



Africa-EU Renewable Energy Cooperation Programme (RECP)

Creating Opportunities for Renewable Energy
Strategy 2020

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Partners:



AFRICAN UNION



EUROPEAN UNION

Africa-EU Renewable Energy Cooperation Programme (RECP)

Creating Opportunities for Renewable Energy

RECP Strategy 2020



RECP STRATEGY 2020 PREFACE

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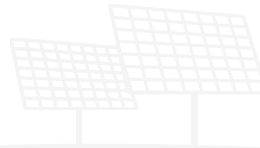
Achieving equitable and sustainable development and growth are key challenges the world faces in the 21st century. For many African countries, access to sustainable, affordable and reliable energy services remains a crucial objective and prerequisite for developmental progress. Renewable energy sources are abundant on the African continent and hold huge potential for supporting social and economic development in Africa. In many cases renewables are already a least cost solution for the provision of energy services, in particular for increasing energy access to remote off-grid communities. At the same time, in both on and off-grid areas, enhanced use of renewable resources can help to mitigate the adverse economic impacts resulting from exposure to volatile fossil fuel markets. Development of renewable energy industries in Africa will also help create employment in the emerging green economy, and in the long term set Africa on a low carbon pathway.

In view of these opportunities, this [Strategy 2020](#) for the [Africa-EU Renewable Energy Cooperation Programme \(RECP\)](#) presents an innovative way forward for an accelerated use of renewable energy in Africa. It marks a major milestone in the development of the [Africa-EU Energy Partnership \(AEEP\)](#), which we are proud to be chairing. The strategy provides a shared vision for cooperation between Africa and the EU which will guide activities in the period up to 2020. While the RECP is but one element of the AEEP, it is the first to make the transition from strategic dialogue to the development of a framework for concrete cooperation on the ground.

Despite the great opportunity presented by renewable energies, exploiting their potential is patchy, and a number of interconnected barriers inhibit progress. The [integrated structure of the RECP](#) addresses these barriers, and plays to the strengths of our partnership of two continents working towards the joint objective of [accelerating the use of renewable energy](#) in Africa and thereby increasing energy access. The programme represents a [novel approach](#) that will support the development of sustainable markets for renewable energy. As well as supporting the creation of policy and regulatory frameworks attractive to investors, the strategy suggests pro-active support for the facilitation of Africa-EU private sector partnerships, and project preparation support to help those with promising project concepts develop their ideas into bankable proposals. Support for the development of the next generation of energy professionals in Africa is an essential fourth pillar to the integrated RECP approach.

*Energy is to a country
what oxygen is to the human body*

Jakaya Kikwete, President of Tanzania



The implementation of this RECP strategy will provide a concrete demonstration of the wider value of the AEEP, whereby both sides of the partnership benefit. In achieving the commonly shared goal of enhancing Africa's development, Africa will benefit from the vast accumulated policy and technical expertise on renewables in the EU. In turn Europe will have the opportunity to engage in intensified dialogue with African stakeholders and develop future growth markets jointly with African business counterparts. Within the AEEP, the RECP will be synergised with African initiatives, strategies and programmes in order to avoid duplication of efforts and for coherence purposes and ownership, for example with African priority projects under the Priority Action Plan of the Programme for Infrastructure Development in Africa (PIDA), where the scope of PIDA and the RECP align. This may relate to soft actions like capacity building or technical assistance for policy and regulatory aspects.

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We look forward to the active participation of stakeholders within public bodies, in the private sector and civil society in both Africa and the EU, to the benefit of all of our citizens. Let us bring all our efforts together to make this programme an effective framework to address these questions and challenges of common concern – creating opportunities for renewable energy – creating opportunities through renewable energy.

