

ASSISTANCE FOCUS: AFRICA



The Clean Energy Solutions Center, an initiative of the Clean Energy Ministerial, helps countries throughout the world create policies and programs that advance the deployment of clean energy technologies. Through the Solutions Center's no-cost "Ask an Expert" service, a team of international experts has delivered assistance to countries in all regions of the world. High-impact examples from Africa are featured here.

INCORPORATING GENDER INTO THE LONG-TERM ENERGY STRATEGY IN MAURITIUS

The Clean Energy Solutions Center assisted Mauritius's Ministry of Energy and Public Utilities with drafting a chapter for the Mauritius Long-term Energy Strategy. The chapter focused on gender mainstreaming in energy policy, gender and energy and achievement of sustainable development goals, engendering project planning and financing options to encourage women's participation in renewable energy deployment. The chapter will be a key part of the new energy strategy for Mauritius that has an expanded role for renewable energy and energy efficiency.

IMPACT OF ASSISTANCE. The long-term energy strategy serves as a roadmap to address Mauritius's energy and environmental challenges. The chapter provided by the Solutions Center's experts on gender and energy mainstreaming will help ensure that the country's long-term strategy includes this essential element of successful energy policies and projects.



City of Port Louis, Mauritius. Photo from iStock 510239578

FINDING INNOVATIVE POLICY SOLUTIONS FOR SOUTH AFRICA

The Solutions Center worked with South Africa's Council for Scientific and Industrial Research to conduct an overall critical review of the Council's NETFIT (also known as a Net Feed-in Tariff) proposal. The NETFIT concept is based on a framework that stimulates the market for small-scale embedded generation by safeguarding the business case for installing such solar installations. Simultaneously, the NETFIT allows the South African regulator and policymakers to benefit from the low-cost electricity generated from thousands of small installations.

IMPACT OF ASSISTANCE. The NETFIT encourages the development of the small-scale generation market in a coordinated way so that the market can be monitored. Monitoring can ensure safety, enable a transparent market structure, and encourage sound grid operations.



Dar el Salaam, Tanzania. Photo from iStock 471475427

ANALYZING PERFORMANCE-BASED INCENTIVES IN TANZANIA

The Clean Energy Solutions Center partnered with Helios Social Enterprise, in support of the Ministry of Foreign Affairs of Finland, to provide assistance to the government of Tanzania. The Solutions Center provided an overview of results-based finance initiatives for off-grid electrification that are already underway across sub-Saharan Africa, with a focus on Rwanda, Kenya, Mali, Benin and Ghana. The overview is intended to convey results-based finance initiatives best practices for Tanzania to apply to their own initiative development.

IMPACT OF ASSISTANCE: Results-based finance initiatives can be a powerful mechanism to broaden the base of citizens who are able to afford electrification, while simultaneously enabling a more rapid scale-up in the jurisdictions targeted. The overview of initiatives already underway in countries within the region will allow Tanzania to learn the best approach for implementing similar incentive programs.

BUILDING CAPACITY FOR THE AFRICAN ASSOCIATION FOR RURAL ELECTRIFICATION

The Clean Energy Solutions Center worked with the African Association for Rural Electrification (CLUB-ER) to provide capacity building training for its members. Topics included planning, renewable energy standards, grid integration, tariff modeling and policy and regulation design for rural electrification. CLUB-ER is composed of 40 African national institutions responsible for rural electrification (agencies, funds, regulators, departments of energy, utilities) from 30 African countries. Four trainings were provided, two in English and two in French.

IMPACT OF ASSISTANCE. The capacity building webinars provided helped train and educate CLUB-ER members from over 40 institutions, representing at least 30 Africa nations, and multiple government ministries and institutions. The webinars will help the attendees apply the best practices, tools and other training information to their own countries of focus and advance clean energy and energy access policies and projects.

CREATING NATIONAL CLEAN COOKING ACTION PLANS IN WEST AFRICAN COUNTRIES

The Clean Energy Solutions Center worked with 12 countries in the Economic Community of West African States (ECOWAS) Region—Benin, Burkina Faso, Cabo Verde, Cote d'Ivoire, Guinea, Guinea Bissau, Liberia, Mali, Niger, Nigeria, Sierra Leone and Togo—to create a national clean cooking action plan that considers environmental, socio-economic, and political/ institutional factors, how they influence the country's clean cooking objectives, and the timeline and key actions associated with their achievement.

