



POSITIVE IMPACT

United Nations Development Programme



MDG Carbon Programme Management and Technical Oversight

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Executive Summary

Established in 2007, UNDP's MDG Carbon is an innovative programme that assists developing countries in implementing a host of low-carbon interventions, spanning multiple technologies, active in all regions of the world, and leveraging significant amounts of private sector millions of dollars in independent co-investments.

Under the Kyoto Protocol, MDG Carbon's programmes have assisted a diverse portfolio of Clean Development Mechanism/Joint Implementation projects. In order to maximize sustainable development benefits, MDG Carbon has provided a comprehensive suite of project development services to a carefully selected group of high impact projects with significant emissions reduction potential.

Prior to the Paris Agreement which mentions new pathways for mitigation and adaptation, CDM had established itself as an important instrument in tackling climate change while simultaneously facilitating the transition of developing countries to a low-carbon, climate resilient economic trajectory. Recognizing the limitations of stand-alone CDM projects, MDG Carbon focused on CDM Programme of Activities (CDM-PoAs) that opened doors to reducing transaction costs through aggregation, and to implementing countries with low emission reduction potential, many of which could not previously benefit from carbon finance.

Recent developments saw next generation instruments such as Nationally Appropriate Mitigation Actions (NAMAs) that increased the opportunities for scaled up climate action and carbon finance. MDG Carbon not only supported the development of NAMAs but also assisted in the development of 'Standardized Baselines' a crucial building block which helped make tracking the mitigation potential of NAMAs more efficient, transparent and robust. CDM-PoAs and NAMAs collectively represent 'scaled-up mitigation based approaches' and will form the foundation for future action towards a low carbon future.

In response to this, MDG Carbon has initiated the project entitled "Scaled-up Carbon Finance For Sustainable Development" with generous contributions from the Government of Australia. The project aimed to promote carbon finance solutions at scale in underrepresented developing countries and sectors through projects with high sustainable development outcomes.

The project has been structured across three key outcomes:

- Outcome 1: Capacity building for CDM and scaled-up mitigation approaches.
- Outcome 2: Highly-sustainable CDM project pipeline.
- Outcome 3: Technical assistance to pilot a sector-wide approach and Standardized Baselines.

Outcome 1 was intended to enhance the capacity of project proponents in underrepresented countries and/or sectors with respect to CDM and assist in the identification of linkages to scaled-up mitigation approaches.

MDG Carbon promoted the development of web tools, reached out to a diverse audience by promoting activities through social networking platforms, developed knowledge products, infographics, blogs, an innovative Sustainable Development Tool to evaluate sustainable development impacts of mitigation actions, launched a Climate Finance Innovation Award Contest jointly with Mitsubishi UFJ Morgan Stanley Securities Co., Ltd., organized

jointly with the World Bank Institute for Climate Change five webinars “PoAs and Beyond”, and participated in CDM workshops, NAMA Market places and a NAMA Fair, as well as CDM roundtables.

Outcome 2 essentially contributed to enhancing the capacity of underrepresented countries in the CDM to generate a viable CDM Programme of Activities (PoA) pipeline, through direct, learning-by-doing experiences of highly sustainable projects.

MDG Carbon has provided tailored technical assistance to guide PoA project developers through the CDM project cycle up to successful registration at the UNFCCC. Multi-country PoAs in Burkina Faso and Benin (biogas stoves), Cameroon and Rwanda (efficient biomass-fired cookstoves) and a PoA in the Democratic Republic of Congo (efficient biomass-fired cookstoves), in Vanuatu (efficient biomass-fired cookstoves) and a multi-country PoA in Myanmar and Timor-Leste (solar lighting systems, efficient cookstoves and water purifiers) have been successfully registered with the UNFCCC. All PoAs have significant sustainable development impacts, will save fuelwood, decrease indoor air pollution, improve livelihoods by reducing fuel costs and achieve sustainable, affordable and clean cooking solutions.

The objective of outcome 3 was to support countries in creating a supportive environment for implementation of scaled-up mitigation actions in a particular sector that will be embedded in national low emission strategies.

MDG Carbon has supported the development of two Standardized Baselines, one in the rice sector of the Philippines and a second Standardized Baseline for The Gambia’s electricity grid systems. The Standardized Baselines provide a simplified approach to measuring, reporting and verification (MRV) through the application of default values. Both Standardized Baselines have been approved by UNFCCC.

MDG Carbon has also completed NAMA studies on sustainable charcoal in Cote D’Ivoire, Ghana and Uganda and provided technical assistance for the design of fully-fledged NAMA project proposals in The Gambia (rural electrification), Namibia (rural electrification), Sri Lanka (transport), Philippines (Adaptation and Mitigation Actions in the rice sector), Cambodia (energy efficiency in the garment industry), Lao PDR (rural electrification) and Vanuatu (rural electrification) with the overall goal to achieve a transformational change in the sector.

The fully designed NAMAs are closely embedded into existing policies, leverage existing institutional structures, incorporate a robust management structure, and propose concrete interventions and a clear donor exit strategy to ensure sustainability of the NAMA once initial support is completed and after the intended transformational impact has been achieved.

Overall, the project’s three outcomes collectively promoted countries’ direct experience in CDM projects with high development benefits and organically structured inclusive, scaled-up mitigation approaches with the overall aim being to achieve sector transformation at scale.

It is noteworthy that the project has accomplished and exceeded all outputs and activities targeted in the three outcomes with support reaching out to as many as 14 countries across Africa, Asia and the Pacific.

MDG Carbon supported the preparation of an impressive portfolio of highly sustainable PoAs and fully-fledged NAMAs that are ready for implementation and will contribute towards significant environmental and sustainable development impacts once fully implemented::

- Emission Reduction Potential: **40 Million tonnes CO₂eq**
- Improved Livelihoods/People: **600,000 households**
- New Jobs Created: **1500 (of which 50 per cent are targeted at women)**
- Small & Medium sized enterprises: **400 (focus on rural enterprises)**
- Capacity building and training: **2 million people with new skills**
- Installation of new equipment and technology: **20,000 pieces of new equipment (this includes Cambodia with the massive new equipment installed)**
- No. of project initiatives: **17 (PoAs, NAMAs and Standardized Baselines)**
- No. of countries supported: **14**
- Financial Outlay: **US\$2.6 Million (2013-2015)**

MDG Carbon has been supported through generous contribution from the Government of Australia.

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West African Biodigester Programme

At a Glance

- **Technology:** Biogas stoves fueled with biogas produced from manure in fixed dome domestic biodigesters.
- **Countries:** Burkina Faso and Benin.
- **Scale:** Potential for 200,000 Units
- **Duration:** 2013 – 2041 (28 years)
- **ER Potential:** 22,500 tCO₂e/year
- **Coordinating/Managing Entity:** SNV Netherlands Development Organization



[UNFCCC CDM PoA No. 9977](#)

Project Impact

The programmatic approach was officially established in 2007 by the adoption of guidelines and procedures for Programme of Activities (PoA) by the Clean Development Mechanism Executive Board. Due to high transaction costs small single CDM projects were under-represented and the PoA approach was designed in order to allow these small projects benefit from carbon credits. With the PoA approach the project approval process for many individual activities that are distributed over space and time are brought together.

The purpose of this small-scale CDM PoA is to stimulate the dissemination of 200,000 biodigester systems in West Africa to replace traditional thermal energy generation methods at household level, to provide a high quality organic fertilizer and to contribute to avoidance of methane emissions through changing the management practice of biogenic waste. The overall objective is to create a permanent, market based biodigester sector in Burkina Faso and Benin. The goal of the Programme is to improve the quality of life of rural farmers, particularly women, and their livelihoods in Burkina Faso and Benin through exploiting the market and non-market benefits of domestic biogas. Daily use of a typical biogas plant benefits a household by:

- Reducing the workload, especially benefiting women and children;
- Saving traditional cooking fuel;
- Reducing premature death and sickness related to indoor air pollution;
- Improving hygiene if a toilet is attached to the biogas plant;
- Improving sanitation through reduction of smell and organic pollution;
- Increasing agricultural production and/or saving of chemical fertilizer;
- Reducing greenhouse gas emissions.



