africa leads in CCS research and pilot project, backed by the World Bank, while Nigeria hosts the Africa Center of Excellence for Carbon Management Technology and Innovation to advance and accelerate the deployment of carbon management technologies in Africa including CCS. To harness CCS effectively, African governments must establish robust policy, legal, and regulatory frameworks for CCS, invest in R&D, and develop infrastructure through public-private partnerships to accelerate industry growth and attract investment. Additionally, governments must commit funding to accelerate the development of a viable CCS industry.

Africa's green transition plans must align with global decarbonisation trends. Africa does not operate in isolation—its industries are shaped by global decarbonisation policies such as the EU's Carbon Border Adjustment Mechanism (CBAM), just as its actions influence international markets. However, some national transition plans appear to fail to reflect this reality. Ghana's energy transition and investment plan, for instance, aims for net-zero emissions in the steel and cement industries beginning in 2040, yet the CBAM, which prohibits such high-emission products' entry into the EU, will take full effect by 2026.

This 14-year misalignment could leave Ghanaian businesses uncompetitive in the EU market. African countries must align their transition strategies with global policies to avoid such risks, ensuring competitiveness and meaningful climate action. In conclusion, Africa's green transition presents vast opportunities, but success hinges on strategic financing, regulatory clarity, and alignment with global decarbonisation policies. By scaling carbon markets, supporting clean energy in industries, and leveraging technologies like CCS, Africa can drive sustainable development while remaining competitive in the evolving global economy.

## 10. Impact stories

### Ready palm oil in three hours by Albert Ansa, Ghana News Agency

It is a great sigh of relief for 38-year-old Abena Ellen Dzifa to complete a nearly two-week cycle of palm oil production in just three hours. Access to improved, energy-efficient, locally produced machinery has achieved that feat. The end-to-end machinery includes boilers, conveyors, ovens, clarifiers, expellers, steamers, and sustainable waste management technologies.

For Ellen, the impact has been life-changing. *“Now I no longer hire labourers to cut the fruit-laden spikelets from the bunch stem, wait for days before separating the fruit from the spikelets by hand and boiling,”* she recalls. The period of pounding, filtering, heating, mash pressing, and extraction of oil was exhausting work, and we often couldn’t meet market demand.

With the machine, I can double my production in a fraction of the time.” The machine has not only increased Ellen’s production but also her income. With higher efficiency and better quality oil, she has expanded her customer base to nearby towns.

Aside from the laborious traditional processes, she and many others endured heavy exposure to smoke from the inefficient traditional cookstoves they used. While the women attest to a decline in health conditions like headache, flue, and red and itchy eyes due to the use of new machinery, biogas generated from palm oil mill effluent, oil, and grease is serving as an energy source for cooking.

Cooking efficiently and sustainably with effluent as fuel might seem like a local effort, yet it has a substantial impact on global greenhouse gas emissions. Ellen and nine other women receive machinery support as part of the initiative under the Nationally Determined Contributions Support Programme (Deep Dive), which is a collaboration between UNDP, MEST, and the EPA.



Ellen Abena Dzifa, Artisanal oil palm processor



New oil palm processing machinery



## Transforming waste to profitable use by Albert Ansa, Ghana News Agency

In Kumasi, Accra, and Takoradi, another carbon credit initiative transforms the city's growing waste issue into an opportunity: the Waste-to-Organic Fertiliser Project, funded by carbon credit schemes. Before this project, open dumpsites were frequently seen in the city, releasing methane—a greenhouse gas significantly more potent than CO<sub>2</sub>—and contributing to air pollution.

