



The EU's Technical Assistance Facility (TAF) for Sustainable Energy East & Southern Africa

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This project is funded by the European Union

Stories of success, practices that foster change and are being taken to scale, where innovation and cooperation in policy, finance, and technology are bringing results - and benefitting the people of Africa.

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QUICK WINS FOR ENERGY SAVINGS IN ZAMBIA -

'Energy Efficiency Quick Win Actions' initiative reveals that the total potential electricity saving from 14 investigated sites may cut electricity consumption by up to 50% and significantly reduce the energy deficit.

KENYA'S ENERGY-FROM-WASTE PROJECT TO GENERATE POWER AND CLEAN THE ENVIRONMENT -

A new solid waste recycling plant will turn millions of cubic tonnes of solid, organic and inorganic waste into electricity. The TAF is assisting the Nairobi City Council on technical, financial and procurement matters.

AUC: BRINGING HARMONY TO ELECTRICITY MARKETS IN AFRICA -

African Energy Ministers adopt the Strategy and Action Plan for the 'Development of a Legal Harmonised Continental Regulatory Framework for the Energy Sector in Africa' within the AUC Ministers' Meeting held in Lome, Togo.

AFRICAN POWER UTILITIES TRAINED TO SET UP ENVIRONMENTAL MANAGEMENT SYSTEMS -

Southern Africa Electricity Power Utilities are trained by top European counterparts, in response to Southern African Power Pool (SAPP) guidelines to set up their respective EMS by 2019. Participants took home a good understanding of EMS requirements, plus ideas for Energy Efficiency quick wins in their Utilities.

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We hope you enjoy this first edition of the 'The EU's Technical Assistance Facility for Sustainable Energy East & Southern Africa' e-newsletter, covering items of news from the project. If there is a particular topic that you would like to see covered in future newsletters, please write to us. We welcome your feedback!

With our best wishes,

The TAF team

What's new: Field facts and findings

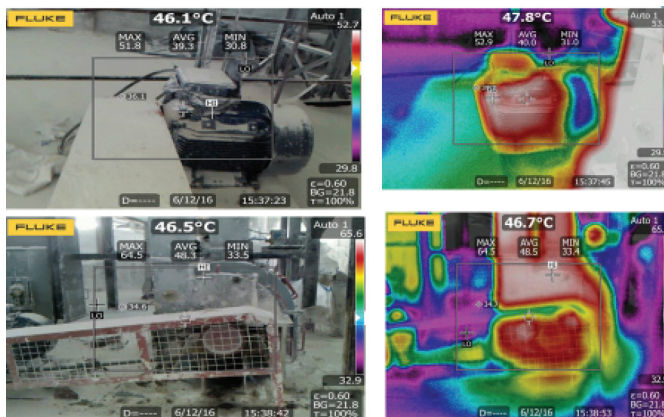
Zambia: Quick wins for energy savings

'Energy Efficiency Quick Win Actions' initiative reveals that the total potential electricity saving from 14 investigated sites may cut electricity consumption by up to 50% and significantly reduce the energy deficit in Zambia.

The Zambian electricity utility, ZESCO, cannot keep up with demand and has introduced load shedding. At present, some industries in Zambia are working significantly below their capacity. 'Energy Efficiency Quick Win Actions' study, elaborated through a relevant TAF mission, revealed that opportunities for energy savings in buildings and industries in Zambia are numerous, and may therefore contribute to a potential reduction of the electricity consumption of up to 50% while keeping the same economic value.

roll out an overall energy efficiency strategy for the country, to be further developed by a larger EU funded programme starting in the second part of 2017.

The mission presented its results at a Stakeholders Workshop in Lusaka, Zambia in March 2017, bringing together some 100 stakeholders from Zambia and the region to present ideas and replicable experiences for more efficient use of energy, and to contribute to the development of an energy efficiency policy for the country.



Walking through audits in a facility, and thermo-camera images

Within the National Indicative Programme of the European Development Fund for Zambia, covering the 2014-2020 period, the European Union set aside EUR 244 million in grants for energy related projects. This is the largest EU bilateral programme worldwide specifically dedicated to the energy sector.

Background

The electricity situation in Zambia needs a strategy for a quick matching of electricity demand with available supply. Aiming to close the gap between electricity demand and supply, the 'Energy Efficiency Quick Wins Actions' initiative focuses on the demand side of four types of the energy consumers in Zambia: Energy Intensive Industries; Street Lighting; Public, Tertiary Sector and Residential Buildings and Solar Water Heating Systems.

