TAF Newsletter #11 | May 2018

This project is funded by the European Union

The EU's Technical Assistance Facility (TAF) for Sustainable Energy

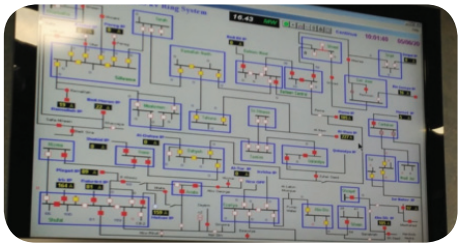
What's new: Field facts and findings

Exploring digital solutions for energy access

Digital services will be crucial in building the future of energy access, productive uses of energy, financial inclusion and job creation. A TAF team is studying the digital-energy nexus potential in rural areas of the developing world.

Palestine: Support for the identification and preparation of EU intervention in the Energy Sector (2017-2020)

A team of TAF experts has been mobilized to map the EU and EU Member States interventions on sustainable energy in Palestine in the period 2008-2018 in view of recommending projects and programmes for the period 2017-2020 to operationalise the Joint Programming Strategy.



Reducing energy costs in public buildings of IOC Member states

In a bottom-up approach, the technical and financial findings from 15 prefeasibility studies for energy efficiency in buildings in Comoros, Madagascar, Mauritius, and the Seychelles were extrapolated to national policy recommendations.

New publication: Energy saving in Zambian public buildings and industries

Two new publications provide Zambian building and industrial installation managers with a practical guide on how to assess and achieve energy efficiency in their stocks, quantifying savings based on findings from 14 pilot sites audited in a TAF mission.

What's next: Upcoming missions

Thailand: Assessing Market Potential for Renewable Energy projects and Funding Opportunities for private sector investments

Ethiopia: Enabling framework for off-grid electricity investment, package of bankable projects

Botswana: National Energy Use Survey (NEUS) and Energy Information System (EIS) and Planning Tools, Phase 2

What we do: The EU's Technical Assistance Facility for Sustainable Energy

Focus on: Europe, European Neighbourhood Instrument, and Central Asia

'The EU's Technical Assistance Facility for Sustainable Energy' newsletter covers items of news from all the countries of operation of the EU TAF: East & Southern Africa, West & Central Africa, East & South Neighbourhood, Asia & Central Asia, Latin America, the Caribbean and the Pacific.

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 teams

What's new: Field facts and findings

Exploring digital solutions for energy access

Activity areas: Capacity building; Project development; Industrial and technical cooperation

Digital services will be crucial in building the future of energy access, productive uses of energy, financial inclusion and job creation. A TAF team is studying the digital-energy nexus potential in rural areas of the developing world.

The energy sector is undergoing a dramatic transition based on decentralised, clean and digital energy solutions.

New digital services offer innovative, additional ways to reduce costs and improve efficiency and speed in all stages of project development, design and operation of mini-grids and autonomous systems. Geographic information systems, satellite images, predictive analytics, artificial intelligence, internet of things (IoT), peer to peer trading, cloud computing solutions and blockchain, reduce the planning, development, implementation, operation and maintenance costs of decentralised energy projects.

EU Workshop on the Energy-Digital Nexus

The Energy-Digital Nexus Workshop was attended by more than 40 project developers, technology providers and other stakeholders from around the world.

The new EU activity on decentralised energy utilising digital paradigms was presented at the European Commission's ***Workshop on the Energy Digital Nexus***, organised with TAF support on 14 March 2018. The Workshop was held in the framework of the 4th edition of the ARE Energy Access Investment Forum in Catania, Italy.

The event was an opportunity for investors, project developers and other stakeholders to learn more about upcoming support schemes, innovative products and new business models to accelerate rural electrification and advance the market for decentralised renewable energies.

The new Energy-Digital Nexus activity will draw on the forces of the energy transition to enable scaling-up of decentralised, clean energy solutions in areas without or insufficient energy access.

Digital solutions can pave the way for viability of mini-grid investments. Innovative, digital solutions to facilitate project development and access to finance at lower cost for the benefit of local populations, will be integrated in the activity viewing to scale-up decentralised energy solutions under the perspective of modern energy access, clean energy use and climate change mitigation.

Key market players presented how they utilise digital technologies from site selection and design of a mini-grid up to operation. Following the presentations, interactive discussions took place among all of the participants sharing experiences from around the world, identifying various needs and how digital technologies could be used to overcome them.

As many as 200.000 mini-grids may be required in Sub-Saharan Africa

Digital services can facilitate the transition from stand-alone solutions to mini-grids, and even to the national grid, when it arrives at the rural location. Mini-grids can also power industrial and commercial sites in remote areas or areas with low quality of electricity supply, and can scale up and respond to growing electricity demand as the purchasing power of local population grows.