Today, this waste is being converted into energy that powers homes, produces organic fertiliser, and supports businesses, reducing emissions and health risks for surrounding communities. *“I used to live near a dumpsite, and the smell was unbearable,” says Kofi Antwi, a resident of Accra. “Now, that same waste is helping us generate electricity. It’s amazing how things can change.*

### ***A global solution with local impact***

These initiatives are part of Ghana's broader commitment to the Paris Agreement, which seeks to limit global warming to 1.5°C. By earning carbon credits—measured reductions in CO<sub>2</sub> emissions—Ghana attracts international funding to scale up these projects. Dr Daniel Benefoh, Acting Director, UNFCCC Focal Point for Ghana, Climate Change Unit, EPA, explains the significance: “Carbon credits are not just about global climate goals; they are about improving lives. Cleaner air, healthier families, and sustainable livelihoods—it’s all interconnected.”

### ***Hope for a cleaner future***

Ghana demonstrates through carbon credit projects that environmental sustainability and human well-being are interconnected. For individuals like Ama, these initiatives represent not only climate solutions but also avenues toward a better life.



### **Media publication links**

- <https://cmo.epa.gov.gh/index.php/2024/11/08/a-showcase-for-successful-climate-cooperation-between-ghana-and-switzerland/>
- <https://cmo.epa.gov.gh/index.php/2024/06/05/ghana-signs-bilateral-agreement-with-singapore-sweden-on-climate-change/>
- <https://breathelife2030.org/news/ghanas-road-map-methane-emissions/>



# 11. Article 6.2 activity cycle

The 6.2 activity development cycle is expertly tailored to seamlessly integrate with the project development cycle. While there are distinct requirements and specific needs associated with the A6.2 bilateral agreements and engagements, the CMO has crafted these steps to perfectly align with those demands. This ensures swift and effective approach to project development, enhancing both collaboration and success.

Stage	CMO [Host Party]	Project Owner	Independent bodies	Receiving Party	International carbon standards
Pre-project implementation	Cooperative approach			Cooperative approach	
	Eligible activities per NDC	Project identification			
		Project design			Methodology for project design
		Open account on GCR & request LOI			
		Commercial Agreement		Commercial Agreement	
	Authorisation approval	Authorisation request		Authorisation approval	
	A6.2 initial report		Validation		Registration
Project implementation		Implementation & monitoring			
			Verification		

Stage	CMO [Host Party]	Project Owner	Independent bodies	Receiving Party	International carbon standards
Transactions, payment, accounting and reporting	Examination			Examination	
	Issuances of carbon credits				Issuances of carbon credits
	Transfer			Recognition	Transfers
	First transfer & cancellation of ITMOs			First transfer & cancellation	First transfer & cancellation
	Notice of ITMOs uses			ITMOs uses	
	CA fees	ITMOs revenues		Payment	
	Annual GHG Inventory			Annual GHG Inventory	
	Corresponding Adjustment			Corresponding Adjustment	
	Annual Information			Annual Information	
	Regular Information			Regular Information	

## Article 6.4 (PACM) roles

CMO [Host Party]	Project Owner	Independent bodies	Article 6.4 Supervisory Body - UNFCCC
Country Approval of Transition request	Request for transition of CDM projects		Receives transition request
NDC & A6.4M			
Letter of Approval link to NDC, Sustainable Development, Renewal of crediting period, Activity eligibility, Baseline & Methodology	Project design		PDD Design template
Authorisation of private and public entities as activity participants			Approval of methodologies
		Validation	Accreditation of DOEs
	Registration request		Registration
	Implementation & monitoring		Monitoring template
		Verification	
Authorisation of A6.4 ERs	Issuance request		Issuance
Accounting of A64 ER Contribution			A6.4 Mechanism Registry
			International Registry
			Share of proceeds (5% for adaptation and admin cost, 2% for OMGE)

20  
25

HIGHLIGHTS



# 12. Activity outlook

Q1 - Q2

## Implement carbon market provisions in Act 1124

- Establish carbon market committee
- Initiate operationalisation of mitigation fund
- Develop carbon market regulation in line with section 159 of Act 1124.
- Organise training on sections 148-159 of Act 1124

Q1

## Finalise bilateral agreements

- Resubmit Ghana-Korea agreement to cabinet
- Conclude Ghana-BP agreement and initiate the legal review and cabinet approval.
- Conclude Ghana-Liechtenstein agreement and initiate legal review and cabinet approval

Q1-Q2

## Support project implementation

- Complete examination of ACT project to pave way for issuance and international transfer of ITMOs.
- Grant authorisation to number of eligible carbon projects.
- Publish 4 technical guidelines on authorisation, issuance and transfer, technologies, and NDC baselines.

