

GHANA SEforALL NEWS

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PROGRESS ON HIGH IMPACT PRIORITY AREAS

ENSURE UNIVERSAL ACCESS TO MODERN ENERGY SERVICES

* Improve Access to Clean Cooking Solutions

Pilot Implementation of the Cylinder Recirculation Model of Liquefied Petroleum Gas Distribution

Following the Cabinet directive in November 2017 to the National Petroleum Authority (NPA) to quicken the full implementation of the Cylinder Recirculation Model (CRM) of Liquefied Petroleum Gas (LPG) distribution under the National LPG Promotion Programme (2017), the NPA has began pilot implementation of the CRM. Phase I of the pilot is being implemented in Kwaebibirem Municipal and Denkyembour District Assemblies in the Eastern Region, and Obuasi Municipal and Adansi North District Assemblies in the Ashanti Region.

The pilot was launched in Kade (Eastern Region) and Obuasi (Ashanti Region) on the 3rd and 10th of March, 2020, respectively by a team led by the Chief Executive Officer (CEO) of NPA, Mr. Hassan Tampuli and representatives of the Ministry of Energy. Speaking at the event at Kade in the Kwaebibirem Municipal Assembly, the Deputy Minister-in-Charge-of Petroleum at the Ministry

GHANA SEforALL SECRETARIAT

GHANA’S SEforALL ACTION AGENDA SEEKS TO:

- > Ensure Universal Access to Modern Energy Services
- > Increase the Share of Renewable Energy in the National Energy Mix
- > Increase the National Rate of Improvement in Energy Efficiency

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of Energy, Dr. Mohammed Amin Adam disclosed that the Government was working together with the Jubilee Field partners to ensure constant supply of LPG to avoid any shortages. He added that “to ensure that LPG is adequately available to all customers in the country, government and the National Petroleum Authority will ensure the decentralisation of LPG bottling facilities between major market centers across the country, so apart from bringing the facilities closer to the market and consumers, this will further reduce the administrative cost of transporting LPG over longer distances and the impact it could have on the unified petroleum price.”

Mr. Tampuli, shedding light on how the NPA was strategising to deal with potential challenges to the smooth implementation of the pilot and the national rollout of the CRM, said –“We believe that before we move forward to rollout the CRM across the country, we will continue to do a risk assessment of all existing structures to ensure that customers in different parts where we have not started the pilot will continue to use their LPG in a safe and environmentally friendly manner.”

According to Mr. Tampuli, two companies have been issued licenses to establish and operate LPG bottling plants in different parts of the country out of over 20 applications received.

The LPG marketing companies partnered with in the pilot districts are as follows:

- * DA oil in Denkyemboor;
- * So Energy, Andev and Trinity Oil in Kwaebibirem;
- * Gaso, Engen, Goil and Manbah Gas in Obuasi; and
- * Crown, Alive and Gaso in Adansi North



In photos above and below, branded cylinders launched under the pilot Phase 1 at Kade and Obuasi, respectively (Photo credit: NPA)



Activities undertaken by the NPA prior to the launch of the pilot CRM are summarised below:

- a) Selection of pilot districts and LPG marketing companies
- b) Engagement of target beneficiaries and private partners: selected members of the Implementation Committee visited the selected districts and engaged the traditional authorities, assembly members and opinion leaders on the proposed pilot CRM to educate them on the programme and solicit their support. Detailed inspections were also conducted for the selected refilling plants. The NPA collaborated with the Kintampo Health Research Centre (KHRC) to collect baseline data to develop Key Performance Indicators on health, demand, supply, etc. against which impact would be measured.
- c) Procurement of Cylinders: the Ghana Cylinder Manufacturing Company (GCMC) was contracted to produce 38,471 branded cylinders (of 3kg, 6kg and 14.5kg sizes) for the pilot. A total of 25,029 branded cylinders have been supplied as at the end of February 2020. The cost of the cylinders was pre-financed by the NPA and is expected to be recouped through the CRM price build-up.

- d) Development of an implementation strategy: a cylinder recall strategy; risk and mitigation, and consumer education plan were developed to guide the implementation of the pilot of the CRM.
- e) Training of LPG attendants: LPG outlet attendants in the pilot communities were trained in February and March, 2020 on how to administer the registration form designed for cylinder recall under the CRM. The form captures data on the consumer, LPG outlet and the cylinder exchanged. A total of twenty seven attendants were trained in Kade and Obuasi.
- f) Consumer education: a team made up of representative staff from Project, Monitoring and Evaluation, Corporate Affairs, and Security and Intelligence Departments of the NPA undertook a door-to-door consumer awareness and education on the CRM in selected districts.