Biodigester Technology

Biodigesters produce biogas from human, animal or plant waste, and this gas can be used in cooking and heating, thus replacing the use of non-renewable biomass otherwise used to produce thermal energy. By switching to biogas which is a renewable fuel, the PoA reduces GHG emissions. This programme promotes the use of biogas stoves fueled by biogas generated from animal waste in fixed dome biodigesters.

The households are expected to feed cow dung mixed with water into the digester, which through anaerobic digestion produces biogas. The biogas contains around 60% of methane and burns odourless with clear blue flame. The technology is robust, reliable and requires little maintenance and can be constructed with locally available materials and skills, with a typical life span of 20 years

Stakeholder Speak



Jan Lam

Coordinating/Managing Entity Representative, SNV Netherlands Development Organization

"Carbon financing enables the programme to continue when regular donor funding comes to an end. For me it is the purest form of Result-Based Financing there is, it ensures the long-term sustainability of the programme, but it also requires high quality construction, after-sales service and M&E."

"It isn't easy to develop a carbon project, especially a multi-country PoA. It takes time, expertise and financial resources. Without the UNDP support it wouldn't have been possible to come to this."

Improved Cookstoves Programme for Rwanda and Cameroon

At a Glance

- **Technology:** Replace traditional stoves with high efficiency biomass fired cookstoves (or “Improved Cookstoves”).
- **Countries:** Cameroon and Rwanda
- **Scale:** Potential for 100,000 Units
- **Duration:** 2011—2039 (28 years)
- **ER Potential:** 40,000 tCO₂e/year
- **Coordinating/Managing Entity:** atmosfair GmbH, Germany



UNFCCC CDM PoA No. 6207

Project Impact

A Gold Standard CDM project, the purpose of this small-scale PoA is to stimulate the dissemination of “Save 80” type improved cookstoves in Rwanda and Cameroon to replace traditional cooking methods and to contribute to avoidance of emissions through use of high efficiency cooking technology. The distribution programme, which initially focused on the refugees camps in Kigeme, Kiziba and Mugombwa, is being done through 5 local partner organizations, namely Safer Rwanda, Enedom, Rwanda Women Network, Inyenyeri and UNHCR. The aim is to reach out to the entire country, although progress in Cameroon is subject to the overall security situation.

Apart from directly having an impact on the deforestation rates, the approach undertaken for the PoA sees two distinct benefits that have been verified independently through third party audits:

- **Improvement of livelihoods:** All interviewed households claimed that they spent less time on fuel wood collection and/or have less expenditures for fuel wood consumption since they have been using the Improved Cook stoves
- **Quantitative employment and income generation:** The project created a total of 83 jobs, divided into 5 full time jobs and 78 part time jobs, which mainly involve assembly and distribution of the stoves.



Improved Cookstoves (ICS) Technology

The use of ICS aims at helping local communities of Africa and Asia dependent on open fires or traditional forms of cooking to switch to more fuel-efficient technology without a dramatic change in technology, while providing visible benefits. The familiar technology and cooking methods coupled with a significantly lower demand for firewood (therefore cutting the number of trips to forests to gather firewood) and the reduced smoke and soot results in easier uptake of the technology, while producing environmental and health benefits.

The CDM PoAs supporting the promotion of ICS and carbon credits make the all-important finance available, making the technology available and affordable to some of poorest and economically weakest groups. While the price of carbon credits remains low, Gold Standard projects continue to demand a premium due to the widely recognized high quality label.

The price of a credit is higher if the project demonstrates positive social, economic, and environmental impacts in addition to reducing GHG emissions and if the project owner is willing to take up carbon-credit-delivery supply liabilities in case the project is underperforms or fails, in other words accepting payment only on the delivery of the credits. There is also a demand for credits in the voluntary market where buyers have their own list of pre- defined preferences or criteria against which a project has to qualify in order to obtain high prices.

Stakeholder Speak



The support of UNDP in the extension process of our Rwanda PoA to Cameroon was highly beneficial. Due to the fact that it is one of the first registered PoAs under the UNFCCC that was extended to another host country, there were a lot of uncertainties and challenges involved.

The support through UNDP staff in Yaoundé and New York eased our work substantially in terms of communication with the UN, documentation work and obtaining the necessary approvals within the Republic of Cameroon. We are grateful for this support in the extension process, since we now have the necessary experience and skills to extend our PoA even to further host countries."

Sven Bratschke

Coordinating/Managing Entity Representative, atmosfair GmbH

Empowering DRC Communities Through the Use of Improved Cookstoves

At a Glance

- **Technology:** Replace traditional stoves with high efficiency biomass fired cook stoves (or “Improved Cookstoves”).
- **Countries:** Democratic Republic of Congo
- **Scale:** Potential for 16,000 Units (First CPA)
- **Duration:** 2014—2042 (21 years)
- **ER Potential:** 42,600 tCO₂e/year
- **Coordinating/Managing Entity:** Climate Corporation Emissions Trading GmbH, Austria



[UNFCCC CDM PoA No. 10053](#)

Project Impact

Working in one of the most vulnerable communities of Africa brings its own challenges. This CDM PoA promotes the use of efficient cookstoves manufactured locally, which brings significant socio-economic benefits along with the reduction of GHG and particulate emissions associated with combustion of non-renewable biomass. With the aim of improving the lives of 100,000 people, this Gold Standard project also aims to generate carbon credits while making measurable contributions to sustainable development, particularly

- Access to cleaner heat energy for cooking, especially for communities that are socially disadvantaged;
- Creation of employment opportunities associated with the sale, distribution and installation of the ICS;
- Enhancement of the local investment environment and boost in the local economy;
- Increase in local-community income and poverty alleviation.

Stakeholder Speak



“Climate Corporation would like to thank AusAID for financial support in preparing this project. Without the strong support of UNDP, both from headquarters and the UNDP country office, it would have been very difficult to develop this project.”

Manfred Stockmayer

Coordinating/Managing Entity Representative, Climate Corporation Emissions Trading GmbH

Disseminating Efficient Cookstoves in Vanuatu

At a Glance

- **Technology:** Replace traditional stoves with high efficiency biomass fired cook stoves (or “Improved Cookstoves”).
- **Countries:** Vanuatu
- **Scale:** Potential for 8,000 Units (per CPA)
- **Duration:** 2013—2041 (28 years)
- **ER Potential:** 11,000 tCO₂e per year
- **Coordinating/Managing Entity:** Green Power, Vanuatu



[UNFCCC CDM PoA No. 9974](#)

Project Impact

For a Pacific Island Country most vulnerable to climate change, access to improved cookstoves provides sustainable development and positive effects to its economy, people and environment that is best illustrated by story of Willie:

Willie is a man from Pentecost that lives in Port Vila. For years Willie has made a living by making nems (egg rolls) and selling them door-to-door, mostly to offices. Before, Willie made his nems over a smoky, open wood fire in the family kitchen. Willie purchased the wood at the market. Breathing the smoke from a cooking fire can be the equivalent of smoking two packs of cigarettes per day. After buying an efficient cookstove Willie's kitchen was much less smoky. This is largely due to the fact that the stove allows much more complete combustion of the wood yielding less smoke. In fact, locally the stoves are referred to as “smokeless stoves.” Willie also uses considerably less wood than he used to. When he cooked on an open fire Willie spent about 1,200 vatu per week on fire wood. Since buying the stove spends just a bit more than 300 vatu per week on fire wood.

Stakeholder Speak



“Thanks to the generous support of AusAID and the UNDP of our PoA (Disseminating Efficient Cookstoves in Vanuatu) an enabling environment for the up-take of clean cookstoves is being created in Vanuatu. In addition to seeing a reduction in GHG and black carbon emissions, the “heart and soul” of the CDM, we are able to make a positive impact on other sustainable development goals by encouraging the use of efficient cookstoves.

In many cases efficient cookstoves are able to put money back in peoples’ pockets, create healthier cooking environments, conserve forests and the fuel wood resource, and improve gender equity. Vanuatu can now say, “Clean cooking is climate action that saves lives.”