Q3 - Q4

## Registry operations

- Complete the GCR operation manual.
- Issue the first ITMOs on GCR and complete the transfer and recognition process.
- Initiate work to develop registry interoperability with selected international standard programmes.
- Complete the consideration of connecting the GCR to the CAD-Trust system

# Activity outlook

Q2 - Q3

## Article 6 outreach

- Develop further guidance for other technology and nature-based solutions.
- Develop carbon project pipeline database.
- Train the enlisted applicants of the local roster of experts who wish to participate in validation and verification.

Q2

## Engagements

- Engage with Ghana Stock Exchange and the Securities and Exchange Commission on the operations of carbon registries in Ghana.
- Consultation with Parliament on international carbon market.
- Continue with sectoral and private sector engagement on carbon markets.

Q2 -Q4

## NDC GHG accounting and reporting

- Revise the NDC target and define role of international carbon market
- Prepare annual information using the agreed electronic format.
- Develop Article 6 initial report for projects that receive authorisation, where applicable

Q1-Q4

## Other planned activities

- Develop a digital map of carbon market project value chain in Ghana.
- Initiate discussion on carbon market project benefit sharing arrangement.
- Review and fine-tune carbon market project development steps.
- Facilitate the development of standardised baseline and monitoring methodology for hydrogen technology in Ghana.





# Lessons Learnt

➔ **Putting in place an efficient national system to back Article 6 implementation is a critical success factor.**

- Establishing a dedicated team skilled to effectively implement Article 6.
- Implementing Article 6 can be costly so think about a sustainable funding source.
- Implementing Article 6 is NOT a one-man show. So involve all actors.
- Be mindful of the country's reputational risk and over-crediting risk.
- Authorisation has to be approved with environmental integrity and investment considerations.

➔ **Unlock investment by enabling participation of local financial institutions.**

- Establishing the rules and policies are good first step, it must create favourable conditions to unlock investment on the ground.
- Promote local participation of local banks.

➔ **Deepen the link between GHG inventories, NDC targets and Article 6.**

- Define emission mitigation target
- Establish how much GHG mitigation to be achieved by Article 6.
- Identify the gases, activities, sectors covered by the NDC.

➔ **Communicate concrete results to the public**

- Article 6 results are not immediate but it has medium to the long-term outlook.
- Demonstrate and communicate results of inflow of foreign direct investments, jobs, access to innovation and technology and manage expectations of what Article 6 can and cannot do.

# List of Abbreviations

A/R	Afforestation/Reforestation
A6IP	Paris Agreement Article 6 Implementation Partnership
AF	Agroforestry
AGN	African Group of Negotiators
AWD	Alternative Wetting and Drying
BAU	Business as Usual Scenario
BP	British Petroleum
CA	Corresponding Adjustments
CAD	Climate Action Data
CCAC	Climate and Clean Air Coalition
CCS	Carbon Capture and Storage
CDM	Clean Development Mechanism
CM	Carbon Market
CMM-WG	Carbon Market Mechanisms Working Group
CMO	Carbon Market Office
CORSIA	Carbon Offset Reduction Strategy for International Aviation
EPA	Environmental Protection Authority
EU	European Union
EV	Electronic Vehicle
fNRB	Fraction of Non-Renewable Biomass
FOEN	Federal Office of Environment
G2G	Government-to-Government
G2P	Government-to-Private Sector
GCR	Ghana Carbon Registry
GHG	Greenhouse Gas
GIDA	Ghana Irrigation Development Agency
GIFEC	Ghana Investment Fund for Electronic Communications
GMI	Global Methane Initiative
Ha	Hectares
HFC	Hydrofluorocarbon
IA	Implementation Agreement
IETA	International Emissions Trading Association
IRECOP	Integrated Recycling and Compost Plant Limited