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Baba Moussa**
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Infrastructure
and Energy

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Austrian Federal Ministry
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**AFRICAN UNION
COMMISSION**



**Austrian
Development Cooperation**

BMZ



**Federal Ministry
for Economic Cooperation
and Development**



**Ministry of Energy
and Public Utilities
Republic of Mauritius**



EXECUTIVE SUMMARY

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This document presents the broad strategic direction of the **Africa-EU Renewable Energy Cooperation Programme (RECP)** that is conceived as an open-ended framework for cooperation between the two continents to increase the use of renewable energy on the African continent. Accelerating the deployment of renewable energy technologies will meet multiple objectives, notably: (1) increasing access to energy; (2) improving security of energy supply and (3) protecting the environment.

This **RECP Strategy 2020** has been prepared on the basis of discussions amongst the main **RECP** stakeholders in Africa and Europe, notably the African and the EU Implementing teams and guidance from the JEG meeting in Bonn in February 2012, where the strategy was endorsed. It has taken into account views from development finance institutions, international cooperation agencies, private sector actors and NGOs.

The general structure of the strategy is based on an outline presented on the *Vision for the RECP* at the JEG meeting of the **Africa-EU Energy Partnership (AEEP)** in Mauritius in March 2011.

The strategy is a living document and will be updated periodically. Continued and enhanced efforts will be made to include all relevant stakeholders (including national governments, the African and EU private sectors) in subsequent development processes for the RECP. The strategy outlines and substantiates the objectives, broad activities and anticipated outcomes of the **RECP** for the period 2011 to 2020. In the period up to 2020, the programme will undertake three key reviews, in 2013 and 2017 and a thorough overall programme review in 2020.

The **overall aim of the programme** is to contribute to the ambitious political objectives of the AEEP for increasing access to modern energy services in Africa, to improve energy security by accelerating the use of renewable energy in Africa, and thus contribute to inclusive and sustainable economic and social development following a climate-resilient development pathway. The RECP will work to make the continent a prime destination for renewable energy investments, as well as to strengthen institutional, scientific and technological cooperation between Africa and Europe.



The collective impact of the RECP is realised through four strategically linked and integrated key **Action Areas**: **Action Area 1: Policy Advisory Services** will provide the groundwork to create an enabling environment for renewable energy investments; **Action Area 2: Private Sector Cooperation** will foster cooperation between African and European businesses; **Action Area 3: Project Preparation and Flagship Investment Projects** will bring strategically important projects to bankability and facilitate financing; and **Action Area 4: Technology, Innovation, and Capacity Development** will provide support for applied renewable energy research including capacity enhancement for African research institutions and a strengthening of academic and vocational training institutions in order to develop the next generation of energy professionals. The programme will benefit from a number of **Steering and Support Services** that will ensure its effective implementation, including monitoring and evaluation, communication and outreach.

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By involving various stakeholders on both continents including various donors into the programme, the RECP will contribute to international efforts on **aid effectiveness** and serve as a platform for cooperation and **joint programming** amongst EU member states. Synergies between the RECP and existing African initiatives, strategies and programmes on renewable energies at the regional and national levels will be exploited in order to avoid duplication of efforts and for coherence purposes and ownership.

For the period up to 2020, the RECP aims to make a **substantial contribution to the AEEP Targets for increasing energy access and expanding the use of renewable energy in Africa**. At the same time, it will help enhance long-term partnerships between the two continents on political, economic and academic levels. It is estimated that the total capital required to achieve the AEEP Renewable Energy Targets amounts to at least € 20 billion. Assuming that public financing can leverage private investment at a rate of five times, the total public financing required to reach the Renewable Targets in full would be € 3.33 billion. The degree of contribution that the RECP makes to the AEEP Renewable Targets will depend on the financing made available to the programme from public sources in Africa and Europe, and in turn the private investment that this support is able to leverage. In addition to the investment element of **Action Area 3**, to achieve broad geographical coverage within Africa of the sector support activities provided under **Action Areas 1, 2, and 4**, as well as **Steering and Support Services**, around € 250 to € 300 million would be required.

INTRODUCTION AND CONTEXT

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Energy services are central to sustainable development and a key ingredient to poverty eradication efforts. For economies, modern energy is a key to productivity in all sectors. For individuals, access to modern and sustainable energy services transforms lives. The supply of energy services is essential not only for economic growth, but also for the provision of social services (e.g. health clinics), for education, lighting, cooking, access to water, transportation, etc.