David Stein

Coordinating/Managing Entity Representative

Household Energy Appliance Programme in Myanmar and Timor Leste

At a Glance

- Technology: Solar lighting systems (lanterns, home systems), efficient cookstoves, and water purifiers.
- Countries: Myanmar and Timor Leste
- Scale: Potential for 300,000 Units
- Duration: 21 Years
- ER Potential: 12,000 tCO₂e/year
- Coordinating/Managing Entity: Differ Group, Norway



[UNFCCC CDM PoA](#)

Project Impact

The goal of the Gold Standard PoA is to deploy more than 130,000 solar lanterns, 100,000 solar home systems, 18,000 water filters and 18,000 improved cookstoves to households in Myanmar and Timor Leste. The distribution of efficient cookstoves and water purification technologies dramatically reduces fuelwood demand at the household level, contributing to the integrity of both the quality and quantity of biodiversity, soil and water. Clean cookstoves and reduced reliance on inefficient combustion reduce carbon dioxide emissions and black carbon particulate pollution.

By bringing life-improving technologies and associated market infrastructure (sales kiosks, maintenance know-how, spare part supply chains, etc.) the PoA is delivering genuine community investment that has potential ripple effects into other important areas (e.g. education). Solar lights distributed under the PoA offer ideal sources of productivity gains, educational improvement, and household monetary savings.

The distribution of clean cookstoves and water filters reduces the domestic burden on women and young girls, ensuring greater workforce participation, educational acquisition, and improved respiratory health.

Stakeholder Speak



"When I signed the agreement with UNDP, I was expecting that I would need to do most of the work myself, and had very limited expectations of the value UNDP would bring."

I was completely wrong: UNDP has been extraordinarily competent, efficient, helpful and pragmatic throughout a process that has been everything but straightforward."

Jorund Buen

Coordinating/Managing Entity Representative, Differ Group

Standardized Baseline



Knowledge Product

The use of standardized baselines can potentially reduce transaction costs, enhance transparency, objectivity and predictability, while improving the Measuring, Reporting and Verification - a key element of any climate action. MDG Carbon published a Guidance Note for Standard Baselines (SBs), primarily intended for Designated National Authorities, Coordinating and Managing Entities, and consultants involved with the development of SBs. Additionally, MDG Carbon supported the development of 2 standardized baselines in the rice sector and rural electrification and subsequently facilitated the development of more robust NAMAs.

The Knowledge Product was translated to French by the UNFCCC. Download the Guidance Paper [here](#).

Standardized Baseline for Methane Emissions from Rice Cultivation

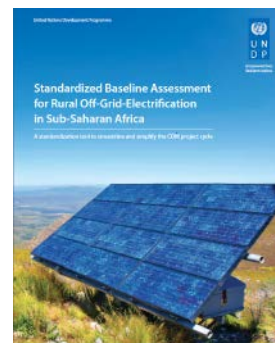
The standardized baseline was approved at the 82nd meeting of the CDM Executive Board in February 2015 as ASB0008 "Standardized Baseline for Methane Emissions from Rice Cultivation in the Republic of the Philippines". The SB provided a simple and highly standardized measurement, reporting and verification (MRV) methodology for the rice sector. The research conducted as part of the SB development further revealed that there are significant benefits that water-saving technologies can bring, related to food security, climate change mitigation and adaptation.

Following a subsequent request by the Designated National Authority of the Philippines, UNDP MDG Carbon supported the development of a NAMA study and consequently a full-fledged NAMA for the rice sector. The robust MRV of the NAMA consists of two components, a GHG MRV system and a sustainable development (SD) MRV system. The GHG MRV system is entirely based on the approved standardized baseline, ASB0008, while the SD MRV is based on the NAMA Sustainable Development Tool developed by MDG Carbon. All this makes the proposed NAMA a pioneering effort, both in the Philippines and globally, which is expected to become a model that can be easily replicated in other rice producing countries.

Standardized Baseline for Rural Off-Grid-Electrification in Sub-Saharan Africa

This report defines approaches for the development of standardized baselines in CDM projects on off-grid power generation in sub-Saharan Africa. Standardization allows for baseline establishment and additionality demonstration for project types in a defined geography, rather than on a project-by-project basis. Standardization thereby facilitates access to climate finance or carbon markets. Two-thirds of the population in sub-Saharan Africa lives in scarcely populated rural areas without access to an electric grid. In many of these regions grid connections are prohibitively expensive. The development of decentralized energy generation facilities is often the most viable option to secure access to energy.

UNDP has taken the lead in advancing the "bottom-up" energy agenda within the Sustainable Energy for All (SE4ALL) initiative, including scaling up decentralized, off-grid solutions. To facilitate access to carbon finance, UNDP is funding an assessment of standardization opportunities for rural electrification projects in Sub-Saharan Africa.



Innovative Approach to NAMAs



Facilitating NAMA Development - Knowledge Product

MDG Carbon released a new and innovative NAMA Sustainable Development Tool that is aimed at developers and policymakers. The tool allows users to evaluate the sustainable development performance indicators and sustainable development results achieved over the lifetime of the NAMA. The tool is linked to the Sustainable Development Goals (SDGs) and national policy goals and will allow policymakers to track the effects of the NAMA on environmental conservation, economic growth, poverty reduction and public welfare.

The tool was further enhanced in collaboration with UNEP DTU and UNFCCC. In addition to SDGs, the tool has been further advanced to allow linkages to national policy goals and also to track a NAMA's impact on institutions involved in the coordination and management of a NAMA. A copy of the SD Tool can be downloaded [here](#).

The 10 “building blocks” of a NAMA:

The success of a NAMA in achieving lasting results will depend on its ability to facilitate Sector Transformation. The design of the NAMA paves the way for an effective and sustainable implementation of a mitigation programme that can lead to green and sustainable growth. MDG Carbon has identified the following set of 10 key success factors that a NAMA will ideally achieve:

- **Sector Transformation:** Spur development of an environment which facilitates Sector Transformation.
- **Alignment with national priorities:** Be fully embedded in national development strategies and targets.
- **Define Interventions:** Detail concrete technological actions that will lead to real, transparent and measurable emission reductions and help the country to achieve its policy goals and targets.
- **Define Eligibility Criteria:** Clearly define the eligibility criteria for private sector participation and funding.
- **Value for Money:** Be cost effective and provide value for money.
- **Approval Structure:** Define a robust approval structure for approval of funding to the beneficiaries of grant and concessional loans to ensure transparent disbursement of funds.
- **Management Entity:** Detail a Coordination and Implementation system for smooth implementation.
- **Capacity Development:** Facilitate a capacity development programme to drive Sector Transformation
- **Finance:** Include a financial plan and management of financial flows in sufficient detail.
- **Measurement, Reporting and Verification (MRV):** Apply transparent and robust MRV for GHG Emission Reductions and Sustainable Development Impacts



Facilitating NAMA Development - Knowledge Product

Energy is at the core of socio-economic development and providing access to clean, reliable and affordable energy to over a billion people is one of the world's most important development challenges. Given the carbon intensive nature of current energy technologies, this debate about the relationship between energy and socio-economic development continues to attract considerable policy and academic attention and is closely tied to the climate change agenda.

"Integrated Sustainable Rural Development" is a holistic approach to tackling Climate Change, Low Carbon Development and Green Business as drivers for broadly shared prosperity. The approach can extend the opportunities and benefits of our economic system to everyone through a holistic approach, innovative solutions and by involving private sector business and investment. Through a 2-part Discussion paper, MDG Carbon explored the idea of a model "Rural Productivity Zone" (RPZ) as a means to tackle access to energy in rural areas while addressing the twin pillars of social development and economic growth leading to Sector Transformation.

The discussion paper on Integrated Sustainable Rural Development through a "RPZ Model" approach can be downloaded [here](#).

Sector Transformation

NAMAs are expected to change prevailing structures of a sector sustainably and allow for a broad paradigm shift. Such A Sector Transformation that occurs through a NAMA can be best seen through the application of a theory of change approach. The theory of change approach "defines all building blocks required to bring about a given long-term goal" (Center for Theory of Change, 2013). These building blocks have impacts beyond the project scope, include institutional capacity building, private sector engagement, and replicability and scalability. Transformational NAMAs will be expected to include a number of embedded layers that promote change and the means of achieving Sector Transformation need to be tailor-made in order to achieve lasting results.

Exemplary NAMAs that demonstrate a rigorous focus on Sector Transformation for resilient, inclusive growth in a sectoral niche are NAMAs that encourage energy access, rural development, and income generation. These NAMAs at the same time provide opportunities to change development pathways through the promotion of renewable energy.