IMPACT OF ASSISTANCE. The West Africa Clean Cooking Alliance (WACCA) helps ECOWAS promote efficiency in cooking and the use of modern and clean cooking fuels in order to achieve universal access to safe, clean, affordable, efficient and sustainable cooking fuels for the entire ECOWAS population by 2030. The clean cooking action plans developed with the Solutions Center's expert assistance will help increase the efficiency and sustainability of biomass based cooking energy and to introduce modern biofuels such as ethanol, biogas and briquettes.

MAINSTREAMING GENDER INTO ENERGY ACCESS IN THE ECOWAS REGION

The Clean Energy Solutions Center worked with the ECOWAS Center for Renewable Energy and Energy Efficiency (ECREEE) to develop a policy on gender mainstreaming in energy access. The goal of the policy is to address existing barriers that may hinder the equal participation of women and men in: the expansion of energy access in West Africa; success of the Sustainable Energy for All (SE4All) initiative; and success of ECOWAS regional policies on renewable energy and energy efficiency. The policy aims to: achieve widespread understanding of energy and gender considerations at all levels of society; ensure that all energy interventions are gender-inclusive and directed towards addressing inequalities and energy poverty; increase women's public-sector participation in energy-related technical fields and decision-making positions; and ensure that women and men have equal opportunities to enter and succeed in energy-related fields in the private sector.

IMPACT OF ASSISTANCE. This policy will deliver opportunities for women to become a driving force in decisions to secure clean safe energy for their homes and work lives, improve health and the environment through clean energy solutions, and to create a trained job force that will bring with it economic development and business opportunities. Integrating the talents and skills of women into the energy sector will be a driving force in bringing clean energy access to remote regions of ECOWAS that have limited or no access to electricity. This policy was adopted December 2016 at the Ministerial level by all 15 ECOWAS member states.

ADVANCING MEASUREMENT, VERIFICATION AND REPORTING IN THE ECOWAS REGION

Clean Energy Solution Center provided technical assistance to ECREEE to undertake a study on the status of monitoring, reporting and verification practices (MRV) in the ECOWAS region. MRV will be a key policy component in ECREEE's program to advance low carbon development in the ECOWAS region through the implementation of renewable energy and energy efficiency measures.

IMPACT OF ASSISTANCE. The analysis and best practice recommendations that resulted from this study and through assistance from the Solutions Center provides ECOWAS countries with reliable information on greenhouse gases (GHG) emissions and actions as well as support for climate change mitigation to be effective in overall mitigation efforts. The MRV system will allow these countries to effectively measure, verify, and report on results coming out of nationally determined contribution implementation actions.



Porto Novo, Santo Antão, Cape Verde. Photo from iStock 175769899

CREATING RENEWABLE FUELS STANDARDS IN THE ECOWAS REGION

The Solutions Center assisted ECREEE with developing renewable fuels standards (RFS) for the ECOWAS region. The assistance provided ECOWAS countries with reliable information on greenhouse gases emissions and actions and positioned climate change mitigation to be effective in overall mitigation efforts related to transportation fuels.

IMPACT OF ASSISTANCE. Strong, robust fuel quality standards that are well developed and stringently enforced can lead to quantifiable reductions in the level of pollutants and emissions arising from the use of fuel from transport. When managed in conjunction with both sustainability standards and operability standards, the fuel quality standards can contribute to improved health and environmental solutions, ensure engine operability, enhance fuel efficiency, and facilitate the use of new technologies for the ECOWAS region. These standards have potential to be replicated in other regions of Africa.

COMMENT FROM REQUESTOR

“I testify to everyone my gratitude for the work done by the Clean Energy Solutions Center. Already with the English version I could see the substance, and therefore the importance, of the report. I will now share the French version with my Minister.”

Bianpambe Patallet

Project Coordinator for the Global Climate Change Alliance in Chad



HELPING CHAD INCREASE ACCESS TO CLEAN ENERGY IN REMOTE REGIONS

To help the Government of Chad determine the best way to approach rural electrification, the Clean Energy Solutions Center provided a brief analysis of different electrification technologies for remote and non-interconnected regions of the country.