The total potential electricity saving calculated from the pre-feasibility studies performed in 14 Zambian companies and institutions corresponds to the electric consumption of 6,000 households connected to the electricity grid or 60,000 households benefitting from off grid power solutions. This is only a sample, which does not cover the biggest energy consumer - the mining industry, but it clearly shows that the potential impact of energy efficiency measures countrywide could be significant.

Zambian industries are reported to be working at just 50% of their capacity because of the lack of available electrical power, and consequently some are in danger of closing.

The TAF mission on 'Energy Efficiency Quick Win Actions' will also provide useful indicators of performance, to be used to extend the results of the studies to prepare for and

“*Looking at the European Union, where energy efficiency has been put at the heart of the EU energy policy, it is reported that for every 1% improvement in energy efficiency, gas imports fell by 2.6%. I am sure that we can observe similar effects in the Zambian context if energy efficiency becomes not only a policy priority but also a common practice among energy consumers.*”

- Mr Adam Grodzicki, Head of Infrastructure Section of the EU Delegation to the Republic of Zambia and COMESA.

Activity area: Initial stocktaking and establishing national energy sector policies



What's new: Field facts and findings

AUC: Bringing harmony to electricity markets in Africa

African Energy Ministers adopt the Strategy and Action Plan for the 'Development of a Legal Harmonised Continental Regulatory Framework for the Energy Sector in Africa' this March, within the African Union Commission (AUC) Energy Ministers' Meeting held in Lomé, Togo.

The AUC has been promoting cooperation of regulators to formulate a continental strategy towards necessary reforms, the ultimate goal being a better regulated, investment-friendly environment for electricity market development.



Within this context, TAF experts have been providing consultancy towards the development of the Harmonisation Strategy and Action Plans, within the initiative for 'Harmonisation of the Regulatory Frameworks for the Electricity Market in Africa'. The purpose was to identify and detail the interventions that would support policy and legislative instruments, and roll out the measures to be taken at national, regional and continental level.

This is the culmination of successive TAF team missions to the AUC's Department of Infrastructure and Energy, to analyse existing regional and continental regulations including assessment of regulatory frameworks and institutions in the African energy sector. The



The Validation workshop held in Cairo brought together high-level officials from the African continent, including the regional economic communities, regional regulatory authorities and regulatory associations, as well as regional power pools and member states.

extensive stakeholder dialogue process included broad participation of stakeholders and energy experts from the African continent, including the regional economic communities, regulatory authorities, regulatory associations, as well as the regional power pools.

Major Achievements, apart from the validation of the Strategy Document and its Action Plans, is that 'a consensus has been built amongst all relevant African stakeholders on the implementation modalities of the programme', according to the case study document released in the frame of the AUC Ministers' Meeting.

A fully integrated, competitive and harmonised electricity market will boost Africa's development and improve energy access for African citizens.

The African Union Commission (AUC) and continental institutions have a strong role to play in enhancing competition within electricity markets. They direct, indicate policies, and guide implementation. Partnerships and networks are forged for joint actions with a common denominator: electricity markets.

The TAF expert team is now preparing followup missions to support the AUC for an Electricity Harmonisation Regulatory Strategy and Action Plan and Harmonisation of Transmission System Tariffs.

The AUC's coordination will be reinforced, to gradually progress from strategy to implementation, providing strong support to the Regional Economic Communities and AU Member States.

Background

The TAF experts have been assisting in this process over the past year:

- Feb 2016, Addis Ababa, Ethiopia: 1st Stakeholders' consultation. The first in a series of round table discussions; priorities set as to develop a Strategic Plan.
- Jun 2016, Praia, Cape Verde: 2nd Stakeholders' dialogue. Consultations on the technical specifications for harmonisation.
- Sep 2016, Cairo, Egypt: Validation Workshop, Action Plan defines reforms required at national, regional and continental level.

“Policy and regulatory reforms are a prerequisite to facilitate investment from both public and private sources. Policy and regulatory frameworks should ensure stability, transparency and a degree of predictability, while balancing macro-economic and consumer interests.”

- Mrs. Anna Burylo, Head of Cooperation of the EU Delegation to the African Union

Activity area:
Capacity building in policy and regulatory framework



What's new: Field facts and findings

Kenya's Energy-from-Waste project to generate power and clean the environment

A new municipal solid waste recycling plant will turn millions of cubic tonnes of solid waste into electricity. The TAF is working with the Nairobi City Council on technical and financial matters.