UNDP's MDG Carbon supported the development of the following NAMAs using the RPZ Model as the basis to drive Sector Transformation:

- Rural Development in Namibia through Electrification with Renewable Energies
- Rural Electrification in Lao PDR
- Rural Electrification in Vanuatu
- Rural Electrification with Renewable Energy in The Gambia



Rural Development in Namibia Through Electrification with Renewable Energies

Coordinating Entity: Ministry of Environment and Tourism

Key Interventions and Measures

- Establish 10 Mini-Grids with an average installed capacity of 100 kWp of Solar Photo Voltaic power solution.
- Implement 13 Energy Zones with the involvement of private sector companies and regional councils and communities with an average load of 10kWp per implemented Energy Zone.



[Namibia NAMA Document and Details](#)

Project Overview

The overall target of the NAMA is to support Namibia in achieving the goal defined in the Off-Grid Energization Master Plan (OGEMP), namely to provide access to appropriate energy technologies to everyone living or working in off-grid areas. More specifically, the NAMA aims to provide access to electricity for regions, households and companies which are currently without access to electricity, as well to improve the share of renewable energies (mainly using solar energy). The NAMA will reduce GHG emissions through the replacement of fossil fuels with renewable energies and will provide the conditions for income generation and new business opportunities. This will also lead to enhanced private sector involvement. Finally, the NAMA aims to achieve additional sustainable development benefits, such as better air quality and livelihoods for the poor. The NAMA differs from traditional funding mechanisms which promote rural electrification and renewable energy projects because of 3 components:

- Alignment with country objectives: The interventions under the NAMA framework are prioritized in line with the socio-economic development objectives of the host country.
- Focus on sustainable development: The NAMA is designed with sustainable development benefits in mind. The design includes a focus on interventions which allow for income-generating activities that can create business opportunities for individuals, households and communities.
- Facilitation of Sector Transformation.

Sector Transformation

The NAMA will spur the development of an environment which facilitates Sector Transformation in the energy sector. An attractive regulatory and policy environment which incentivizes the private sector will be created. Initial interventions will catalyse private sector development and the creation of local jobs. The business models associated with the NAMA interventions will be easily replicable in other communities across the country.



NAMA Impact

Sustainable Development: The NAMA will provide access of electricity to 1,400 households apart from health care institutions, educational institutions and supporting the creation of 75 new enterprises to undertake income generating activities supported by the energy and create new jobs.

In FOCUS - NAMA Building Block: Value for Money

The NAMA represents an opportunity for sustainable development for Namibia, and at the same time an opportunity for mitigation. The government can build on the existing policy framework, which targets the implementation of various policies, plans and actions aimed at mitigating GHG emissions while achieving sustainable development, so as to define a comprehensive and coherent NAMA development framework for Namibia.

The key intervention under the NAMA is the development of mini-grids by private sector participants. In order to maximize the value for money, the NAMA proposes a “reverse auctioning” method. In a reverse auctioning system, proposals are collected based on tendering/eligibility criteria. These proposals are reviewed, evaluated and ranked according to the tendering criteria (e.g. electricity generation price in US\$/kWh or grant support requested in US\$/kW peak). Under the NAMA, private sector will be invited to make competitive bids based on a set of eligibility criteria with the contract awarded to the cheapest offer. The process will continue for other mini grids until the budget allocated for the development of mini grids is used up. This will ensure that each mini grid is developed along a clear set of guidelines defined by the eligibility criteria but uses optimum financial resources based on the principle of value for money.

Stakeholder Speak



“I Petrus Ileni Muteyauli the head of Multilateral and Environmental Agreements in the Ministry of Environment and Tourism, Republic of Namibia, wish to express my sincere gratitude and appreciation to UNDP for the unwavering support throughout the development of our National Appropriate Mitigation Action (NAMA) on rural development in Namibia through Electrification with Renewable Energy. I am also grateful to AusAID and other stakeholders for financial and technical support.”

Petrus Ileni Muteyauli

Ministry of Environment and Tourism, Republic of Namibia

NAMA for the Renewable Energy Sector of Lao PDR

Coordinating Entity: Ministry of Mines and Energy

Key Interventions and Measures

- Establish 8 mini-grids with a total installed capacity of 144 kW of renewable energy power solution in Phase 1 with additional mini- grids planned for Phase 2.
- The primary source of energy for all mini grids under Phase 1 is hydro with a back-up system consisting of solar PV with a battery bank and/or diesel



[Lao PDR NAMA Document and Details](#)

Project Overview

The overall target of this NAMA is to support Lao PDR in achieving the goal defined in the Rural Electrification Master Plan, namely to provide access to electricity to more than 90 per cent of households in Lao PDR by 2020. The NAMA will reduce GHG emissions through the replacement of fossil fuels with renewable forms of energy. It will also contribute sustainable development (SD) benefits, including an improvement in the situation of groups with specific vulnerabilities, women and the poor.

This NAMA covers one type of technical intervention – the establishment of mini- grids. Rural communities, tourism, agricultural facilities, health centres, and schools and literacy centres are the focus of these mini- grids due to their demand for electricity for lighting, cooling and appliances. The mini- grids will predominantly use renewable energy sources (hydro, solar) and will provide electricity for lighting, radios and phone charging for households, and for service and production activities.

Sector Transformation

A key element of the NAMA interventions will be to provide one of the basic preconditions for the creation of income-generating opportunities in rural areas through access to electricity and this will contribute to reducing poverty in these areas. The private sector is seen as an essential partner in the implementation of the NAMA, either through public-private partnership enterprises or in sub-contracting relationships with the public sector. Without the private sector and its commitment to providing co-funding and taking risks, implementation of the interventions would be limited.

NAMA Impact

Sustainable Development: The NAMA will provide access to electricity to 1,050 households (6,300 people) apart from clinic, school and literacy centres, supporting the creation of 8 new income-generating activities in agriculture (mainly rice, corn, and peanuts) but also some small-scale animal husbandry and fishing, ecotourism, small shops and rice mills, eco-tourism and forestry products where feasible.

In FOCUS - NAMA Building Block: Capacity Development

Capacity building will be a key component in the implementation of the NAMA. The NAMA capacity development (CapDev) programme will enable the smooth launch of the NAMA and contribute to the successful implementation of its activities. It will consist of two components.

The first component will focus on setting up the NAMA (e.g. definition of processes, preparation of documentation) and will provide capacity building for the governmental/semi-governmental entities involved. Under this component, the NAMA CapDev programme will support:

- Establishing a NAMA working network and processes (technical & financial project cycle), including staff training;
- Devising NAMA-related regulations and designing the contractual conditions;
- Preparing NAMA project documentation (application forms, call and tender documents, procurement rules, monitoring, evaluation and reporting forms, etc.).

The second component will focus on the awareness raising and marketing side of the NAMA after implementation and will provide:

- General capacity building to create a common awareness for the NAMA; and
- Specific stakeholder oriented capacity building.

The capacity building programme will be led by international experts with the support of national experts. The first component will be carried out by international/national consultants only. In the second component the national coordinating authority and implementing entity staff who have been trained in the first component will start to provide seminars/training and workshops..

Stakeholder Speak



I would like to sincerely thank the United Nations Development Programme (UNDP) for providing support for the development of the NAMA for rural electrification in Lao PDR. The NAMA provides an opportunity for sustainable and low carbon development for Lao PDR. The government can use the outcome to build on the existing policy framework, which includes the implementation of various policies, plans and actions aiming at mitigating GHG emissions while achieving sustainable development.

Seumkham THOUMMAVONGSA (Ph.D)

Deputy Director General

Institute of Renewable Energy Promotion Ministry of Energy and Mines Lao PDR

Nationally Appropriate Mitigation Action on Rural Electrification in Vanuatu

Coordinating Entity: Ministry of Climate Change

Key Interventions and Measures

- Establish 5 Micro Grids with an average installed capacity of 100 kWp of Solar Photo Voltaic power solution.
- Support extension of 5 electricity grids on different islands



[Vanuatu NAMA Document and Details](#)

Project Overview

The overall target of the NAMA is to support Vanuatu in achieving the goal defined in the National Energy Road Map (NERM), namely to provide access to electricity to all households in Vanuatu. The NAMA will reduce GHG emissions through the replacement of fossil fuels with renewable energies. The NAMA will also contribute to Sustainable Development benefits, such as improvement of the situation of groups with specific vulnerabilities, women and the poor.