In addition to detailing solar PV, wind, biogas and biomass technology options and costs, the Solutions Center report offered specific examples from countries around the world to illustrate the different models of deployment that have been used to increase adoption of these technologies in remote areas. The Solutions Center analysis also presented an overview of four different business models for rural electrification: two financed primarily by the end user and two financed primarily by the government or by donors. In the process, it outlines the various advantages and disadvantages of each business model to assist the government of Chad in developing better policy and improve energy access in the country.

IMPACT OF ASSISTANCE. The extensive analysis and information provided by the Clean Energy Solutions Center will enable the Government of Chad to increase access to clean, low-carbon, and sustainable electricity sources across the country.

ESTABLISHING FEED-IN TARIFFS IN GHANA

The Clean Energy Solutions Center assisted the Ghana Energy Commission with the design and development of a feed-in tariff (FIT) policy. Ghana is in the early stages of creating such a policy and requested assistance from Solutions Center experts in identifying best practices for FIT policy design. Solutions Center experts provided resources on FIT design, including best practices. The Solutions Center also engaged in consultations with the Ghana Energy Commission to provide additional guidance and support for the FIT policy.

IMPACT OF ASSISTANCE. The Clean Energy Solutions Center collaborated with Ghana in the early stages of its FIT policy design. As such, this early support facilitated both effectiveness and speed of policy development and eventual implementation that will encourage scaled-up deployment of renewable energy into the Ghana energy mix.



Solutions Center assistance will help develop policies to support renewable energy deployment in Ghana. Shown here: Ghana town view. *Photo from iStock 1487490*



The Solutions Center assisted Namibia with several renewable energy and energy efficiency programs. Shown here: Namibian capital of Windhoek. *Photo from iStock 13425482*

ADVANCING RENEWABLE ENERGY AND ENERGY EFFICIENCY PROGRAMS IN NAMIBIA

The Clean Energy Solutions Center assisted the Renewable Energy and Energy Efficiency Institute (REEEI) with developing a concentrating solar power (CSP) program, a building certification and rating program, and an appliance standards and labeling program. Solutions Center policy experts from the Collaborative Labeling & Appliance Standards Program (CLASP), the World Green Building Council, the Mexico Green Building Council, the National Renewable Energy Laboratory (NREL), and the European Solar Thermal Electricity Association (ESTELA) consulted with REEEI on a range of effective policy designs covering the three program areas.

IMPACT OF ASSISTANCE. The potential impact of the assistance provided is based on Namibia having the right tools and information to proceed with constructing a concentrated solar power plant accompanied by strong policies to support developing a CSP program throughout Namibia. Additionally, Solutions Center assistance will support design and development of an effective appliance labeling program and implementing a “Green Building Council” building certification and rating program. These programs will facilitate integration of energy efficiency and renewable energy technologies across a range of applications, including new construction and major renovation building projects.

COMMENT FROM REQUESTOR



“The CEM Initiative has been very helpful to us in Namibia by being a great networking hub. They have connected us with experts such as CLASP in our endeavor to establish an appliance labeling and standards development program. They have also connected us to different green building council experts who in turn are assisting Namibia in establishing its own green building council. The CEM Initiative is assisting Namibia in its renewable energy resources assessment.”

Kudakwashe Ndhulukula
Coordinator at Renewable Energy & Energy Efficiency Institute

INFORMING KISUMU COUNTY, KENYA, ON ENERGY ACCESS AND HEALTH CORRELATIONS

The Kisumu County government requested assistance in identifying current status of household energy access in Kisumu County. In particular, the county wanted to explore the relation of energy access and the health sector. Solutions Center experts conducted a literature review and subsequent analysis of the information provided in a report.

IMPACT OF ASSISTANCE: Through the information provided in the Solutions Center's response, Kisumu County's community health workers gained a deeper understanding of the current sources of household energy for cooking and lighting, the reliability of these energy sources, and the impact of these sources on local health. With this information, they were able to understand the current energy access situation and develop a more appropriate county-wide energy strategy.

SUPPORTING SOLAR HOT WATER SCHEMES IN MAURITIUS

The Solutions Center conducted an assessment of the residential solar water heating program in Mauritius and provided high-level recommendations for options for moving the program into other market sectors, such as commercial and industrial participants, and increasing the sustainability of the program and solar water heating market in Mauritius.