The next plan of actions of the NPA are:

- * Monitoring and evaluation of the pilot
- * Implementation of the Pilot Price Build-Up mechanism
- * Continuous discussions with LPGMCs in Jomoro and Yendi for the Phase 2 of the CRM pilot
- * Training of staff of LPG outlets in the districts under the Phase 2
- * Regional stakeholder and consumer engagements
- * Continuous television ad radio discussions on the CRM

Eni and The World Bank Clean Cooking Project

The World Bank and Eni Ghana Exploration and Production Limited, together with its Offshore Cape Three Point (OCTP)/Sankofa Partners –

Vitol Upstream and Ghana National Petroleum Company (GNPC), on 5 March, 2020, launched a Clean Cooking Project to be implemented in the Ellebelle District of the Western Region under Eni's corporate social responsibility. The project would contribute to the Government of Ghana's (GoG) goal to disseminate two (2) million improved biomass cookstoves by 2030. Specifically, the project seeks to:

- * Identify the most suitable domestic woodfuel cookstove design and technology for rural areas; and
- * Deploy a private sector-led business model to ensure the availability and affordability of modern clean cooking solutions.

Scope of Project and Activities

The project would be implemented in ten coastal communities in the Ellebelle District and would assess sustainable models for strengthening supply, enhancing demand, and expanding access to clean cooking solutions in rural areas.

The project activities are grouped under two main phases:

- * Under Phase 1, a market and business assessment would be conducted to identify the most efficient, domestic woodfuel stove model suitable to promote under what business model. This phase would span over a period of six (6) months.
- * Based on the findings and recommendations drawn from Phase 1, market development activities would be implemented under Phase 2 in all ten beneficiary communities over a two year period.

Target Beneficiaries

The target communities are Atuabo, Bakanta, Ngalekye, Sanzule (including Anwolakrom fishing

area), Krisan, Eikwe, Anokyi, Ngalekpole, Asemda and Bakuin. It is estimated that about 2,500 households made up of 13,000 individuals would benefit.

Implementing Partners and Roles

The project is a partnership between the Eni (and partners—Vitol Upstream and GNPC) and the World Bank. It would be implemented by the Ghana Alliance for Clean Cookstoves and Fuels (GHACCO).



Launch of the Project by Partners led by Awulae Amihere Kpanyinli III (Photo credit: World Bank)

The launch was attended by dignitaries including: Awulae Amihere-Kpanyinli III, Paramount Chief of Atuabo; Mr. Robert Daniele, Managing Director, Eni; Mr. John Norton, Country Manager, Vitol; Ms. Juliet Pumpuni, Senior Infrastructure Specialist, World Bank; Mr. C.K. Dondieu, Chief Director, MLGRD; Hon. Kwasi Bonzoh, District Chief Executive, Ellebelle; Mr. Kwesi Sarpong, Regional Marketing Manager, Clean Cooking Alliance; Vitol, Institutions present included: GNPC, the Ministries of Energy, and Planning; Energy Commission, Kintampo Health Research Centre; United Nations Development Programme, United States Agency for International Development, World Health Organisation; Netherlands Development Organisation; and the GHACCO.

Evidence for Clean Household Energy Project

The project is a collaboration between [Kintampo Health Research Centre](#) and [Columbia University](#), and is funded by [Columbia World Projects](#). The project has been developed with extensive input from energy sector leaders in Ghana and internationally.

The overarching goal of this project is to contribute to a strong, evidence-based policy framework to reduce household air pollution exposure in Ghana through community-level adoption of clean household energy systems.

A two phase approach: The project is divided into assessment and intervention phases. In the assessment phase, a series of assessments designed to help build the evidence base for clean household energy policy would be conducted covering:

- * household energy needs and current energy use patterns through a nationally representative household survey;
- * technical potential of clean cooking options via a systematic review of the costs and benefits of cooking with LPG, ethanol, processed biomass (pellets), and electricity;
- * behavioural constraints and opportunities via targeted field studies informed by economics and anthropology; and
- * climate finance opportunities for clean cooking via a systematic review of current programs and recent funded projects.