Nairobi City County (NCC) is responsible for managing the collection, transport, recycling and safe disposal of over 2,500 tonnes of municipal solid waste per day generated in the Nairobi Metropolitan Area. Plastic, paper, glass and metal is to some extent recycled by waste pickers and small operators.

A sustainable, 'circular economy' solution for the management of municipal solid waste generating green energy and reducing the impact on environment, that would also actually be socially acceptable, has been conceived by the Nairobi City County.

The TAF experts have been commissioned to work with the NCC engineering team in developing and promoting the Energy-from-Waste (E-f-W) solution. The technical team presented the Governor of NCC with a roadmap for a feasible and viable E-f-W plant that would generate international interest, explaining how to overcome issues of land, attract manufacturers, and raise capital within the time constraints. The Governor has agreed to fast-track the initiative, so that the E-f-W can soon become a reality for Nairobi County.

The project is the only one of its kind in the country.

Knowhow of NCC technical personnel has been enhanced through a TAF European Study Tour of E-f-W facilities in the UK and Spain, over the last

The Nairobi city disposal site in Dandora is a growing health hazard - safe waste disposal has been the subject of much debate over the past 20 years.



week of April 2017. The co-operation of major waste companies such as Viridor, Veolia and London Waste, and ATLAS in hosting the Kenyan engineers at their facilities provided practical insights into commercially available technologies that can be employed for the engineering design of Nairobi's pre-treatment and E-f-W installation.

Working towards making Nairobi a zero waste city, the TAF team is assisting and building capacities within the NCC engineering team to mature an environmental friendly solution promoting a circular economy while ensuring social security, minimising environment deprivation, and avoiding landfill use.

The TAF team is also supporting with financing and procurement matters. An Investors Conference will be held in the month of July: prospective project developers will be presented with an Investors Toolkit, which has been set up so as to increase Kenya's investment capacity in the E-f-W sector and provide details on the investment environment in Kenya, the risks that need to be addressed and how to draft an investment roadmap

for project financing through diverse sources.

Background

Institutional and human capacity is necessary for development, execution as well as operation and maintenance of Energy-from-Waste technologies. Institutional and staff capacity constraints present a major challenge for large-scale penetration of these technologies.

The TAF has been supporting the Nairobi County Council since mid-2016 in the detailed thinking of how it plans to approach a new Energy-from-Waste plant, and is now working on the next stage: Council staff capacity building, attracting financiers, and working towards PPP procurement.

Upon completion of the procurement study and capacity building for the Nairobi City Council Government, the project will proceed towards the implementation phase with detailed engineering of the E-f-W project.

Activity area: Programming and preparation of projects



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What's new: Field facts and findings

African Power Utilities trained to set up Environmental Management Systems (EMS)

Southern Africa Electricity Power Utilities are trained by top European counterparts, in response to Southern African Power Pool (SAPP) guidelines to set up their respective EMS by 2019. Participants took home a good understanding of EMS requirements, plus ideas for Energy Efficiency quick wins in their Utilities.

The Southern African Power Pool (SAPP) has established that all of its member Utilities must put in place an Environmental Management System (EMS) before the end of this decade. Adopting and implementing an EMS is therefore a high priority for SAPP utilities, albeit complex and time consuming: from institutional setup, structure of the implementing organisation, to setting targets, reporting and auditing, all in line with the detailed certification standards.

The TAF team was commissioned to organise and assist a study tour for SAPP Environmental Sub-Committee (ESC) members to gain real-life knowhow from European Utilities, well reputed for implementing sound Environment Management Systems.

Top performing Finnish Utility FORTUM was selected to host a study tour over the last week of March, 2017 for 15 participants from SAPP member Utilities, including IPPs, representing 10 Southern African countries.

As Utilities came to enhance their understanding of the process and elements of EMS, which was the core topic of the study tour, more specialised needs emerged: the selection of specific standards, and solutions for distribution of EMS modalities among management and production stations.

Other topics of interest to the Utilities included health and safety issues, waste handling, social and environmental assessments, the topic of compensation for displaced people, and land acquisition issues.

But most of all, energy efficient operation and maintenance of power plants was the topic that sparked extensive discussion. The study tour showcased how very low cost interventions on Energy Efficient actions to even old power plants could have a major economic impact on operations.

An idea retained the attention of the Participants, on designing and implementing an Energy Efficiency program for the Utilities of SAPP with quick-win interventions that could be applied to the majority of the power plants.

