



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

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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 benefiting the people of Africa.

In this issue:

What's new: Field facts and findings

ECOWAS: From SE4ALL vision to coordinated action

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Swaziland: Sustainable Energy in Agriculture Value Chains

Agriculture in Swaziland is an energy-intensive enterprise, accounting for 1/4 of the operational costs of agribusinesses. A new TAF assignment assesses the role the EU can play to encourage private sector investment in Renewable Energy for agricultural value chains and the options to set up a ElectriFI country window, following the examples of Zambia, Benin, Nigeria and Cote d'Ivoire.

Trinidad and Tobago on its way towards Clean Energy

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Marine Energy Workshop for Overseas Countries and Territories

Overseas Countries and Territories (OCTs) stakeholders came together in Brussels this December to gain a holistic view of all aspects of Marine Renewable Energy

(MRE) and the related opportunities, furthering and strengthening relationships in the OCT-EU Forum.

What's next: Upcoming missions

- The Gambia: Renewable energy systems for health and school facilities
- Sierra Leone: Assessment of studies for two Hydro-power Plant developments
- Digitalisation for productive use of energy and job creation

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

Focus on: East and Southern Africa

Who's who: Meet the team

'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

ECOWAS: From SE4ALL vision to coordinated action

Activity area: Initial stocktaking and establishing national energy sector policies

The Economic Community of West African States (ECOWAS) has joined forces with the EU to assist member states in advancing with planning for renewable energy and energy efficiency. The TAF was mobilised to assist these countries in developing their SE4ALL flagship documents.

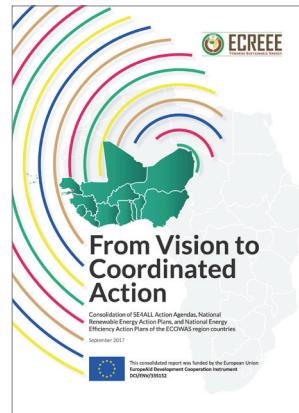
The Economic Community of West African States (ECOWAS) Region faces major energy challenges, despite the vast energy resources of its 15 member states. Harnessing the region's sustainable energy potential offers the prospect for improved energy access and energy security, enough to meet and even exceed the targets set out in the regional sustainable energy goals by 2030.

Aligning information is crucial to monitor progress towards these targets: the Sustainable Energy for All (SE4ALL) Action Agendas developed within the SE4ALL initiative are an important step towards the alignment of information at technical, legislative and institutional levels.

The EU TAF has supported the ECOWAS Centre for Renewable Energy and Energy Efficiency- ECREEE in consolidating the regional data of the SE4ALL Action Agendas, which have also undergone national technical validation and the Quality Circle of SE4ALL – as reflected in the report title, 'From Vision to Coordinated Action'.

The consolidation aims to compile all national data and assess how National Action Agendas translate to the regional policies in a strategic path, aiming for the ECOWAS Region to attain the objectives of the regional renewable energy and energy efficiency policies by 2030.

It provides information on the quantity of inputs required to meet the objectives in terms of number of electricity connections, number of access to efficient cooking fuels equipment and devices, MW of installed renewable energy capacity and penetration of energy efficient devices or energy efficiency savings.



The ECOWAS Centre for Renewable Energy and Energy Efficiency (ECREEE) publication 'From Vision to Coordinated Action' consolidates the SE4ALL Action Agendas, National Renewable Energy Action Plans, and National Energy Efficiency Action Plans of the ECOWAS Region countries.

The consolidation exercise confirms that the region is working towards the set goals, and reveals gaps and areas requiring priority intervention.

Consolidating the information contained in the Action Agendas and the Renewable Energy and Energy Efficiency Actions Plans has revealed that the aggregated targets are moving towards the direction of set regional goals, and are aligned to the regional policies for renewable energy and energy efficiency (EREP and EEEP). On the other hand, the comparison reveals disparities between countries – and even within the same country, thus flagging those areas and gaps where interventions and actions are necessary.

“ The TAF has been supporting many ECOWAS member states in fine-tuning their energy policies and regulatory frameworks to allow for increased investments in the energy sector, and is facilitating the implementation of the investment projects needed to meet the SDG7 objectives of making modern energy services accessible to all.”