The NAMA covers two interventions. Under Intervention 1, micro grids will be established. Rural communities/ tourism and agricultural facilities/health centres/schools are the focus of these micro grids due to their demand for electricity for lighting, cooling and appliances. The micro grids will use renewable energy sources (solar, wind, hydro) and will provide electricity for lighting, radio and phone charging for households, and for service and production activities in Rural Productivity Zones (RPZs).

Intervention 2 will support extension of existing electricity grids on different islands. Households, public institutions and tourism/commercial consumers in the proximity of lines will be connected. Electricity will be provided for lighting, audio/TV, mobile phone charging, coastal fishing (refrigeration of the fish catch), tourism facilities, agricultural facilities (preparing, processing and packaging produces) or the production of handicrafts.

Sector Transformation

The overarching target of the Vanuatu NAMA is to provide off-grid electrification for households, public buildings and institutions as well as businesses. The NAMA is intended to help the Government of Vanuatu to contribute towards the targets described in the National Energy Road Map (NERM), which are:

- Achieve a connection rate of 100% for households close to concession areas by grid extensions;
- Achieve 100% electrification for off-grid households through micro grids and Solar Home Systems.



NAMA Impact

Sustainable Development: The NAMA will provide access to electricity to 1,000 households (4,700 people) with electricity to households for lighting, audio/TV, mobile phone charging, and for coastal fishing (refrigeration of the fish catch), tourism facilities (lodges), agricultural facilities (preparing, processing and packaging produces) or the production of handicrafts.

In FOCUS - NAMA Building Block: Alignment with National Priorities

Access to modern energy services is a prerequisite for sustainable development. In Vanuatu, only one third of households have access to electricity, most of which are connected to the government regulated grid in the two main urban areas (Port Vila and Luganville). Vanuatu has, at 17%, about the same level of rural electrification

as the most underdeveloped countries of Sub-Saharan Africa. The Government of Vanuatu is well aware of these challenges and is developing effective responses to address the issues. This is being done through key policy statements and national action plans which include the Government's Priority and Action Agenda (PAA) 2006-2015, National Energy Road Map (NERM), and Scaling-up Renewable Energy in Low Income Countries Programme (SREP).

The overall target of the NAMA is to support Vanuatu in achieving the goal defined in the NERM and contribute towards the targets described in the NERM, which are:

- Achieve a connection rate of 100% for households close to concession areas by grid extensions;
- Achieve 100% electrification for off-grid households through micro grids and individual solutions.

Stakeholder Speak



"The NAMA provides a pathway for mitigating Climate change through rural electrification and sustainable energy programmes. It complements Vanuatu's National Energy Roadmap and provides an avenue for leveraging climate change funds to enhance sustainable energy in Vanuatu."

The NAMA will play a very important role in Vanuatu's sustainable development. The Government of Vanuatu wishes to express its sincere appreciation for the technical support and funding for which the NAMA was developed for Vanuatu."

Jesse Benjamin

Director, Department of Energy, Vanuatu



Rural Electrification in Gambia

Coordinating Entity: Ministry of Energy

Key Interventions and Measures

- Establish 16 Renewable Energy Community Energy Centers and Renewable Energy Micro-Grids based on the Private-Public Partnership Model, including operationalizing the RE Fund.
- Expand generation capacity through renewable energy.
- Displacement Systems and 1 RE Independent Power Producer.



[Gambia NAMA Document and Details](#)

Project Overview

The NAMA for “Rural Electrification with Renewable Energy in The Gambia” offers an opportunity to accelerate access to electricity through small-scale, off-grid and stand-alone projects, as well as income-generating opportunities for the local population. The guiding principle for the design of the NAMA is to increase or provide access to electricity across the country’s rural communities. By promoting these projects, the NAMA will increase the proportion of renewable energy in the energy mix, help strengthen public–private partnerships, increase and improve access to electricity for the majority of the population and fuel sustainable growth in rural and remote areas of the country. The objectives of the NAMA can be summarized as:

- Increase the level of renewable energy (electricity) in The Gambia, and contribute to the national long term target of increasing the share of renewable energy within the power generation sector;
- Reduce GHG emissions in the power generation sector, based on the business-as-usual and suppressed demand scenarios;
- Increase the access of The Gambia’s rural population’s to sustainable electricity;
- Encourage an increase in rural community income generation, and improve rural livelihoods; and
- Increase the level of private sector participation within the power sector in The Gambia.

Sector Transformation

The NAMA aims to drive not just on emissions reductions but also sustainable development, national development goals and Sector Transformation. In implementing the proposed interventions and supporting measures, the NAMA will result in increased off-grid RE energy and increased use of incentives and technologies for low carbon energy. This in turn will result in mainstreaming of low emission development and lowering the energy intensity trajectory which will contribute to alleviation of poverty, ultimately leading to a shift towards low emissions and sustainable development pathways.



NAMA Impact

Sustainable Development: The NAMA will provide access to electricity to 1,000 households (4,700 people) with electricity to households for lighting, audio/TV, mobile phone charging, and for coastal fishing (refrigeration of the fish catch), tourism facilities (lodges), agricultural facilities (preparing, processing and packaging produces) or the production of handicrafts.

In FOCUS - NAMA Building Block: Defining the Technical Interventions

The NAMA will be accomplished through a number of activities over 2 phases over a 15 year period:

Phase 1: This will start in year 1 of the NAMA and will continue through the entire 15- year period and consist of establishing RE based micro-grids, community energy centers, rural productivity zones in addition to soft measures such as setting up of a RE Operational Subsidy Fund, reduced taxation measures and capacity development.

Phase 2: This will build on the experience gained in Phase 1 and establishes two new venture types: renewable energy at existing rural mini- grids, or *Renewable Energy Displacement Systems (RE-DISS)* and grid-connected Renewable Energy Independent Power Producers (RE-IPPs). Phase 2 is expected to begin in Year 7 and continue for eight years, until the end of the NAMA. To support the interventions, Phase 2 will also include measures such as setting up of a RE Loan facility, Strengthened Feed-in tariff and capacity development.

Stakeholder Speak



"I would like to take this opportunity to extend my deep and sincere gratitude to UNDP for the great technical support on the establishment of firstly a standardized baseline for the Gambia's grid emissions and the Nationally Appropriate Mitigation Action (NAMA) on Rural Electrification using Renewable Energy in the Gambia's energy sector.

My appreciation and deep thanks also extend to AusAID and other stakeholders for their contribution in financial and technical support on the realization of the first fully developed NAMA project in the Gambia.

In addition, the Twenty First Session of the Conference of Parties (COP 21) in Paris was a great opportunity for the Gambia to present its NAMA to the interested partners for future support in the implementation of the NAMA in The Gambia".

Bubacar Jallow

Principal Climate Change Officer

Ministry of Environment, Climate Change, Water Resources and Parks



NAMA for the Transport Sector of Sri Lanka

Coordinating Entity: Ministry of Internal Transport

Key Interventions and Measures

- The NAMA interventions are in addition to the Government of Sri Lanka's push for developing BRT system in the city of Colombo comprising of articulated buses.
- The NAMA will introduce 100 electric buses to replace diesel buses and contribute, and contribute towards GHG reduction.



[Sri Lanka NAMA Document](#)

Project Overview

The overarching target of the Sri Lanka NAMA is the promotion and adoption of clean, sustainable and efficient means of public transportation within the Colombo Metropolitan Area (CMA), resulting in a modal shift from private to a public mode of transportation. The NAMA is intended to help Sri Lanka achieve the following objectives for the transport sector as identified in the National Transport Policy:

- Encourage the use of public transport and high occupancy vehicles resulting in a modal shift from private to public modes of transportation;
- Encourage the promotion and adoption of new cleaner technologies such as electric or hybrid vehicles and reduce the environmental (reduce GHG emissions & pollution), economic (reduced expenditure on fossil fuels) and social (increase in health benefits) impacts of a conventionally fueled transport sector.