The learnings from Phase 1 would be used to design a large-scale intervention project under Phase 2 that aims to promote community-scale clean energy transitions.

Key design principles: First, new, but well-grounded behaviour change approaches that consider decision-making within the home and at the community level would be developed and integrated into the project design to encourage exclusive, sustained use of clean cooking technologies, while also acknowledging the importance of supply-side barriers to adoption.

Second, based on existing evidence that in transitioning a household from solid biomass fuel and stove technologies to clean cooking solutions, a single stove-fuel combination

approach has not been successful, the project would develop a portfolio or stack of clean options (fuels, stoves, and practices) that together can fully displace traditional open fires and enable exclusive, sustained use of clean alternatives.

Third, the project aims to transition entire communities towards clean alternatives. This is imperative because the evidence suggests that even households that embrace clean fuels experience high exposures if neighbors continue to cook with traditional biomass fires.

Fourth, the project will attempt to identify broader energy system changes that will support and sustain household- and community-level transitions. This will entail a careful review of the current regulatory, infrastructural, and financial environment, and of the potential for targeted investment to encourage an energy system that favours clean cooking.

Duration: The project would be implemented over a five-year period. The first phase commenced in the first quarter of 2020 and will last through 2022; the second will commence in early 2023 and last through 2025.



Photos above and below: Group Discussions at a collaborative workshop held in Accra (Photo credit: KHRC)



The project is led by Dr. K.P. Asante, Kintampo Health Research Centre, Ghana; Dr. Darby Jack, Columbia University, USA; and Dr. Kelsey Jack, University of California, Santa Barbara, USA.

For more information about the project, contact Dr. Abubakari Sulemana Watara, via abubakari.sulemana@kintampo-hrc.org

INCREASE THE SHARE OF RENEWABLE ENERGY IN THE NATIONAL ENERGY MIX, AND INCREASE THE NATIONAL RATE OF IMPROVEMENT IN ENERGY EFFICIENCY

Market Entry for Renewable Energy and Energy Efficiency in the Productive Sector in Ghana

Ghana's often recurring electricity crisis has put a toll on the cost of doing business. This has affected the market competitiveness, profitability and growth of businesses. The result is increasing interest and investment in renewable energy (RE) and/or energy efficiency (EE) solutions by the various electricity consumer classes (residential, commercial and industrial) in a quest to reduce the cost of electricity consumed.

Based on the afore mentioned premise, the German Federal Ministry for Economic Cooperation and Development (BMZ) has commissioned the bilateral project "Market Entry into Renewable Energy and Energy Efficiency for the Productive Sector and Technical and Vocational Education and Training in Ghana." The objective of the project is to improve the conditions for the use of RE or EE solutions by commercial and industrial electricity consumers, and the electricity utilities, to make them more competitive. It also supports the achievement of the goals of the German-Ghanaian reform and investment partnership. The project is being implemented

by the German Development Cooperation (GIZ) from 2018 to 2021.

The market entry component of the project focuses on:

- * market development for RE or EE solutions;
- * project development support for commercial and industrial electricity consumers; and
- * support in the development of business strategy for electricity utilities.

In addition to supporting commercial and industrial consumers to reduce their cost of production through investments in RE or EE and assisting RE or EE service providers to enhance their business development capacities, the project also seeks to position utilities to create business models to benefit from their customers desire to generate electricity from RE sources and improve their EE practices. Ultimately, the project would contribute to the achievement of two of Ghana's Nationally Determined Contributions (NDC) programme of action under the Paris Climate Agreement, namely: "Scale up the 200,000 solar systems for lighting in residential and non-residential buildings"; and "Off-grid Standalone Electrification Programme" through project development support to commercial and industrial electricity customers.

Project Outputs and Outcomes or Achievements

So far, the project has successfully achieved the following outputs and outcomes:

- * **Promotion of Clean Energy Solutions through Trade Fairs and Conferences:** In October 2019, the project supported the Energy Commission to organise its **Annual Ghana Renewable Energy Fair** which brings together public and private stakeholders in the energy sector for further market development,

networking and presentation of latest trends and research. The project will continue to support the Commission to hold the Fair up to 2021.