ITMO	Internationally Transferred Mitigation Outcome
KNUST	Kwame Nkrumah University of Science and Technology
KOTRA	Korea Trade Investment Promotion Agency
KPT	Kitchen Performance Test
LULUCF	Land Use, Land-Use Change, and Forestry
MADD	Mitigation Activity Design Document
MADD	Mitigation Activity Design Document
MCU	Mitigation Contribution Units
MEST	Ministry of Environment, Science and Technology
MID	Mitigation Activity Identification Number
MO	Mitigation Outcome
MOFA	Ministry of Food and Agriculture
MOTIE	Ministry of Trade, Industry and Energy
MRV	Monitoring, Reporting & Verification
MtCO <sub>2</sub> e	Million Tonnes of Carbon Dioxide Equivalent
MW	MegaWatts
NDC	Nationally Determined Contribution
PA	Paris Agreement
PAM	Policies and Measures
PV	Photovoltaic
R&D	Research and Development
ROE	Roster of Expert
SDGs	Sustainable Development Goals
SEA	Swedish Energy Agency
SECO	State Secretariat for Economic Affairs
SRI	Sustainable Rice Intensification
TCC	Technology Consultancy Centre
UNDP	United Nations Development Programme
USAID	United States Agency for International Development
VCM	Voluntary Carbon Markets
VCM	Voluntary Carbon Market
VVB	Validation Verification Bodies

# Project developers



# ACKNOWLEDGEMENTS

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Annexe 1: List and status of international carbon market projects in 2024

No	Project title	Technology	Sector	Project developer	BL or UL	Status	ERP [MtCO <sub>2</sub> e]	Crediting period	Technology	Project location
1	Transformative Cookstove Activity in Rural Ghana	biomass stoves	Energy	ACT Climate Solutions B.V	GH-CH	examination	3.2	2024-2030	60,000 Envirofit ICS	Across Ghana
2	Electric Buses Programme in Ghana	electric bus	Transport	Aera/Solar Taxi	GH-CH	LOI	0.38	2024-2030	dissemination of 3,000 electric bus	10 regions of Ghana
3	Ghana Biogas Program	biogas	Waste	Sistema Bio	GH-CH	LOI		2025-2030		Across Ghana
4	Sustainable Artisanal Palm Oil Processing (SAPP)	wastewater treatment	Waste	Solidaridad	GH-CH	MADD	5.94	2025-2030	Install biodigester to treat methane in approx.38,400m <sup>3</sup> /yr palm oil mill effluent	Central, Eastern, Ashanti, Western, Western North, Volta, and Ahafo regions
5	Biogas systems for farmers in Ghana	biogas	Waste	Home Biogas	GH-CH	MADD	1.21	2024-2030	25,000 biodigesters with a capacity of 8m <sup>3</sup> for target farmers	Across Ghana
6	Zuza Akyem – Transformative Biomass to Energy Impact	biomass power plant	Energy	Zuza Akyem Ltd.	GH-CH	MADD	0.56	2024-2030	40MW biomass plant	Eastern Region, Akyem Abuakwa
7	Ghana Green Cooling	HFC cooling	Industry	Klik/GIZ	GH-CH	Validation	0.59	2024-2030	150,000 green ACs	Across Ghana
8	Electric bicycle manufacturing and distribution for gig economy workers and commuters in Ghana	electric bike	Transport	Wahu Ghana Limited	GH-CH	Authorisation	0.75	2024-2030	117,160 e-bikes	Pilot in Accra - upscaled to entire Ghana
9	Building Pathways to Electric Cooking in Ghana	electric stoves	Energy	UpEnergy	GH-CH	Validation	2.03	2024-2030	200,000 pressure cookers and induction stoves	Greater Accra, Kumasi, Central & Eastern regions
10	Reducing Charcoal Consumption Through Improved Cookstoves	charcoal stoves	Energy	UpEnergy	GH-CH	Validation	1.85	2024-2030	150,000 ICS	Greater Accra, Ashanti, Central & Eastern regions
11	Distribution of electric cookstoves for households in Ghana	electric stoves	Energy	BURN	GH-CH	Validation	0.46	2024-2030	100,000 electric induction stoves	Regions in the North of Ghana
12	National Clean Energy Access Programme (NCEP)	solar PV	Energy	Klik	GH-CH	Validation	0.35	2024-2030	135 MWp of new rooftop solar PV capacity	Across Ghana
13	African Sustainable Charcoal Initiative with MGS for Klik, Micro-Gasifier Stoves (MGS)	charcoal production	Energy	CERTAIN GTS	GH-CH	LOI	0.66	2024-2030	55,000 micro gasifier stoves	Ghana's coastal rural and peri-urban regions