Apart from the obvious social and environmental benefits of reduced air and noise pollution and improved health, the NAMA will result in significant sustainable development, some of whose benefits include:

- Access to transportation services particularly for the disadvantaged groups;
- Job opportunities in the skilled labour segment and ancillary industries;
- Reduced dependency on fossil fuel imports, resulting in greater energy security;
- Extensive capacity building across national, regional and sectoral stakeholders;
- Increased private/public sector investments, increased cost savings/returns;
- Increased accumulation of assets;
- Increased encouragement and promotion of private sector involvement;
- Fostering a competitive, thriving market;
- Enhanced policy coherence for sustainable development.



NAMA Impact

Sustainable Development: The NAMA will introduce 100 electric buses into the BRT system of Colombo, which in turn will directly contribute to the capacity building among 22 personnel and potential economic savings of US\$30,000 a year from increased energy security..

In FOCUS - NAMA Building Block: Sector Transformation

The NAMA has the potential to transform the transportation sector in Sri Lanka in the following manner.

- Increased adoption of public transport assists in decreasing use of private vehicles for transportation within the city, which results in a reduction in traffic congestion throughout the region, bringing numerous benefits such as reduced operating costs of vehicles, decreased pollution, greater fuel savings, lower travel times, etc.
- Introduction of newer, more efficient technology into the Sri Lankan transportation market in the form of large scale adoption of electric vehicles (fleet adoption) will provide demand side incentives for the development of a robust electric vehicle development and manufacturing industry in and around the CMA.
- A sector- wide promotion of electric vehicle technology would have significant transformational potential beyond the transportation sector, giving rise to numerous ancillary industries such as the manufacturing of batteries, charging stations, battery recovery and disposal units and others.

The success of this intervention in Sri Lanka's economic hub would showcase its viability for the rest of the country, leading to replication in other urban centers and increasing the likelihood of the development of a cohesive, sustainable transportation sector throughout the nation.

Stakeholder Speak



"The transport sector is one of the highest emitters of greenhouse gases in Sri Lanka. The government has been striving to design mitigation options to minimize emissions. With the technological assistance of UNDP MDG Carbon, Sri Lanka has been able to design a transport NAMA which focuses on the promotion and adoption of electric buses in a Bus Rapid Transit System.

UNDP MDG Carbon has helped to achieve the objective of reducing GHG emissions and multiple Sustainable Development objectives, such as increased energy security, improved access to transportation, improved air quality and local job creation among others."

Dr. R.D.S. Jayathunga

Director, Climate Change Secretariat
Ministry of Mahaweli Development & Environment



Energy Efficiency NAMA in the Garment Industry in Cambodia

Coordinating Entity: Ministry of Industry and Handicraft

Key Interventions and Measures

- The NAMA looks at installation of energy efficient equipment in the textile industry, including biomass boilers, sewing machine motors, washing, drying and compressor machines.
- In addition, the NAMA will promote the installation of new, efficient lighting appliances in the facilities.



[Cambodia NAMA Document and Details](#)

Project Overview

The overall objective of the NAMA is to improve efficiency in the industrial sector and to build capacity in the field of energy efficiency. The garment industry is Cambodia's most important manufacturing sector but the sector is in danger of losing its competitiveness in a global market due to inefficiencies in the production processes and high energy costs. There is a huge potential for energy efficiency measures at scale in this sector. Therefore, the NAMA for Energy Efficiency in the Garment Industry of Cambodia is designed to support the country to improve energy efficiency and energy security and while reducing GHG emissions. The NAMA will look at the introduction of the following energy efficient technologies:

- Installation of efficient biomass boiler systems;
- Installation of efficient sewing machine motors;
- Installation of efficient washing machines;
- Installation of efficient drying machines;
- Installation of efficient compressor machines;
- Installation of efficient lighting appliances.

Sector Transformation

The NAMA for Energy Efficiency in the Garment Industry in Cambodia is designed not only to help Cambodia to reduce GHG emissions, but also to increase the competitiveness of the industry and improve energy security and the affordability of electricity in the long-term. Energy costs are a bottleneck for Cambodia's garment industry and access to low cost energy is the most critical point in maintaining garment and textile producers' competitiveness. The NAMA will spur the development of an environment which facilitates Sector Transformation in the industrial sector. Initial interventions will catalyse private sector development and the creation of local jobs.



NAMA Impact

Sustainable Development: The NAMA will introduce a number of energy efficient technologies and pieces of equipment and lead to an investment of US\$ 27 million that in turn will contribute to economic growth.

In FOCUS - NAMA Building Block: Measurement, Reporting and Verification

For a large complex NAMA involving several individual technologies, a credible and transparent MRV framework is essential if the impact of this NAMA on the nationally appropriate improvements (NAI), greenhouse gas emissions and SD co-benefits is to be assessed effectively. The NAMA MRV System is built around several parameters.

- **MRV of Emission Reduction:** The MRV framework uses a combination of approved Clean Development Mechanism (CDM) methodology and a simplified MRV approach for the various technologies proposed under the NAMA. The best-fit approach allows a combination of default values, simplified data collection parameters, sampling and baseline scenarios to develop a MRV system that is robust, yet simple and effective to implement.
- **MRV of SD Benefits:** The selection of the SD indicators was made using the Sustainable Development Evaluation Tool and divides the SD indicators into four different domains: environment; social; growth and development; and economic. For each of the interventions, the tool requires that an indicator (such as air pollution, biodiversity, health, etc.) be selected, the impact be identified, an explanation of the chosen indicator be provided, the effect defined and that it be indicated whether monitoring has been carried out.

In addition, the MRV system also supports the tracking of financial support, both national and international.

Stakeholder Speak



"I am SOEM Nara, Director General of the General Department of Industry of Ministry of Industry and Handicraft of Cambodia. I would like to extend my gratitude to UNDP and its team led by Mrs Alexandra Soezer, Project Manager UNDP MDG Carbon, for the great technical support on the establishment of National Appropriate Mitigation Action (NAMA) on Industry Efficiency in the Garment Industry in Cambodia. My appreciation and deep thanks also extend to AusAID and other stakeholders for their contribution in financial and technical support on the realization of the of NAMA project activities in Cambodia.

In addition, the twenty first session of the Conference of the Party (COP21) in Paris is a great opportunity for Cambodia to present its NAMA to the interested partners for future support in the implementation of NAMA in Cambodia. "

H.E. Soem Nara

Director General of GDI, Ministry of Industry & Handicraft (MIH)

Adaptation and Mitigation Initiatives in Philippine Rice Cultivation

Coordinating Entity: Department of Agriculture

Key Interventions and Measures

This AMIA will target a total of 750,000 ha of irrigated rice fields, approximately half of the irrigated rice fields across the whole country. The introduction of Alternate Wetting and Drying in these flooded irrigated rice fields could potentially bring approximately 12,500 ktCO₂e/yr of emission reductions by 2020. This will represent a sizeable mitigation effect, decreasing GHG emissions from rice cultivation by close to 25%.



[Philippines AMIA Document and Details](#)

Project Overview

The Adaptation and Mitigation Initiative (AMIA) looks at activities to reduce methane formation in rice production. This will be done through the modification of water management, allowing for shorter periods of rice field flooding and better soil aeration (Alternate Wetting and Drying or AWD), with considerable potential for GHG mitigation. Under AWD water saving conditions, methane emissions are likely to be reduced by more than 50% and nitrous oxide (N₂O) emissions can be kept at levels similar to those of a continuously flooded paddy system by adjusting the timing of nitrogen fertilizer application and irrigation.

UNDP's MDG-Carbon Programme has supported the development of this AMIA in order to help the Philippines to deploy climate change resilient rice cultivation schemes and enable the country to reduce the impact of a major emission source from agricultural activities and increase agricultural yield and sustainability. The implementation of the AMIA provides a number of incentives for rice farmers to switch from continuous flooding to AWD water management practices and thus promotes climate change resilient rice production.

This AMIA builds on a 2014 NAMA Study which was developed out of the inputs from a national multi-sector working group under the Department of Environment and Natural Resources of the Philippines and in this way reflects all the comments received from its members to guarantee full ownership of the AMIA.

Adaptation and Mitigation Initiatives (AMIA)

The proposed Adaptation and Mitigation Initiatives in Agriculture (AMIA) cover an agriculture sector—rice cultivation—that is extremely vulnerable to the impacts of climate change. AMIA is a new sector-specific climate change instrument that addresses both the adaptation and mitigation aspects. The AMIA goes beyond the scopes of Nationally Appropriate Mitigation Actions or NAMAs, as well as National Adaptation Plans (NAPs) by combining elements of both in a more holistic and results-oriented framework.