Out of the 315 million people who will gain access to electricity in Africa's rural areas by 2040, it is estimated that only 30% will be connected to national grids[1]. Most will be powered by solar home systems or mini-grid systems. Out of the two, only mini-grids can respond to growing demand and fuel revenue generating activities at scale. The number of mini-grids required in Sub-Saharan Africa is estimated between 100.000 and 200.000.

1 Accelerating Minigrid Deployment In Sub-Saharan Africa - Lessons from Tanzania, World Resources Institute, 2017

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What's new: Field facts and findings

Palestine: Support for the identification and preparation of EU intervention in the Energy Sector (2017-2020)

Activity areas: Initial stocktaking and establishing national energy sector policies

The team of TAF experts has been mobilized to assist EUREP[1] to map the EU and EU Member States interventions on sustainable energy in Palestine in the period 2008-2018 in view of recommending projects and programmes for the period 2017-2020 and operationalizing the Joint Programming Strategy.

Palestine is still very far from having an independent and viable electricity system. The absence of a real transmission backbone, grid fragmentation, insufficient capacity and fuel supply for power generation in Gaza, along with lack of a centralised conventional generation capacity in the West Bank, are compounded by the rapid increase of energy demand – electricity, in particular.

The TAF team of experts conducted a stocktaking review of the EU, EU Member States and like-minded donors' portfolios of interventions in Sustainable Energy in Palestine between 2008 and 2018.

The stocktaking review points, among other items, to the need to rebalance assistance towards Gaza in order to alleviate the severity of its energy crisis. Another key finding is the importance of effectively enforcing energy policies and measures at the level of municipalities and electricity distribution companies. Renewable Energy and Energy Efficiency offer significant opportunities for Palestine, and these solutions can contribute to reduce Palestine's energy dependency.

EU donor funds for energy projects in Palestine over the last decade[2]: 186 million Euros

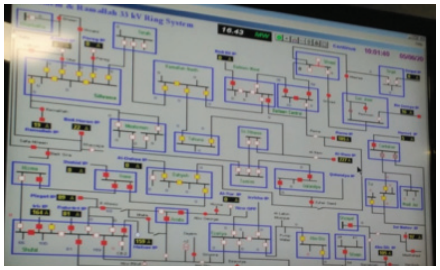
75% allocated to electricity infrastructure (e.g. sub-stations)

25% for sustainable energy including energy efficiency and renewable energy (e.g. solar PV systems)

Two donor workshops attended by European donors active in the energy sector in Palestine (EU, Czech Republic, France, Germany, Italy, the Netherlands and Norway) were organised during a TAF assignment, to present the stocktaking findings and discuss intervention priorities.

Good progress is already noted due to the European assistance. The main building blocks for a long-term energy sector improvement are already in place: sector strategies (electricity, energy efficiency and renewable energy), law and regulations, improved sector governance, creation of the Palestinian Energy Regulatory Commission (PERC) and the Palestinian Energy Transmission Company (PETC), construction of critical grid infrastructure (e.g. four electricity sub-stations).

The stocktaking review and a broad consultation involving international donors and Palestinian stakeholders led the experts to propose four Concept Notes.



Within the context of the assignment, a visit to the JEDCO dispatch centre was organised for European donors. It allowed participants to better understand the various commercial and technical challenges faced by Palestinian electricity distribution companies.

A concrete follow-up to these proposed Concept Notes was for the EU TAF team to provide assistance for further identification of two new programmes: Support to the Water-Energy Nexus in Gaza, and Support to the development of municipal EE and RE investment projects in the West Bank and Gaza. The first intervention programme targets the deployment of solar photovoltaic (PV) panels on small to medium scale water installations in Gaza. The second programme aims to accelerate the development of Energy Efficiency and Renewable Energy by West Bank and Gaza municipalities through improved planning and implementation capabilities, but also through better access to funding (infrastructure fund).

EUREP and EU member states built on the results of this assignment to finalise the Joint Programming Strategy in the energy sector in Palestine. The Joint Programming Strategy aims to introduce a higher level of coordination between European donors, a pluriannual approach to assistance and the ability to speak with a "joint voice" to the Palestinian Authority (PA), Israeli authorities and other donors active in Palestine.

1 The Office of the European Union Representative (West Bank and Gaza Strip, UNRWA)
2 Data include all projects completed, ongoing or under development over the period 2008-2018

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What's new: Field facts and findings

Reducing energy costs in public buildings of Indian Ocean Commission Member states

Activity areas: Capacity building in policy and regulatory framework, Technical support in programming and preparation of projects

In a bottom-up approach, the technical and financial findings from 15 prefeasibility studies for energy efficiency in buildings in Comoros, Madagascar, Mauritius, and the Seychelles were extrapolated to national policy recommendations.

The Indian Ocean Commission (IOC) is an intergovernmental organization bringing together five countries in the Indian Ocean region: Comoros, France/ Reunion, Madagascar, Mauritius, and the Seychelles.