IMPACT OF ASSISTANCE. The assistance provided will allow Mauritius to capture greater benefits from existing solar hot water systems and implement program changes to improve effectiveness of future systems that facilitate energy and cost savings.



Solutions Center assistance will help increase the solar water heating market in Mauritius. Shown here: City of Port Louis, Mauritius. *Photo from iStock 10538090*

CREATING COMMERCIAL BUILDING EFFICIENCY REGULATION IN SOUTH AFRICA

The Clean Energy Solutions Center assisted the South African National Energy Development Institute (SANEDI) with design of a regulation created to promote energy efficiency in the commercial building sector. Solutions Center experts consulted with SANEDI on modeling options for assessing energy savings, provided best practices for setting incentive levels and program targets, reviewed draft regulation language, and provided comments on policy design.

IMPACT OF ASSISTANCE. The assistance was used by SANEDI to complete the content of the final draft of the regulation. The Solutions Center provided SANEDI with information to put forth the framework of an effective energy efficiency regulation, incentives, and energy reduction targets applied to South Africa's commercial buildings sector. Additionally, review of the regulation content resulted in structuring language to avoid unintended consequences. As such, South Africa will implement a program that results in reduced energy demand within a high-energy-use sector. The regulation was adopted November 2013 under Section 12L of the South Africa Income Tax Act, and was developed in response to the National Energy Efficiency Strategy to improve energy efficiency by 15% in the commercial building sector.

DEVELOPING RENEWABLE ENERGY AND ENERGY EFFICIENCY ACTION PLANS FOR WEST AFRICAN COUNTRIES

The Clean Energy Solutions Center provided on-site support during a workshop held in Abidjan, Cote D'Ivoire. The workshop was focused on helping representatives from the 15 member states of the Economic Community of West African States (ECOWAS) develop their national renewable energy action plans (NREAP) and their national energy efficiency action plans (NEEAP). The participants, who included senior regulatory and government officials from each of the ECOWAS countries, were provided with detailed insight into how to establish national renewable energy targets and how to design NREAPs and NEEAPs. A portion of the workshop focused on gathering baseline data and on the various methodologies available to gather, organize and integrate data into a successful clean energy strategy. Solutions Center experts informed the attendees on good practices for renewable energy and energy efficiency policies.

IMPACT OF ASSISTANCE. The assistance provided will facilitate the development of effective and successful renewable energy and energy efficiency action plans that will allow ECOWAS countries to meet the energy targets defined in the ECOWAS regional energy policy, foster the deployment of clean energy technologies and provide clean energy access to remote populations.

COMMENT FROM REQUESTOR

"The assistance which you have provided us has proved invaluable to our work over here. MANY thanks for all your help and assistance in making this a reality!"

Barry Bredenkamp, Senior Manager at SANEDI

COMMENT FROM REQUESTOR

“The feedback from trainees was excellent, indicating the high quality of lectures. In particular, the Solutions Center contribution was very well received and added significant value to the discussions, which was reiterated by the trainees.”

Gauri Singh, Director Country Support and Partnerships, IRENA



BUILDING CAPACITY FOR AFRICA AND PACIFIC ISLANDS

On-site expert assistance was provided in collaboration with the International Renewable Energy Agency (IRENA) for Small Island States and African Nations at the Japan-IRENA training program on *Setting Renewable Energy Targets*. The training focused on the policy aspect of designing and implementing optimal renewable energy targets. Assistance focused on the design of tariff-based support policies, such as feed-in tariffs and auctions, and financing options for these policies. The audience consisted of policymakers in the renewable energy sector from Africa and the Pacific Islands.

IMPACT OF ASSISTANCE. This training afforded policymakers the opportunity to learn good practices on how to design policies and programs that are compatible with renewable energy target-setting objectives, including affordable prices, grid stability requirements, and design elements from an investor perspective. As a result of the support provided at the workshop, policymakers have the tools to design successful policy responses to market fluctuations, and regulators have enhanced capacity to evaluate laws, adapt tariffs as needed, and benchmark best practices for renewable integration.

Page 1 photo: The Clean Energy Solutions Center is helping several African countries with clean energy policy and programs. Shown here: Cape Town business district in South Africa. *Photo from iStock 19945301*

To learn more about the Solutions Center and how it can assist you in achieving your policy goals, please visit cleanenergysolutions.org.