Use of Standardized Baseline

The AMIA provides the Philippines with an accurate and credible information framework by applying a robust but simple MRV system for GHG emission reductions and sustainable development benefits. The calculations of GHG emission reductions are based on a Standardized Baseline for the rice sector that was developed by MDG Carbon. In addition, MDG carbon's SD Evaluation tool allows the quantification and monitoring of SD benefits.

Tracking the Sustainable Development Impact through the NAMA SD Tool

The AMIA ensures environmental sustainability through improved soil quality, therefore, soil quality was selected as an indicator in the environmental domain. The AMIA also contributes to the eradication of extreme poverty and hunger, by supporting farming communities in producing more rice, implementing sustainable cultivation and irrigation methods and widening the income source base through diversification of agricultural production. Accordingly three indicators were selected to track the social impacts of AMIA: "livelihood of poor, poverty alleviation, peace": "food security"; and "provides vulnerable groups access to local resources and services."

The AMIA supports technology and know-how transfer which can contribute to more sustainable growth in the agricultural sector. Therefore, the following two indicators were selected to track the impact of AMIA on sustainable growth and development: "access to sustainable technology" and "capacity building."

Finally, the AMIA creates new opportunities for farmers to generate income, as well as for trainers and qualified personnel involved in AMIA management and implementation. Therefore, "job creation" and "income generation" were selected as indicators to track economic progress through AMIA.

Stakeholder Speak



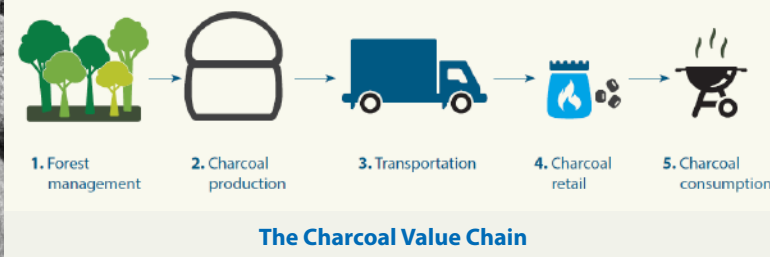
"The collaborative effort between the Philippine Department of Environment and Natural Resources and UNDP MDG Carbon has resulted in to the completion of a NAMA design on Rice Cultivation that will benefit the country in its pursuit to develop a robust and simple MRV system for GHG emissions reduction and a tool for measuring sustainable development benefits. But the most significant outcome of the UNDP support being gratefully acknowledged by the Philippines was the development of adaptation-oriented NAMA option that will strengthen the country's direction towards a low-carbon pathway while sustaining the climate resiliency of the rice industry. As this initiative is being pursued to become a full-blown project investment, now titled as AMIA

("Adaptation and Mitigation Initiatives in Philippine Rice Cultivation"), the Philippines is looking at further cooperation with UNDP as it endeavors to operationalize successfully this NAMA option on the ground.

Albert Altarejos MAGALANG

Head, Climate Change Office

EMB-Dept of Environment and Natural Resources



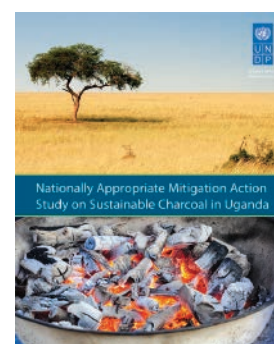
NAMA Case Studies

Overview

The charcoal sector currently provides one of the greatest opportunities to help to prevent emissions in least developed countries while fostering significant sustainable development benefits. However, despite recent improvements in the production sector, there have until now been few activities in CDM or general climate financing. However the approval of a small scale methodology for charcoal and a charcoal standardized baseline (SB) should provide a strong basis for the future development of climate financed charcoal projects.

MDG Carbon supported the development of 3 NAMA Studies in [Uganda](#), [Ghana](#) and [Côte d'Ivoire](#) with a focus on the charcoal value chain—forest management, charcoal production, transportation, retail and consumption. The studies provide a basis for further development of a NAMA for the entire charcoal sector in 3 countries.

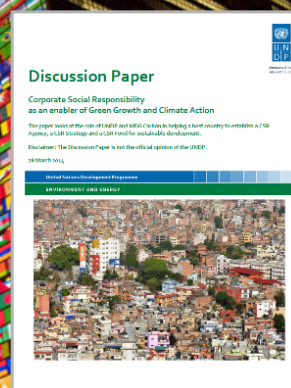
These studies provides information about the national context of the value chain, the stakeholders involved, the relevant policies and the institutional framework. The core part of the study is the design of an improved value chain at the production level, the introduction of improved kilns. A major component of the NAMA would be the creation and institutionalization of a charcoal unit at the district level that is charged with, among other activities, purchasing from producers, categorizing the type produced so producers can be paid a differentiated value based on whether or not the product is sustainable, and arranging transport from the districts to Government-created warehouses located outside urban areas. At the warehouses, the charcoal will be sold by retail associations.



The Value Chain Approach

The term “value chain” is often associated with industrial goods, but MDG Carbon recognizes this as an innovative approach in analyzing the several tangible and intangible considerations when designing interventions and measures in a NAMA. Economic considerations are essential when tackling mitigation actions, particularly in a sector like charcoal which affects some of the poorest sections of the society. These studies have emphasized a market system, leveraging certain key elements, understanding the role of the stakeholders and what influences behavioral change. In recognizing the importance of existing societal relationship that people have with nature, particularly in rural areas, the studies call for empowering private sector development, and driving Sector Transformation.

Innovative and Foreword Thinking Knowledge Products

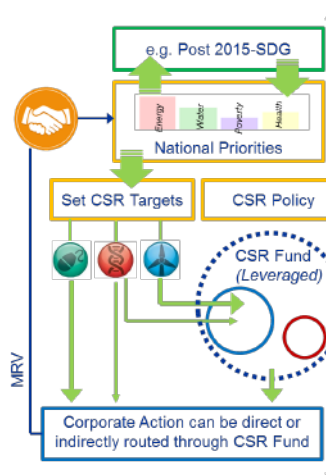


Innovative and Forward Thinking Solutions

MDG Carbon recognizes the need for new and innovative thinking and ideas as a driver for developing more concrete solutions that can drive mitigation action and development. This has been done through the development of "Knowledge Products" or Discussion Papers, several of which have been documented across this report. The success of this approach can be seen with the RPZ Model which resulted in the development 4 Renewable Energy / Rural Electrification NAMAs directly under the MDG Carbon support in addition to several other NAMAs under other UNDP supported programmes. Looking forward, MDG Carbon sees new opportunities in integrating concepts such as **Corporate Social Responsibility (CSR)** and the **Circular Economy** into an integrated approach to tackling some of the most urgent questions facing us today.

List of Knowledge Products

- [Standardized Baseline – Guidance Note](#)
- [CSR as an Enabler of Climate Action and Green Growth](#)
- [Integrated Sustainable Rural Development: RE Electrification and RPZ](#)
- [Finance Structure and Management for a Rural Electrification NAMA](#)
- [A Snapshot on Climate Finance – Infographic](#)
- [Financing NAMAs – providing support to receiving Governments](#)



Private Sector and National Priorities – CSR Model

MDG Carbon is currently exploring a "CSR Model" aimed at leveraging synergies between strategic CSR and national priorities to raise finance for low carbon and sustainable development. Aimed at helping developing countries build capacity to raise equity internally, the model looks at greatly enhancing the value addition for every dollar of donor money spent.


Stakeholder Speak



Arindam Basu

Grue + Hornstrup, Denmark

"As an author for several of the Discussion papers, what I appreciate most is the open mind and willingness of MDG Carbon to constantly challenge current thinking, look at the entire spectrum of "sustainability concepts" and come up with innovative ideas and solutions. With the signing of the Paris agreement, more of this approach is needed. We need to think "out-of-the-box", find solutions that bridge the gap between national priorities, private sector and drivers of a low carbon future to align policy, technology, finance, and capacity building, and MDG Carbon is ideally placed to steam ahead!"