14	Sustainable rice cultivation	AWD rice cultivation	Agric	UNDP	GH-CH	monitoring	1.10	2023-2030	20,500 hectares per cropping season	Across Ghana
16	Integrated waste recycling and composting for methane reduction in Ghana	composting	Waste	Jospong Group of Companies (JGC)	GH-CH	onboarding	1.48	2023-2030	process 3,800 tonnes of MWS per day into compost	Wa, East Mamprusi, Tamale, New Juaben North, Effia Kwesimintsim, and Mankessim
17	C&I Solar Photovoltaic (PV) and Storage programme	solar & storage	Energy	InfraFutura	GH-SW	validation	0.12	2024-2030	142.9 MWp solar PV systems with 113 Commercial and Industries (C&I) s	Across Ghana
18	Hiowe Mahem Solar Project	solar	Energy	TFI Power Company	GH-SW	procurement	0.21	2025-2030	60MW capacity solar power generation facility, connected to Ghana's national grid	Doryumu Shai-Osudoku
19	E-Mobility Programme in Ghana by SolarTaxi	electric cars	Transport	Solar Taxi	GH-SW	procurement	0.25	2025-2030	48,500 introduce electric vehicles and their associated charging infrastructure, battery maintenance facilities	Ghana covering both urban and rural regions
20	AI- ML IoT driven automated disinfection, monitoring for potable water in rural Weija Gwabe and GA South of Greater Accra region of Ghana	water treatment	Waste	Expert365 Pty Ltd.	GH-SG	LOI	1.33	2024-2030	installation of automated chlorination units and (UV) disinfection systems	Weija Gbawe and Ga South
21	Alternate Wetting & Drying (AWD) Technology for Sustainable Rice Production Located in Volta Region of Ghana, Central Tongu District	AWD rice cultivation	Agric	Farmer Globale	GH-SG	Rejected	0.10	2024-2029	AWD in Central Tongu District	Central Tongu, Volta Region
22	Clean cookstoves technology for smallholder farmers in the Volta Region of Ghana, Central & North Tongu District	biomass stoves	Energy	Farmer Globale	GH-SG	LOI	1.10	2024-2030	10,000 ICS	Central and North Tongu, volta region
23	Production of biodiesel from non-food oil seeds	biodiesel	Agric	Kombat Energy Limited	GH-SG	Rejected	0.40	2025-2035	biodiesel from non-food oil seeds production	Tema, Greater Accra