In November 2019, the project acted as lead partner for the **West African Clean Energy and Environment (WACEE) Trade Fair and Conference**. The conference focused on Clean Energy, Water and Circular Economy, highlighting current trends and opportunities amongst other things, in renewable energy and energy efficiency. Through the Energy Service Centre, the project organised business to business sessions with RE and EE experts and service providers for companies interested in investing into RE and EE solution.



Participants at the Business to Business Session organised at WACEE'19 (Photo credit: GIZ GmbH / AHK)

* **Association of Ghana Industries - Energy Service Centre:** In September 2019, in partnership with the Association of Ghana Industries (AGI), the project launched an Energy Service Centre (ESC). The ESC acts as a broker of reliable information and a liaison between service providers and potential clients in the RE and EE sector. The ESC is developing a database of service providers, and will undertake capacity building for service providers and provide technical support to the private sector for investment planning in RE/EE.

* **Industrial Visits, Exchanges and Study Tours:** In October 2019, the project supported a team of industry experts from the energy sector in Ghana to attend the Renewable Energy and Efficiency Week (REEW), an international trade fair in Berlin, Germany. The team also spent

another week on field visits and exchanges with RE sector institutions across Germany.

In November 2019, the project organised a study tour for a delegation from the Electricity Market Oversight Panel (EMOP) to exchange information and learning with various institutions in Germany and Belgium. The delegates engaged with the private sector, utilities, RE and EE associations, training and research institutions on topics such as embedded generation and capacity planning, RE technology deployment, market systems, forecasting and dispatching of variable renewable energy, global best practices, and pricing schemes.

* **Solar PV Monitoring System:** Again, the Energy Commission is being supported to develop a monitoring system for solar PV installations to strengthen its regulatory function.



Hon. Joseph Cudjoe (with microphone), Deputy Minister of Energy in Charge of Finance and Infrastructure, being Assisted by Mr. Charles Darku (second from right), Vice President of AGI and Mr. Steffen Behrle (first from right), Cluster Coordinator and Programme Manager at GIZ, Launching the ESC in Accra (Photo credit: GIZ GmbH)



Officials of GIZ Ghana, AGI and the BMZ holding an information session with commercial & industrial electricity consumers and RE & EE Service Providers in Accra (Photo credit: AGI)

The component's key political and implementing partners include the Ministry of Energy (MoEn), Energy Commission (EC), Public Utilities Regulatory Commission (PURC), Association of Ghana Industries (AGI) and the public electricity utilities.

For more information about the project, contact Mr. Raymond Ahiadorme, Programme Component Manager via raymond.ahiadorme@giz.de

PARTNER SPOTLIGHT

ANOMENA VENTURES

ANOMENA Ventures was registered in the year 1995 as a social enterprise based in Community 18, Tema but started operations in the year 2010. The mission of the Venture is to mainstream gender concerns into energy projects, produce and distribute energy efficient cooking solutions. ANOMENA produces improved LPG single, double, or triple burner stoves for commercial or institutional cooking.



ANOMENA single and double burner LPG stoves (Photo credit: ANOMENA Ventures)

ANOMENA received support from the ECOWAS Women's Business Fund to procure manufacturing equipment, raw material for stove production and infrastructure development.

Management and Staff Strength

The Venture was founded and is managed by Dr. Sabina Anokye Mensah. It has a staff strength of seven persons consisting of four (4) women and three (3) men, of which three are permanent staff.



A female stove producer (Photo credit: ANOMENA Ventures)

Production Capacity

ANOMENA Ventures has a production capacity of about 300 stoves per month.

Target Beneficiaries and Impact Being Made

- * The venture has supported street food vendors and women entrepreneurs operating from homes with ANOMENA-LPG stoves for economic activities. Cooking with LPG is fast and provides a clean cooking environment which has health benefits for the user and their family members.



ANOMENA 3-in-1 LPG stove being used for school feeding (Photo credit: ANOMENA Ventures)

- * At least five thousand women have been taken through awareness creation and gender sensitisation workshops as well as training on safe use of LPG appliances.
- * A pilot micro-finance scheme (payment by instalment) was implemented to enable some street food vendors to purchase and own gas cylinders and stoves. In 2010, ANOMENA partnered with the Gender and Energy Network, Ghana to conduct a gender audit of Ghana's Energy Sector.

- * The Venture received an award from the ECOWAS Centre for Renewable Energy, Energy Efficiency and Climate Change (ECREEE) as the Gender Mainstreaming Champion in West Africa.