- Mr. Felice Zaccheo,
Head of Sustainable Energy, Climate Change Unit,
Directorate-General for International Cooperation and Development,
European Commission



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What's new: Field facts and findings

Swaziland: Sustainable Energy in Agriculture Value Chains

Activity areas: Initial stocktaking and establishing national energy sector policies; Technical support in programming and preparation of projects

Agriculture in Swaziland is an energy-intensive enterprise, accounting for 1/4 of the operational costs of agri-businesses. A new TAF assignment assesses the role the EU can play to encourage private sector investment in Renewable Energy for agricultural value chains and the options to set up a ElectriFI country window, following the examples of Zambia, Benin, Nigeria and Cote d'Ivoire.

Over half of the 250GWh annual electricity consumption in Swaziland's agriculture industry is attributable to small-scale sugarcane farming companies, agro-processors and pack-houses in the horticulture value chain. The price of electricity has been rising steadily over the years and today accounts for 24% of the operational costs for sugarcane farmers. This trend is putting considerable stress on the margins available to farmer companies, and will ultimately threaten the long-term viability of the farming enterprises if a more sustainable energy alternative is not secured.

The European Union 11th EDF is investing a total of €40 million in the Agriculture sector in Swaziland to develop high-value crops and horticulture, water harvesting and irrigation, and the beef value chain. For large-scale impact on poverty alleviation and sustainable development, farm management and irrigation systems should involve low energy input, and make renewable

energy (RE) solutions available to small-holder farmers over the long term.

A dedicated TAF assignment was designed to assess the role the EU can play to encourage private sector investment in RE for agricultural value chains. The TAF team prepared the respective study on 'Sustainable Energy Investment in Agriculture Value Chains', viewing to inform the EU Delegation in Swaziland on possible investments into sustainable energy solutions focusing on irrigation and cold chains, that would maximise the benefits of the 11th EDF support to sustainable agriculture, and strengthen the profitability of agriculture production, processing and marketing.

Pilot Projects are important for a demonstration effect in Swaziland, where uptake of renewable energy is still low. However, avoiding market distortion schemas remains the primary condition for any acceptable support mechanism.



The Energy Charter Treaty (ETC) activities in Swaziland, promoting rule of law in the energy sector, is strongly related to the ongoing TAF assignments in the country. Earlier this year, a stakeholders' consultation workshop on accession to the Energy Charter Treaty was sponsored by the TAF.

The team surveyed the market to recommend the type of support mechanism from the EU in RE for agricultural uses. In general, Commercial Banks and Development Finance Institutions are interested in taking part in RE projects, though they lack sufficient knowledge and experience in RE technology and still perceive renewable energy as a risky investment. There is a strong desire among stakeholders to see pilot projects in the country to demonstrate the catalytic and tangible results of RE use.

The TAF team is now working on the development of such pilot projects. The proposed pilots are focused on solar power for some 20 new High Value Crop and Horticulture Project (HVCHP)¹ farms in the Siphofaneni area, pack houses and National Agricultural Marketing Board (NAMBoard) pack houses –for both irrigation and cold chain energy needs.

Technical support includes preparing business plans for the proposed pilot projects with details of project organization and management; financing (including local cash and in-kind contributions, local government contribution, Utility leasing and blending mechanisms); technical design; procurement plan; risks of developing a solar/small hydro power scheme at the site, and how these risks are best mitigated. The economic and financial linkages with agriculture production, processing and marketing activities will also be considered and documented.

1. For more details on the HVCHP project, visit the Swaziland Water & Agricultural Development Enterprise (SWADE) site: <http://www.swade.co.sz/projects/hvchp/index.php>



What's new: Field facts and findings

Trinidad and Tobago on its way towards Clean Energy

Activity areas: Initial stocktaking and establishing national energy sector policies; Technical support in programming and preparation of projects

EU support has been mobilised through the TAF to work with the Ministry of Energy, contributing to the reflections on how Government intends to meet its declared target of 10% renewables in the Trinidad & Tobago power generation mix by 2021.

Trinidad and Tobago is a country heavily reliant on oil and gas for decades. Energy and its by-products have accounted for approximately 40% of GDP, half of all total government revenues, and 80% of exports. But oil production is in evident decline and gas production is inadequate to meet domestic downstream and electricity demand – the country needs a more sophisticated resource strategy.

Two years ago the newly established Government of Trinidad and Tobago set a clear target for Renewable Energy – 10% of power generation from renewable sources by 2021.