24	Ghana Clean Cooking Initiative, located in the Ashanti and Central Regions	biomass stoves	Energy	EcoLinks Co., Ltd	GH-SG	LOI	0.82	2025-2030	100,000 ICS	Ashanti and Central Regions
25	Improved Agricultural Land Management for verified carbon emission reduction and removal in Wa West District	Soil enhancement	Agric	Eco-Bliss Climate Ltd	GH-SG	LOI	2.05	2025-2035	agricultural land management and grazing management practices on 91,000 ha	Wa West and Upper West Regions
26	Transformative Cookstove Project in Rural and peri-Urban Ghana II	biomass stoves	Energy	ACT Climate Solutions B.V	GH-SG	Review	1.80	2025-2036	80,000 ICS	Throughout Rural and Peri-Urban Ghana
27	LPG Clean Cookstove Initiative in Ghana	LPG stoves	Energy	ACT Climate Solutions B.V	GH-SG	Review	1.86	2025-2037	50,000 LPG stoves	Throughout Rural and Peri-Urban Ghana
28	AquaCarbon Safe Community Water (PoA), AquaCarbon Safe Community Water (VPA1)	water treatment	Water	Element15	GH-SG	Review	0.59	2026-2030	membrane water filters installation	Sagnarigu, Savelugu, Tamale, Tolong, Karaga, Gushegu, Kumbungu and Nanton
29	Clean Water Supply in Schools in Ghana	electric stoves	Energy	Impact Water LLC	GH-SG	Review	26.13	2026-2040	water treatment for schools	across Ghana
30	Electric cookstoves for households in Ghana	biomass stoves	Energy	BURN and Effective Climate Solutions	GH-SG	Review	1.50	2025-2030	100,000 electric stoves	Across Ghana
31	Improved cookstoves for households in Ghana TPDDTEC v4.0 E	biomass stoves	Energy	BURN and Effective Climate Solutions	GH-SG	Review	1.80	2025-2030	180,000 ICS	Across Ghana
32	Gyapa Improved Cookstoves in Ghana. (the project operates in all Regions of Ghana)	charcoal stoves	Energy	Relief International	GH-SG	Review	4.88	2021-2030		Across Ghana
33	100% Data-auditable, electric smart stove ITMOs with verifiable direct carbon payments to households in Ghana	electric stoves	Energy	ATEC	GH-SG	Review	0.10	2025-2030	100,000 electric smart stoves	Across Ghana
34	Safe water and clean cooking for Ghana	water treatment	Water	Up Energy Group	GH-SG	Review	1.17	2026-2030	200,000 ICS and 85,000 residential safe water systems	Across Ghana

35	Kinetic 7 Hydrogen Stoves for Ghanaian Schools	hydrogen stoves	Energy	Kinetic7	GH-SG	Review	7.50	2026-2031	kinetic7 stoves for 28,000 schools	Across Ghana
36	The Ghana Community-Based Mangrove Conservation and Reforestation Project	mangrove	Forestry	Axam/Gaia Climate	GH-SG	Review	2.49	2026-2056	7,000 hectares of mangrove ecosystems	Ahanta West and Greater Amanzule Regions
37	Ghana Cocoa Agroforestry and Resilience Program	agro-forestry	Agric	X Carbon	GH-SG	Review	2.24	2025-2055	50,000 hectares of agroforestry intervention	Ashanti, Central Region, Western, and Brong Ahafo Regions
38	Man and Man Enterprise (MME) Improved Cooking Stoves Programme in Ghana (VPA4 – Central Region)- MAMICS 1	charcoal stove	Energy	MME	VCM+CA	CMC review	1.33	2023-2030	270,000 ICS	Central Region
39	Man and Man Enterprise Improved Cooking Stoves Programme in Ghana (CPA1 – Brong Ahafo Region)- MAMICS 2	charcoal stove	Energy	MME	VCM+CA	CMC review	1.22	2021-2030	203,000 ICS	Sunyani, Techiman, Wenchi, Berekum
40	Improved Cookstoves and Sustainable Fuel Dissemination Program.	charcoal stove	Energy	Cook Clean Ghana Ltd	VCM+CA	CMC review	3.54	2022-2030	324,000 ICS (Boja)	Across Ghana
41	Man and Man Enterprise Improved Cooking Stoves CDM Programme in Ghana supported by the Republic of Korea – CPA1	charcoal stove	Energy	MME	VCM+CA	Transition request	1.46	2017-2045	270,000 ICS	Across Towns in Sunyani, Brekum, Ashanti, Kwahu
42	A High Calibre, Community Driven A/Reforestation Project for Carbon Sequestration as Part of IFRC's Pan Africa Tree Planting & Care Initiative	afforestation/reforestation	Forestry	Red cross	VCM+CA	LOI	2.5	2026-2032	10,000 hectares of regenerated land	
43	GS1385 Man and Man Enterprise Improved Cooking Stoves Programme in Ghana - VPA003 (Greater Accra Region)	charcoal stove	Energy	MME	VCM+CA	onboarding	1.56	2021-2026	380,000 ICS	Greater Region
44	GS1385 Man and Man Enterprise Improved	charcoal stove	Energy	MME	VCM+CA	onboarding	0.96	2021-2026	240,000 ICS	Western Region