Lessons Learnt by ANOMENA Ventures

When supported with a facility of payment by instalment, women are able to purchase and own stoves. Time saved by some beneficiaries in the use of the LPG stove were invested to improve their family lives and participate in other activities.

Collaboration with other agencies facilitates promotion of energy interventions.

Future Prospects

ANOMENA seeks to make improved LPG stoves more affordable to low income households and street food vendors in rural and urban communities to facilitate positive health outcomes.

NASAM BRAND ENTERPRISE

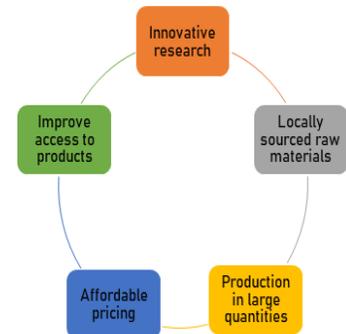
NASAM Brand Enterprise is a Ghanaian owned improved cookstove company established in 2015 and registered as a sole proprietorship in 2017. The production site is located at Cape Coast, and the sales shop at Kasoa in the Central Region. The Vision of NASAM Brand Enterprise is to produce clean cookstoves to improve lives and enhance household savings through efficient cooking solutions.



NASAM Brand Production Site at Cape Coast (Photo credit: Paula Edze, Energy Commission)

NASAM begun with the design and production of ceramic lined LPG stoves and has recently diversified into the production of ceramic line charcoal stoves, wood stoves and grills, and gas ovens for households, schools, street vendors, hotels and restaurants under the brand name "Obaahemaa."

NASAM Brand uses the business model below:



Management and Staff Strength

The company is founded by Mr. Bismark Asamoah Asante and has a staff strength of 15 workers made up of 12 production team and three sales and administrative staff. There are 13 men and two (2) women. Only six (6) of the 15 staff are permanent, the rest are casual workers.

Production Capacity

The projected production capacity of NASAM is 5,000 stoves per month.

Target Beneficiaries and Impact Being Made

- * NASAM produces charcoal, wood and LPG stoves for households, local restaurants, school feeding and street food vendors.
- * NASAM supplies stoves to about 30 retailers across Ahafo, Ashanti, Bono, Bono East, Central, Eastern, Greater Accra, and Western Regions of Ghana.
- * The Enterprise won the National Improved Woodstove for Households Challenge launched by the Netherlands Development Organisation (SNV) in 2018. The Challenge was the genesis of the company's design and production of improved firewood stoves.



Photo above: Founder of NASAM Brand Enterprise (first from right) and staff with the plaque and certificate of participation for the National Improved Woodstove for Households Challenge

Photo below: the award winning Obaahemaa Woodstove (Photo credit: NASAM Brand Enterprise)



- * NASAM received a citation from the United Nations Development Programme in December 2019 during the Social Good Summit for its contribution to the achievement of the Sustainable Development Goals 7 and 13 on Affordable and Clean Energy, and Climate Action, respectively.

Challenges being Experienced by NASAM Brand

- * Limited or non-existence of innovation financing scheme.
- * High tariff on machines makes it difficult to import automated or semi-automated machines to produce stoves in high quality and quantity.
- * High operational cost making it difficult to expand and make products more accessible to unserved populations.

Recommendations made by NASAM Brand

- * Government should provide incentives like VAT and import duty exemptions on raw materials, tools and machines.

- * Government should help use local media platform to sensitise and create awareness on the benefits of using improved cookstoves and clean fuels.
- * Government should invest in clean cooking sector programmes, monitoring and impact assessment documentation to shape learning experience of others.
- * Explore how scheme of; result based financing, equity based financing, catalytic grant, enterprise financing, or carbon credit applicability backed by research for adoption.

Future Plans/Prospects

NASAM Brand is currently one of the entrepreneurs receiving a year's technical assistance and business advisory support under the Ghana Climate Innovation Centre's entrepreneurial incubation programme. The enterprise intends to use the skills acquired and support received to design and produce more improved and innovative stove technologies, and also produce its own ceramic liners to reduce current production cost.

NASAM Brand plans to move from artisanal stove production to an automated production process so as to increase its project capacity as well as improve on product quality.

The Enterprise would also like to train and employ more women in its stove production.