All evidence indicates that the timing for the transition towards Clean Energy in Trinidad and Tobago is ideal. Given the high degree of industrialisation of the country and the workforce skills, Renewables and Energy Efficiency could unlock several exporting opportunities for renewable equipment manufacturing and energy efficiency services to the wider Caribbean, and possibly beyond.

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In support to this Clean Energy goal, the TAF team studied options for the country to achieve it by 2030 by elaborating the 'Renewable Energy/Energy Efficiency Roadmap & Implementation Plan 2021/2030'. It identifies a range of options that the Government can take in the identification of the optimum pathway to deploy renewables up to 2030. Also described are the elements required to create the necessary enabling environment: regulatory frameworks, new commercially viable technologies and solid business cases for investments in the EE and RES sectors, all required to translate declared policy targets and plans into tangible results.



Earlier this year, the Energy Chamber in collaboration with the European Union/TAF organised a two-day 'Clean Energy Conference': the first stand-alone event on Sustainable Energy in Trinidad and Tobago, which brought together some 130 stakeholders including high-level policy makers, the private sector, academia and financing partners, and featured 28 speakers. The Renewable Energy Road Map & Implementation Plan 2021/2030 was presented by Ambassador Arend Biesebroek, Head of the EU Delegation to Trinidad and Tobago to the Ministry of Energy and Energy Industries during an official Handover Ceremony.

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The most critical factor for the success of sustainable transformation is the implementation of the necessary changes in the legal and regulatory framework that could accommodate the introduction of renewables and energy efficiency. Clarity about how this will be done would give the right signal to the market and stimulate investor interest.”

*- Ambassador Arend Biesebroek,
Head of the EU Delegation to Trinidad and Tobago*



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What's new: Field facts and findings

Marine Energy Workshop for Overseas Countries and Territories

Activity areas: Industrial and technology cooperation

Overseas Countries and Territories (OCTs) stakeholders came together in Brussels this December to gain a holistic view of all aspects of Marine Renewable Energy (MRE) and the related opportunities, furthering and strengthening relationships in the OCT-EU Forum.

Following the preparation by the TAF Team of a desk study to assess the potential and relevance of organising an International Workshop on Marine Energy in the EU's OCTs, DEVCO and OCTA decided to go forward in view of the potential benefits that this Workshop could provide to all EU OCTs.

The European Union and the Association of Overseas Countries and Territories (OCTA) organised an international workshop on "Marine Energy for Europe's Overseas Countries and Territories" with the support of the EU TAF. The event took place on 6 December 2017 in Brussels, Belgium, as a side event to the EU-OCTs Energy Summit (06-08 December 2017).

More than 45 OCT Energy representatives attended several sessions on international and EU perspectives of marine renewable energy, followed with interest the showcased marine renewable energy projects, and participated in discussions on lessons learned.

The objective of this marine energy workshop was to take stock of the marine energy potential in the OCTs, to discuss the perspectives of marine renewable energy development and to learn about main available technologies. The workshop was intended to provide an update on the latest financial, technical, regulatory and policy trends of marine energy.

As the MRE industry marches on to commercial readiness and industrial rollout, there is time and place for the OCTs to take advantage and contribute to these advances.

Marine Energy has significant potential to contribute to the wide societal benefits from RE sources. It is an

industry still in development and has not yet reached a commercial readiness level for Industrial Roll-out. The EU's Strategic Roadmap for Ocean Energy was published in November 2016. Work is continuing facilitated by the European Technology and Innovation Platform for Ocean Energy (ETIP Ocean). As in this case, through programmes like Horizon 2020, the EU is continuing to support the promising industry.

MRE has five (5) principal sub-sectors at different stages of readiness: **Tidal range** technology is at industrial roll-out, is large scale and capital intensive; **Tidal stream** is at demonstration and pre-commercial stage with the first tidal turbine arrays being commissioned; **Wave energy** is at prototype stage; **Ocean Thermal Energy Conversion (OTEC)** is also at prototype stage with the first community scale systems expected to begin testing in 2018. OTEC has alternative application solutions to electricity generation, including Sea Water Air Conditioning (SWAC); **Salinity Gradient** is at R&D stage and its prospects for Prototype and Demonstration appear to be some years away.

RE development in the OCTs shows significant variation in progress in the energy transition process. Policy and regulation are generally driven by stakeholder interests in individual countries and territories and are significantly different on a case by case basis. Policy and regulation that is in place is generally in relation to established RE sources including wind energy and solar PV primarily, but also hydropower (notably in Greenland) and biomass. Policy and regulation for MRE will need to be accommodated as energy transition proceeds in the OCTs.