	Cooking Stoves Programme in Ghana - VPA002 (Western Region),									
45	GS1385 Man and Man Enterprise Improved Cooking Stoves Programme in Ghana – VPA005 (Volta Region)	charcoal stove	Energy	MME	VCM+CA	onboarding	0.59	2023-2028	100,000 ICS	Volta Region
46	Project Akwaaba: Bringing Back Ghana’s Tropical Forest to Degraded Forest Reserves (PAK).	forest restoration	Forestry	Rainforest Builders Ghana Limited	VCM+CA	onboarding	0.05	2023-2123	100,000 hectares	Across Ghana
47	Signum Yerada Project (SYP)	forest restoration	Forestry	Signum Ghana Limited	VCM+CA	onboarding			16453 hectares	Bole District Northern Region
48	Restoration of Native Ecosystems in Ghana (CRNE) Project	forest restoration	Forestry	Three Trees Ghana Ltd	VCM+CA	onboarding	0.54	2024-2034	50,000 hectares	Across Ghana (rural)
49	Small Scale Mitigation Activity - Voluntary Carbon Market (VCM) Project	forest restoration	Forestry	Kingsworth Farms	VCM+CA	onboarding	0.30	2024-2030	3,000 hectares	Begoro, Eastern Region
50	Kwahu Landscape Restoration Project (KLRP)	forest restoration	Forestry	AJA Climate Solutions Ghana	VCM+CA	validation	23.89	2023-2031	102,000 hectares	Kwahu East, Eastern Region
51	Improved Cookstoves Programme in Ghana (ICPG)	biomass stoves	Forestry	Better Planet Footprint Pvt. Ltd.	VCM+CA	LOI	13.60	2022-2030	1,000,000 ICS	Across Ghana
52	Improved Cookstove Distribution in Ghana by EKI	charcoal stoves	Energy	EKI Energy Services Limited	VCM+CA	LOE	5.06	2023-2030	200,000 ICS	Across Ghana
53	Installation of High-Efficiency Wood Burning Cookstoves in Ghana (HEWB)	biomass stoves	Energy	C-Quest Capital	VCM+CA	LOI		2024-2030	1,000,000 ICS	Across Ghana
54	Regenerative Development of Anlo Wetlands - A dual programme for restoration and economic growth	mangrove	Forestry	SeaWater Solutions	VCM+CA	LOI			cassava and coconut waste processing	Keta, Volta Region (Keta and Songhor Lagoons)
55	Green Innovation and Adaptive Climate Resilience (Cassava Green Skills and Innovation Project)	agriculture	Agric	Ghana Casava Centre of Excellence (AGROSOL)	VCM+CA	LOI	1.30	2021-2030	5,500 hectares: 10,000,000 mangroves	Oforikrom municipality, Techiman North District, Akuapem North, Municipality, South