SEforALL RELATED EVENTS HELD

NATIONAL VALIDATION MEETING HELD ON DRAFT SUSTAINABLE ENERGY FOR ALL INVESTMENT PROSPECTUS FOR GHANA

The ECOWAS Centre for Renewable Energy, Energy Efficiency and Climate Change (ECREEE) is providing technical assistance to the Government of Ghana through the Ministry of Energy to develop an Investment Prospectus (IP) to facilitate the implementation of high impact projects identified under its

Sustainable Energy for All (SEforALL) country action agenda. The assignment is being implemented by Arthur Energy Advisors, an international Ghanaian company.

A draft of the SEforALL IP was presented to stakeholders at a national validation meeting on 10 March, 2020 at the Council for Scientific and Industrial Research-Science and Technology Policy Research Institute's Auditorium. The meeting was used to: highlight pipeline projects in the power sector submitted by state institutions open for private investment; and solicit additional information and comments for finalisation.

In an opening remark, the Director for Renewable Energy, Energy Efficiency and Climate Change at the Energy Commission, Mr. Kofi Agyarko emphasised the importance of the IP in facilitating increased private sector participation in priority government energy projects, especially in renewable energy development.

The representative from the Ministry of Energy, Dr. Robert Sogbadzi, Deputy Director for Renewable and Alternative Energy assured participants of the government's commitment to achieving universal access to electricity by 2025 using renewable energy technologies to electrify isolated off-grid communities. He stated that the Ministry is working hard to establish the Renewable Energy Authority proposed under the Renewable Energy Act (Act 832).

Speaking on the support being given to ECREEE to ECOWAS countries under the SEforALL initiative and experiences gathered in the development of IP for several states, Mr. Hyacinth Elayo, Energy Policy Officer at ECREEE said the policies being outlined by member states prove the potential of countries to harness their prospective renewable energy resources for sustainable development. He was of the opinion that "...Ghana is one of the leaders in West Africa. They have done a lot in terms

of renewable energy development and we see a lot of policies coming up with regard to solar plants. There is a lot of potential and there is the need to support private sector investment and create the enabling environment to see how we can scale-up on some of these projects."

According to Mr. Elayo, ECREEE is committed to aggressively market the SEforALL IP on different platforms, and engage prospective financing institutions to ensure that some of the projects are implemented.

The projects in Ghana's SEforALL IP include:

- * 11 micro, mini and small hydropower plants cross the country
- * A 145 MW hydro-solar hybrid project at Bui in the Savannah and Bono Regions
- * 100 MW solar plant at Yendi in the Upper East Region
- * A 20 MW solar power plant at Navrongo in the Upper East Region
- * A 75 MW wind power plant at Angloga, Srogobe and Anyanui in the Keta Districts of the Volta Region

The main feedback given by participants is that government should be very clear about the implementation model to clarify the exact role expected from the private sector.



Participants at the National Validation Meeting
(Photo credit: Paula Edze, Energy Commission)

The meeting was attended by 30 persons from government, private sector, financial and development organisations, and the media. Specifically, the Ministry of Energy, Energy Commission, Ghana Grid Company, Public Utilities Regulatory Commission, Bui

Power Authority, Ghana Standards Authority, Agence Française de Développement, German Development Cooperation, Ghana Alliance for Clean Cookstoves and Fuels, Clean Cooking Alliance, and Green Light.

Contributors

- *Alex Kwame DONYINAH, World Bank, Accra
- *Bismark Asamoah ASANTE, NASAM Brand Enterprise, Cape Coast
- *Dr. Abubakari Sulemana WATARA, Kintampo Health Research Centre, Kintampo
- *Dr. Darby JACK, Columbia University, USA
- *Dr. K.P. ASANTE, Kintampo Health Research Centre, Kintampo
- *Dr. Sabina ANOKYE MENSAH, ANOMENA Ventures, Tema
- *Raymond AHIADORME, German Development Cooperation, Accra
- *Sheila ABIEMO, National Petroleum Authority, Accra

Compiled by:

- *Paula EDZE, Energy Commission, Accra

Reviewed by:

- *Kofi AGYARKO, Energy Commission, Accra

Link to the Ghana SEforALL Action Plan:
<http://energycom.gov.gh/renewables/se4all>

Energy Commission
Ghana Airways Avenue
PMB, Accra
Phone: +233 302 813756
Fax: +233 302 813764
E-mail: pedze@energycom.gov.gh