Capacity Building and Partnerships

Capacity Building and Partnerships

MDG Carbon strongly believes in a hands-on approach in all its activities, working on the ground with decision makers and key stakeholders – understanding from them their actual requirements, and appreciating the need for cultural sensitivity and gradually building concrete projects within the boundaries of existing frameworks. It is this approach that has helped MDG Carbon participate in a broad range of capacity building activities involving knowledge products, info-graphics, newsletters, in-country workshops and webinars to make the most relevant information from global experts available to the widest possible audience.

Conferences / Workshops and Webinars

- [Workshop in Manila on CDM PoAs and Standardized Baselines](#)
- Asia and the Pacific Regional Workshop - 2015
- NAMA Fair (COP21), 2015
- NAMA Market Places in Macao, Bonn and Kigali, 2015
- NAMA Partnership
- CDM Roundtables



'PoA and Beyond', a webinar series, was organized jointly by UNDP through its MDG Carbon Programme and the World Bank Institute Climate Change (WBICC) Practice. Undertaken between October 2013 and June 2014, the series discusses PoAs and NAMAs in the context of their poverty reduction potential, and comprises 5 webinars:

- [Setting up PoAs](#)
- [POAs: Experiences from the field](#)
- [Measuring, Reporting and Verification](#)
- [Engaging the Private Sector in Fast Start NAMAs](#)
- [Building a holistic NAMA on a CDM Standardized Baseline](#)

Stakeholder Speak



Angélica Afanador
Consultant, Ecofys

"We have been collaborating with UNDP over the last years and our partnership has been valuable to support developing countries in advancing their climate mitigation agendas. Our most recent collaboration led us to organize a NAMA highlights session for the NAMA Fair at COP21, publish an article on tracking sustainable development impacts of NAMAs in the 2015 NAMA Status Report, and to connect with developing countries where UNDP is active to learn about countries' experiences in NAMA development. We hope to continue working together and expand our partnership."



Climate Finance Innovation Award

Established and maintained under the web-based Community of Practice, the Climate Finance Options (CFO) is considered as one of the most comprehensive resource websites for climate finance. Through the CFO Platform, MDG Carbon announced a “Climate Finance Innovation Award Contest”. The objective of the contest was to harness the collective intelligence of people globally to address the urgent need for innovative financing concepts for scaled-up mitigation actions that can lead to increased private and public investments in developing countries and assist them in achieving sustainable, low carbon, green growth.

The contest was jointly organized with Mitsubishi UFJ Morgan Stanley Securities Co., Ltd., which provided the US\$10,000 award. Out of 39 proposals received, 12 were shortlisted and introduced on the Climate Finance Options Platform. These proposals presented a range of financing solutions and concepts that were based on real world examples of climate change mitigation projects, programmes and NAMAs in developing countries. An independent external selection committee supported the organizers with the evaluation of the proposals and the selection of a winner.

The winner was announced in a UNDP [press release](#) in New York on 9th December. For more information on the shortlisted proposals, follow this [link](#).

MDG Carbon on the WWW

- [Rural Electrification with RE in The Gambia](#)
- [Rural Electrification in Vanuatu](#)
- [Rural Development in Namibia through Electrification with Renewable Energies](#)
- [Rural Electrification in Lao PDR](#)
- [Energy Efficiency NAMA in the Garment Industry in Cambodia](#)
- [Adaptation And Mitigation Initiatives In Philippine Rice Cultivation](#)

Blogs:

- [The Philippines Fights Climate Change With Rice and Religion](#)
- [Why rice farmers are key to tackling climate change in the Philippines](#)
- [How to ensure long-lasting results of a NAMA](#)

Other Publications and Media:

- [Mitigation Momentum](#)
- [Carbon Mechanisms Review](#)
- [How NAMA support SDGs](#)

Partner Speak



"In April 2014 the Country Office in Lao PDR was contacted by UNDP HQ to determine if Lao PDR would like to be included in being a part of the Carbon MDG global initiative for the preparation of a NAMA document. The support offered by UNDP to the Government of Lao PDR was welcomed and a fulfilling and successful partnership with UNDP HQ, UNDP CO and the Institute of Renewable Energy Promotions in the Ministry of Energy and Mines was formed.

UNDP, both at the HQ and CO, levels worked well with the Government in an open and transparent manner on aspects related to the recruitment of consultants, engagement in technical input and review of documents, and participated together in ensuring inclusive, participatory stakeholder consultations.

The end result is a quality NAMA product which supports the Rural Electrification Policy and will contribute to rural development, livelihoods and improved quality of life for thousands of residents in rural, remote areas that have no access to the national grid. The NAMA document was signed by the Director General of IREP and the UNDP Resident Representative and has been submitted to the NAMA Registry and in time for presentation at UNFCCC COP 21. UNDP is working together at all levels, with national partners, supporting their own development agenda."

Margaret Jones Williams (Dr.)

Environment Unit Manager
UNDP, Lao PDR



The UNFCCC Regional Collaboration Centre (RCC) Lomé has had great collaboration with UNDP MDG Carbon since 2013. At the outset of the establishment of RCC Lomé, we faced tremendous barriers in renewing stakeholder interest and confidence in the continuation of market mechanisms such as the CDM, and no project developers in West Africa were willing to invest in developing the CDM despite a rapidly growing pipeline of eligible projects in the region. UNDP's support, both financial and technical, has been instrumental in successfully implementing some of the African CDM project/programmes and in strengthening stakeholders' willingness to enhance their mitigation efforts – from stand-alone projects to programmes of activities (NAMA). In addition, we have collaborated in identifying opportunities for the development of a standardized baseline and a NAMA in the energy sector in the Gambia.

UNDP's support has been crucial to transform the potential into concrete results – an approved CDM standardized baseline and a NAMA. To further address the technical barriers to scaling up the mitigation efforts, in 2014, we worked together to develop a French version guidance on standardized baseline development because one of the major challenges in our region relates to the technical documents not being available in French. In 2015, UNDP has actively supported us on the successful delivery of a workshop focusing on the development of standardized baselines and enhancing the MRV systems for key sectors in Mali. All of these efforts have been appreciated by governments and other stakeholders in the West Africa region. While we move into a post-Paris era, we are also co-developing a new support initiative aiming at using market mechanisms and standardized CDM to spur early actions (pre-2020) and contribute to the post-2020 goals.

Apart from the work results, the collaborative partnership with UNDP was excellent, enriching and enjoyable. Being located at separate organizations, the RCC team always felt that they were working with them in the same team office. We would like to express our immense appreciation for their work, collaboration and for the team spirit.

Chunyu Liang

Team Lead
UNFCCC RCC Lomé



"In the context of the NAMA Partnership coordinated by the UNFCCC Secretariat, UNDP and UNEP DTU Partnership together with IISD have collaborated closely to develop the Framework for Measuring Sustainable Development in NAMAs.

With an aim to support developing countries in conducting MRV to assess the SD impacts of NAMAs in line with national development priorities and global Sustainable Development Goals (SDGs), UNDP and UDP will expand collaboration over the next years to align the NAMA SD tool with the broader framework for measuring multiple SD impacts and make the technical support

available to countries through NAMA Partnership coordination of work plans, webinars, events such as low carbon forums in Africa, Latin America and Asia and UNFCCC capacity building workshops on NAMAs at national, regional and global levels."

Karen Holm Olsen

UNEP DTU



"The Overseas Environmental Cooperation Center, Japan (OECC) has been collaborating with UNDP on many fronts. This year, UNDP contributed to the third editions of the NAMA Guidebook, which is one of the most relevant periodic publications on nationally appropriate mitigation actions (NAMAs) used in different capacity building activities.

The newest edition focuses on moving towards the implementation of "Transformational NAMAs" and it was released at the COP21, where one of the main conclusions was to further analyse how to better collaborate among supporting organizations for the design of new tools

that will benefit developing countries."

Jiro Ogahara

OECC, Japan



"As a designated operational entity (DOE) of CDM, it was the greatest experience to work with UNDP MDG Carbon for validation of PoAs developed in Vanuatu, Timor-Leste / Myanmar.

Through the validation process, we have been impressed by the enthusiasm and professionalism of the UNDP MDG Carbon team. Thanks to their comprehensive knowledge and understanding in this field, we could have efficient communication and discussion with stakeholders, even for very complex issues. We truly appreciate their continuous contribution to the project developments in LDCs."

Sachiko Hashizume

Global Environment Department

Japan Quality Assurance Organization (JQA)







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