										Dayi District, Western Region
56	Community-Based Clean Cookstove (CBCC) Project in Ghana	charcoal stoves	Energy	ECOLINKS	GH-SK	LOI				
57	Ghana Clean Water Project (PoA)	water treatment	Energy	ECOLINKS	VCM+CA	LOI	0.30	2023-2028	sustainable water sources for 500,000 people by 2028	Soogo (Bawku West), Kpachibihini (Mion District) and Nyoligu (Nanton District)
58	Atebubu and Wiase Forest Landscape Restoration Project	forest restoration	Forestry	iNovaLand Investment Limited	VCM-CA	Concept				Atebu, Wiase
59	Upscaling to Landscape Level Shaded Cocoa Agroforestry, Enhancing the Climate Resilience	agro-forestry	Agric	Livelihoods Carbon Fund	VCM-CA	LOE	1.53	2023-2043	17,000 ha	Bia East, Bia West, Juaboso and Wasa Amenfi West Districts
60	Conservation and restoration of Mangrove System in Ghana (CRMS)	mangrove	Forestry	Ørsted Nature Base Solution A/S (ONBS)	VCM-CA	LOE				Keta, Volta Region
61	Agroforestry carbon removal units for the Organic Restoration of Nature (ACORN)	agro-forestry	Agric	Rabo Bank	VCM-CA	LOE				
62	Improved Cookstove and Sustainable Fuel Dissemination Programme in Ghana (ICSFDP)-B	biomass stoves	Energy	Cook Clean Ghana Ltd	VCM-CA	LOE	3.54	2022-2030	324,000 ICS (Boja)	Across Ghana
63	Truecoco Biochar Carbon Removal Project	biochar	Agric	Truecoco Ghana Limited	VCM+CA		250	2023-2030	120,000 MT of biochar	Jomoro District
64	International GHG Reduction Project through Water Purification System Installation and Supply	water treatment	Energy	EWC	GH-SK	feasibility	0.36	2027-2030	Provide safe drinking water to approximately 20% of residents in the Ashanti region	Ashanti
65	Electrical Cooking for Schools (ECS) in Ghana	electric pressure stoves	Energy	UpEnergy Ghana Limited 2	GH-SG	onboarding	0.36	2026-2030	Provide 5000 schools with not more than 10,000 50 litres of Electric Pressure Cookers.	Across Ghana
66	African Sustainable Charcoal Initiative in Ghana	sustainable charcoal	Energy	ECONexus Carbon Credit Co. Ltd.	GH-SK	onboarding	5.87	2025-2030	installation and operation of large-scale, efficient	Across Ghana

	with Advanced Large Kiln Facilities (ASCIALKF)								charcoal production facilities	
67	African Sustainable Charcoal Initiative in Ghana with Micro Gasifier Stove Facilities (ASCIMGS)	charcoal stove	Energy	ECONexus Carbon Credit Co. Ltd.	GH-SK	onboarding	7.4	2025-2031	distribution of Top-Lit Up Draft (TLUD) micro gasifier stoves	Coastal Communities across Ghana
68	Kpone landfill gas recovery project	landfill gas	Waste/ Energy	WECOS Company Limited and Syntex Synergy Company Limited	GH-SK	feasibility	0.74	2026-2040	installation of landfill gas recovery plant for on-site power generation	Kpone, Tema
69	Ghana Green Schools Program	institutional biomass stoves	Energy	ClimateGains Ltd. Ghana (CGGH)	GH-CH	MADD consideration	1.3	2024-2030	install improved stoves in the schools	Upper West, Northeast Region, Bono, Savannah, Greater Accra, Oti, Central and Western North Regions
70	Ghana clean cooking programme for schools	institutional biogas stoves	Energy	Cook Clean Ghana Ltd	GH-SK	MAIN	2.5	2025-2030	install 7,200 biogas stoves in schools	Ashanti, Volta, Eastern, Western, Ahafo, Bono East, Northern and Upper East

Key: UL – Unilateral cooperation, BL- Bilateral cooperation, LOI – Letter of Intent, MADD – Mitigation Activity Design Document, LOE – Letter of Endorsement, VCM+CA – Voluntary Carbon Market seeking authorisation, VCM-CA - Voluntary Carbon Market not authorisation, ERP – Emission Reduction Potential