The islands have all either developed elements of medium and long-term sustainable energy strategies, or feel the necessity of developing such a policy framework. However, detailed budgeted action plans remain to be defined. The level of policy implementation and resulting effects are at very different levels of advancement in each member state, with Reunion and Mauritius at the most advanced stage, followed by the Seychelles then Madagascar, and finally Comoros.

The some 20 participants visited 12 low energy consumption buildings with emphasis on natural ventilation and application of advanced bioclimatic principles.

Available energy data is limited. The TAF team organised energy audits for data gathering and defining the energy consumption profile in order to recommend specific energy efficiency solutions and estimation of the investments needed, in collaboration with the European Union Delegation to the Republic of Mauritius and to the Republic of Seychelles and the Renewable Energy and Energy efficiency regional programme (EU-IOC).

Fifteen representative large buildings were preselected from the IOC member states' national public building stock, varying in typology, use (offices, hospital, school, etc), age and energy performance. The TAF team of the experts performed energy audits, investigated possible energy efficiency interventions and identified specific quick wins actions.

With the data gathered, the team went on to prepare the respective prefeasibility demonstration public buildings projects, providing both technical solutions and recommendations on means of financing for the proposed interventions. Energy efficient solutions and improvements were related to tropical climate, building use, current level of EE technologies, techniques and human behavioural practices.

Findings were then discussed at the national level in dedicated Workshops, and recommendations were presented in support to the update of National policies. There is significant potential for energy saving in Indian Ocean Commission member states public buildings in terms of lighting, air-conditioning, solar technologies (PV and thermal), shading, isolation and ventilation systems.

With a view to inform national policy-makers and boost energy efficiency investments in the region, an Energy Efficiency in Buildings Study Tour took place from 18-20 of April 2018 on the island of Reunion. Reunion was selected to host the Study Tour due to the country's significant regional experience in energy efficiency in buildings. Energy improvement solutions were presented to the building administrations and other public authorities.

Energy is a focal sector of EU intervention in the Member States of the IOC, which is currently benefiting from a regional renewable energy and energy efficiency programme also comprising an energy efficiency component.

> *"The EU welcomes this initiative, as energy efficiency is an essential means to mitigate climate change and thus promote sustainable development.*
>
> *This approach is especially essential for small islands which, despite their vulnerability to climate change, have a real potential to reduce electricity bills in buildings thanks to their natural assets."*
>
> *Ms Jeannine Yeung*
> *EU Delegation to the Republic of Mauritius and the Indian Ocean Commission*

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What's new: Field facts and findings

New publication: Energy saving in Zambian public buildings and industries

Activity areas: Capacity building in policy and regulatory framework, Technical support in programming and preparation of projects

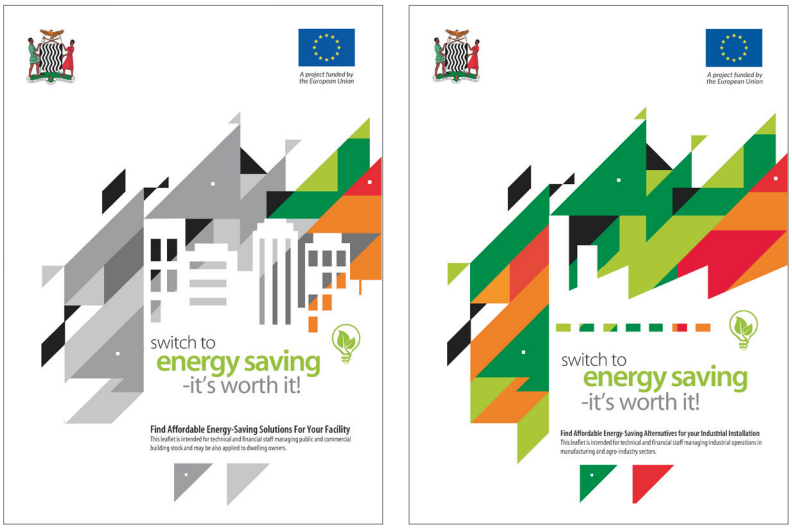
Two new publications provide Zambian building and industrial installation managers with a practical guide on how to assess and achieve energy efficiency in their stocks, quantifying savings based on findings from 14 pilot sites audited in a TAF mission.

Zambia committed at SADC level to move towards cost reflective tariffs by 31 December 2019. A first step was implemented in 2017, with a 75% increase of electricity rates. However, a further 150%+ increase of the tariff is likely to be necessary, in order to reflect the real cost of electricity. Energy efficiency measures are being sought to encourage cost effectiveness and avoid wastage of the available energy. With electricity tariffs on the rise in Zambia, the cost-effectiveness of introducing Energy Efficiency measures will only increase.