Regarding the geography and accessible resources for MRE in the OCTs, in the Caribbean the most likely scenario is the application of OTEC. In the South Pacific, OTEC is again attractive, and because of the long fetch of open ocean around the islands in the OCTs, wave energy is a potential source of MRE. In the Isolated OCTs in the north and south Atlantic including Greenland, wave energy is the most likely source. Here, a computer-generated image of an OTEC device.



What next: Upcoming missions

The Gambia - Renewable energy systems for health and school facilities

A newly launched TAF West/ Central Africa assignment will develop an advanced prefeasibility study and procurement proposal for an installation and long-term maintenance programme of autonomous decentralised renewable energy systems for health and school facilities in The Gambia. The objective is to provide stable, reliable (and for certain cases 24-hour) electricity supply to 80 on-grid and off-grid health facilities in the country, and some 799 on-grid and off-grid public schools facilities.

Sierra Leone: Assessment of studies for two Hydro-power Plant developments

The TAF team will provide an independent assessment of the feasibility and design studies prepared for the Bekongor III Hydropower Plant (160 MW) and the Moyamba Small Hydropower Plant (15.4 MW) proposed developments, based on the available project studies, a site-visit and the discussion with Sierra Leone electricity sector experts, and donors. The assignment will also provide recommendations towards the exploitation of Sierra Leone's hydropower potential.



Digitalisation for productive use of energy and job creation

Energy and digitalisation act as accelerators and enablers of many, perhaps all of the SDGs, playing an important role in improving access to public services, protecting the environment, addressing climate change, promoting agriculture, contributing to an inclusive, sustainable development and to job creation.

In the energy sector, technologies under the smart grid umbrella, as well as the distributed ledger technology and peer-to-peer transactions are rapidly spreading globally, putting ever more control in the hands of individual producers and customers who are becoming prosumers. Digital electricity networks offer the promise of user-driven, decentralized energy systems that can work in tandem with the traditional large-scale grid or, especially in emerging and developing economies, provide technical solutions to communities that the grid cannot reach.

A new TAF assignment will identify and promote new, financially sustainable business models in the energy-digital nexus. The team will take stock and further develop financially sustainable business models and identify possible support schemes for unlocking, accelerating and leveraging investment in this area.

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
- 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

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.



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

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.