Background

The South African Power Pool (SAPP) was established in 1995 as a specialised institution of SADC and it is governed by the SADC Protocol on Energy. It has advanced in its operations, having in place market rules and a well-defined mechanism for system operation as well as a mechanism for market monitoring and surveillance.



Trainings took place in 3 locations: Fortum's headquarters, a Combined Heat and Power plant in Espoo, and the circular economy village in Riihimäki.

“A 1% improvement in energy efficiency can correspond to millions of Euros saved on operation costs on a yearly basis -depending on the size of the plant, with a very low payback period -sometimes less than a year-, and relatively low investment capital.”

*Activity area:
Industrial and technology cooperation*



What's Next: Upcoming missions

Energy Efficiency in Eritrea



The TAF expert team will be studying and recommending the best possible technical and cost-effective solutions for achieving energy efficiency, through energy saving technologies, actions and measures in Eritrea.

LPG Storage and Distribution in Eritrea



The TAF Expert will be looking to identify appropriate options - both technically and financially - for increasing and improving Liquefied Petroleum Gas (LPG) storage and distribution facilities in Eritrea.

Grid Rehabilitation Project in Asmara, Eritrea



Support will be provided to the EU Delegation to Eritrea to re-launch the Grid Rehabilitation Project, halted since 2009. The TAF team will perform a due diligence on the existing equipment and deliverables and compile an Action Document, providing recommendations for the contractual and commercial structures best suited for the continuation of the project.

Coordination for Energy Funding Options in Zambia



The TAF will provide technical advice to the EU Delegation to Zambia in coordinating the two funding options foreseen within the 11th EDF: shaping the electricity access Grant fund's Call for Proposals, and setting the criteria and objectives for the relevant ElectrIFI country window.

Somalia: New LPG Project for Puntland



In Somalia, the TAF expert team will study and outline a business plan for the distribution of Liquefied Petroleum Gas (LPG) in Puntland; the team will also compile tender documents to execute the LPG Project within a PPP business environment, viewing to attract private investors.

Capacity Building for Commercial Banks in Uganda



The TAF will be organising trainings for commercial banks on renewable energy project development. A toolkit will be prepared for assessment of renewable energy projects within the training.

Uganda Energy Data Management



The EU Delegation to Uganda has launched a mission to focus on collection of energy access information, using a data tool with mobile applications to connect to a central database. The mission will also support a pilot survey to test the overall methodology in using these tools for data collection and processing, in anticipation of a larger-scale survey.

SACREEE: Designing the industrial energy efficiency programme for SADC



A newly launched TAF mission will design and develop a regional SADC Industrial Energy Efficiency Programme (SIEEP) as part of the overall energy efficiency program of SACREEE, the SADC Centre for Renewable Energy and Energy Efficiency.

Ethiopia: Developing rules and procedures for competitive power procurement



The TAF team is supporting the Ethiopian Energy Authority (EEA) in developing transparent, predictable and non-discriminatory legal and regulatory frameworks with clear rules and procedures for power procurement. This should increase regulatory certainty by clarifying roles, responsibilities, rules and procedures for Ethiopian authorities and potential investors.



What we do:

The EU's Technical Assistance Facility for Sustainable Energy, E & S Africa

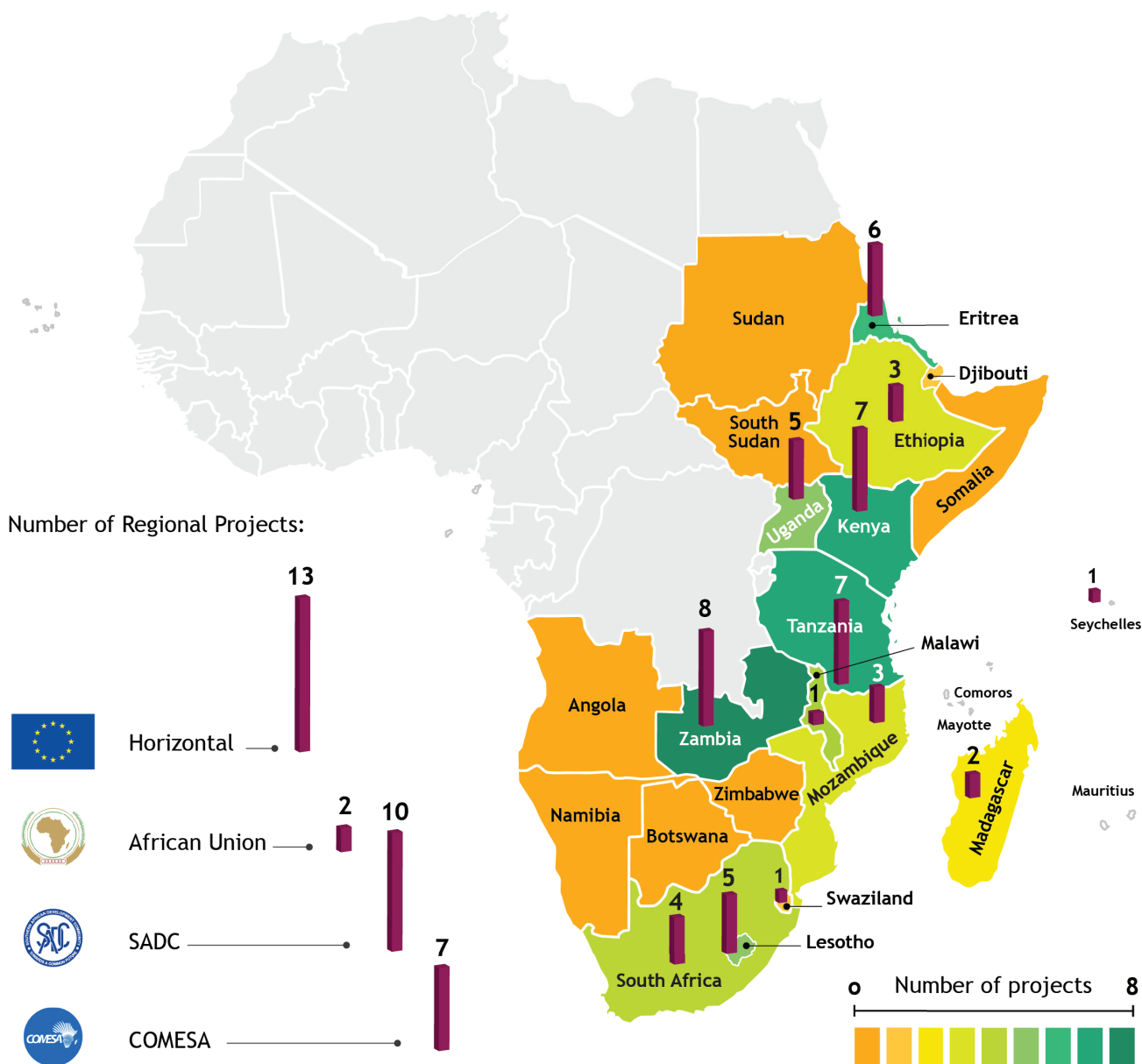
The 'EU's Technical Assistance Facility (TAF) for Sustainable Energy, East & Southern Africa' assists partner countries of the region in fine-tuning their energy policies and regulatory framework that allow for increased investments in the energy sector. The TAF supports countries which are committed to reaching Sustainable Energy objectives, and in particular those who selected energy not only as one of the priority areas of their national policy agenda but also as focal sector in their bilateral cooperation with the EU for the period of 2014-2020.

The EU's TAF for Sustainable Energy in East & Southern Africa has provided support for over 80 missions since its launch in 2013.

Activity Areas include:

- Initial stocktaking and establishing national energy sector policies and reforms
- Capacity building in policy and regulatory framework
- Programming and preparation of investment projects
- Mobilisation of funds and facilitation of partnership
- Industrial and technology cooperation
- Other Horizontal tasks as directed by DEVCO

Overview of TAF support to date:



Who's who: Meet the team



This project is funded by the European Union and implemented by an Atkins led consortium

ATKINS



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Supporting the **#EU's vision** and strategies at national and regional level
Provision of **#high quality** technical assistance at Partner Country and Region
Institutional **#memory** through a core Key Expert team
#Low lead times from ToR preparation to assignment launch
Efficient and **#effective management** of each mission
#Control mechanism and QA for coherent deliverables

DISCLAIMER

This newsletter update has been drafted by the EU's Technical Assistance Facility (TAF) for Sustainable Energy, East & Southern Africa. The aim is to update EU Delegations regarding news and findings from the TAF - East & Southern Africa missions and areas of assistance. The data has been collected from various sources by the TAF Experts in the context of the ongoing TAF missions, and is not exclusive. Please feel free to contact us with any feedback on the information provided, or other areas of support you would like to be informed of.



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