Demanded electricity is 25% more than the available supply and electricity rates are on the rise.

Two new leaflets provide building and industry managers with a practical guide on how to assess and achieve energy efficiency in their facilities, quantifying savings based on findings of 14 pilot sites audited under the earlier TAF mission. The recent TAF study has revealed that under the all too realistic scenario of Zambia doubling the energy cost towards cost-reflective tariffs, the cost of energy would bring a number of companies out of business.

The leaflets raise awareness of the impact of wasting energy, present developments in energy efficient solutions that could address the problem, and guide building managers towards the specific practical solutions available on the market, or professional services they could seek to help cut down on energy consumption and costs.



The leaflets are intended for technical and financial staff managing public and commercial building stocks and industrial facilities.

In the audited companies, energy cost was 3% of their turnover on average with peaks of 10%. When tariffs double, the cost of energy consumed could go up to a staggering 20%.

Through easy-to-install measures such as correcting the power factor, upgrading the AC and installing LED lighting, the guide provides tips to cut down on electricity use by as much as 67% and save money, up to 64% on the electricity bill. The publication sets out the top 10 EE measures for the types of building it is intended for, ranking the measures by cost-effectiveness in terms of payback time.

The leaflets can be downloaded from the cap4dev website:

https://europa.eu/capacity4dev/public-energy/documents/energy-efficiency-zambian-buildings-and-industries-leaflet-switch-energy-saving-its-worth

What's next: Upcoming missions

Thailand: Assessing Market Potential for Renewable Energy projects and Funding Opportunities for private sector investments

The EU TAF has been mobilised for a stocktaking mission to analyse the existing market potential for renewable energy investments projects and the funding opportunities for private sector investments in renewable energy in Thailand. Depending on the findings, the experts shall assist EU services/ DEVCO in shaping the ElectriFI window for Thailand.

The TAF Team of Experts will gather relevant information and eventually build on the knowledge and experiences acquired by relevant successful initiatives to propose innovative solutions.

Ethiopia: Enabling framework for off-grid electricity investment, package of bankable projects

To fulfil the ambition of creating electricity access for the 70 % the population (around 70 million people) currently without access, Ethiopia has set the objective of rapidly expanding its power generation capacity to become a regional power hub, capitalising on its huge potential for renewable energy and its relatively low power generation costs.

Huge investments are needed to realise the ambitious targets. To help finance these investments the Government has opened up the sector for private power developers and Independent Power Producers (IPP's).

The objective of this new TAF assignment is to support the Government of Ethiopia in improving the enabling environment for private and public investment in the off-grid sector, and by developing a package of bankable projects for electricity access in the off-grid sector. The TAF is called upon to contribute to implementation activities under the "National Electrification Program" related to the development of an off-grid operational programme strategy and design for stand-alone systems and mini-grids through public, private and PPP delivery systems, and support the development of a limited package of bankable electricity access projects for the off-grid sector.

Botswana: National Energy Use Survey (NEUS) and Energy Information System (EIS) and Planning Tools, Phase 2

The general objective of the requested technical assistance by the Ministry of Mineral Resources, Green Technology and Energy Security (MMGE) is to contribute to improving Energy Statistics and providing robust data for energy planning and policy formulation.

Under Phase 1, concluded in February 2018, Energy statistics tools and methodologies were prepared. Under Phase 2, the TAF will support the Department of Energy to implement the National Energy Use Survey, analyse the collected data and publish the survey findings. Procedures for the annual collection of data in the energy sector will also be set up, and an EIS will be developed to include all the required energy data for updating the Botswana energy balance and expanding the energy database and energy accounts.

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What we do: The EU's Technical Assistance Facility for Sustainable Energy

Supporting the **#EU's vision** and strategies at national and regional level

Provision of **#high quality** technical assistance at Partner Country and Region

#Low lead times from ToR preparation to assignment launch

Efficient and **#effective management** of each mission

#Control mechanism and QA for coherent deliverables

The 'EU's Technical Assistance Facility (TAF) for Sustainable Energy' assists partner countries 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.

Through targeted expert missions to the partner countries, five types of technical assistance packages ('Activity Areas') are delivered:

Policy and reforms; Capacity building; Investment projects planning; Mobilising funds and partnerships; Industrial and technology cooperation.

Overview of TAF support:

Since its launch in 2013, the TAF has provided technical assistance for some 240 missions in Sub-Saharan Africa.

A year after the Sub-Saharan Africa TAF launch, TAF operations were extended to also accommodate regions beyond Sub-Saharan Africa, and to date over 40 technical teams have been deployed by the TAF 'Rest of the World' Facility – ranging from the East and South Neighbourhood to Asia, Latin America, the Caribbean, and the Pacific.

Focus on:

Europe, European Neighbourhood Instrument, and Central Asia

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Who's who: Meet the team

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