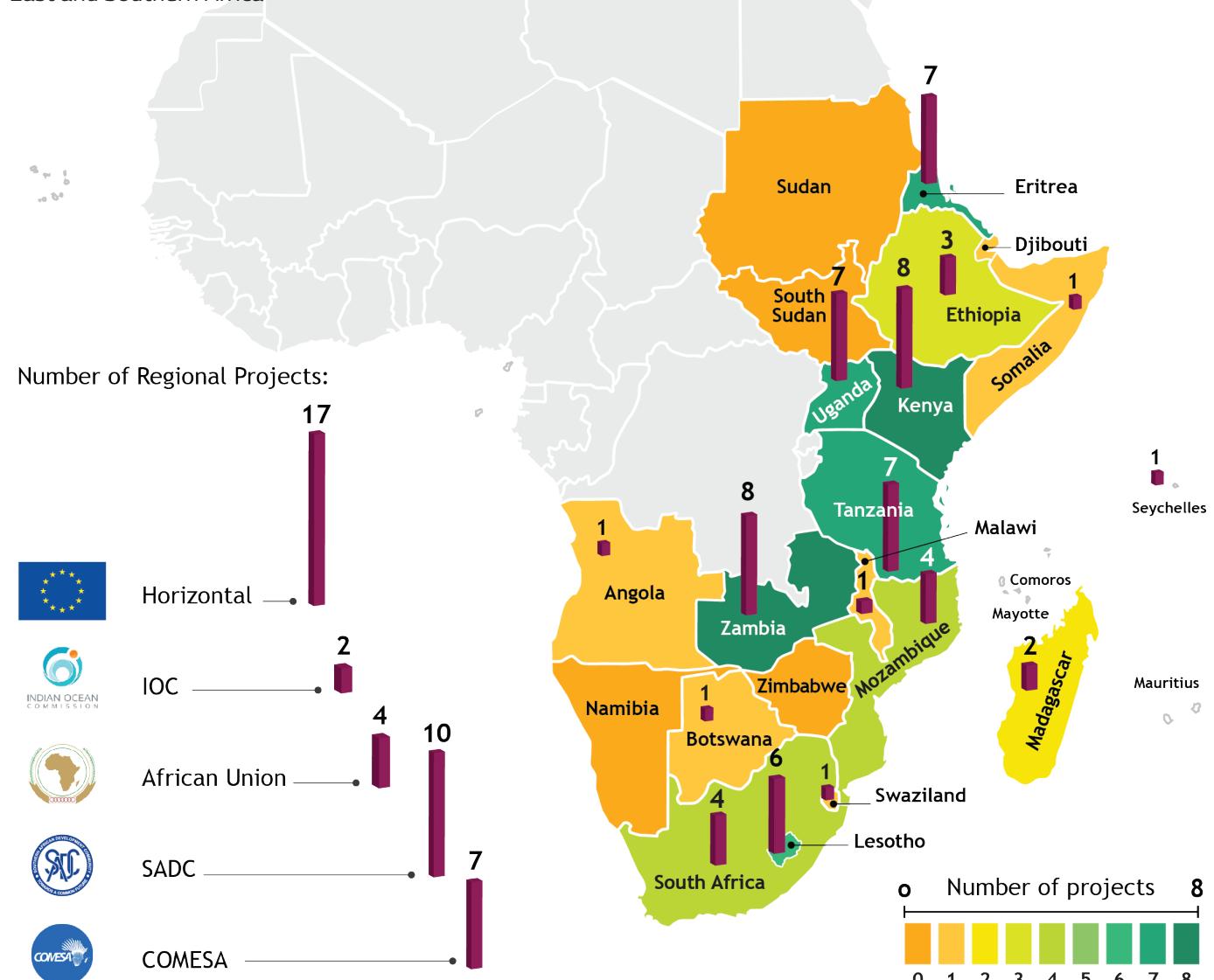
Overview of TAF support:

Since its launch in 2013, the TAF has provided technical assistance for some 200 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 30 technical teams have been deployed by the TAF 'Rest of the World' team - RoW.

Focus on:

East and Southern Africa



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Who's who: Meet the team

CONTACTS

Newsletter Contact

Eleni Karfaki | eleni.karfaki@hcl-consultants.com

TAF for East and Southern Africa

European Commission Contact

Miguel Angel Varela Sanchez
Miguel-Angel.VARELA-SANCHEZ@ec.europa.eu

Team Leader, Key Expert

Rachid Bendaly
rachid.bendaly@atkins-se4all.com

Key Expert for Rural Electrification

Balthasar Klimbie
balthasar.klimbie@atkins-se4all.com

Key Expert for Energy Efficiency

Dimitris Papastefanakis
dimitris.papastefanakis@atkins-se4all.com

Consortium Contact

Dominic Bacon
dominic.bacon@atkinsglobal.com

TAF for West and Central Africa

European Commission Contact

Georgios Grapsas
Georgios.GRAPSAS@ec.europa.eu

Project Manager, Team Leader

Joséphine Arpaillange
taf.j.arpaillange@gmail.com

Key Expert for Rural Electrification

Martin Ehrlich
mpgehrlich@aol.com

Key Expert for Renewable energy

Luc Chancelier
chancelierluc@gmail.com

Consortium Contact

Magda Popescu
magda.popescu@stantec.com

Anca Andreeescu
anca.andreeescu@stantec.com

TAF for Neighbourhood (East and South), Asia (including Central Asia), Latin America, Caribbean and Pacific

European Commission Contact

Anca-Maria Simion
Anca-Maria.SIMION@ec.europa.eu

Team Leader, Project Manager, Coordinator and Key Expert for Asia

Thierry Lefevre
T.LEFEVRE@ceerd.net

Key Expert for EU Neighbourhood (East and South) and Central Asia

Emmanuel Bergasse
Emmanuel.BERGASSE@sofreco.biz

Key Expert for Latin America, Caribbean and Pacific

Federico S. Fische
Federico.FISCHE@sofreco.biz

Consortium Contact

Majda Bunjevcevic
Majda.BUNJEVCEVIC@sofreco.com

DISCLAIMER

This newsletter update has been drafted by the EU's Technical Assistance Facility (TAF) for Sustainable Energy. The aim is to update EU Delegations regarding news and findings from the TAF 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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