In recognition of the centrality of access to modern and sustainable energy services for socio-economic development, in September 2010 leaders from Africa and the EU launched the **Africa-EU Renewable Energy Cooperation Programme (RECP)** at the First High-Level Meeting of the **Africa-EU Energy Partnership (AEEP)** in Vienna. The AEEP is a long-term framework for structured political dialogue and cooperation between Africa and the EU on energy issues of strategic importance, reflecting African and European needs and interests. Through the Partnership, Africa and Europe work together to develop a shared vision and common policy solutions to stimulate specific actions addressing the energy challenges of the 21st century. The AEEP in turn is one of the eight thematic partnerships that constitute the **Joint Africa-EU Strategy** – the framework of the two continents for



10,000 MW
of hydropower facilities



5,000 MW
of wind power capacity



500 MW
of all forms of
solar energy capacity

**Other
Technologies**

Tripling the capacity
of other renewables
such as geothermal,
and modern biomass.

Figure 1
AEEP 2020 Renewable
Energy Targets



cooperation beyond development aid, instituted in 2007 at the Africa-EU Summit in Lisbon.

An integral part of the AEEP, the RECP contributes to the agreed target of the AEEP on increasing the use of renewable energy by 2020 (see Figure 1). Furthermore, the **collective impact of the RECP** is expected to contribute to a second AEEP target: bringing access to **modern and sustainable energy services to at least an additional 100 million Africans** by 2020, for health, education, water, cooking, productive activities, etc. Through supporting achievement of these objectives the RECP will contribute to poverty eradication and equitable growth.

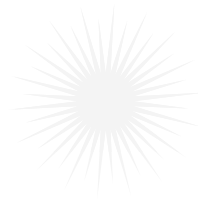
Further underlining the importance of energy access for development, the United Nations General Assembly has proclaimed 2012 the **International Year of Sustainable Energy for All** aiming to expand access to modern energy services by 2030 to all of the more than 1.4 billion people without access to electricity and some 2.7 billion people worldwide that still rely on the use of traditional biomass for cooking and heating.

In Africa, electrification levels remain the lowest in the world with an average of only 42%. In Sub-Saharan Africa it is even lower¹ at 31%, and in rural areas mostly below 10%. Paradoxically, Africa is blessed with abundant renewable energy resources: about 90% of its large hydropower potential remains to be harnessed and there is a vast potential for small and medium hydropower, solar, wind, biomass and geothermal energy as well as for the more efficient and sustainable use of traditional biomass which will help reduce exposure to indoor air pollution².

Technological progress in recent years, as well as volatile and rising fossil fuel prices have greatly increased the potential **benefits of exploiting renewable energy sources in Africa**. For remote and rural areas, where transmission and distribution of electricity generated in centralised plants is difficult and costly, renewable energy has great potential for complementing or replacing conventional energy systems in local, distributed energy systems. Renewable energy can also play a significant role in the generation of electricity for centralised grids, help-

¹ IEA (2010): *World Energy Outlook*, p. 237.

² See e.g. IEA (2010): *Renewable Energy Essentials*; or UN (2003): *Renewable Energy in Africa: Prospects and Limits*.



ing to increase energy security and contribute to the balance of payments of states. But improving energy services involves more than the provision of electricity. Traditional biomass is currently used by the majority of African families for cooking. Enhanced forest management, improved cookstoves, optimised biomass supply chains, new uses of biomass waste, as well as renewable sources of energy for heat and motive power are key aspects for future energy systems.

The [European Union](#) is a world leader in renewable energy. It concentrates a high level of expertise in renewable energy technologies with a strong scientific and industrial base. In addition, the EU and its Member states have been pathfinders in renewable energy policies and promotion schemes. In cooperating with the EU, there is a great potential for the African renewable energy sector to develop a [knowledge-based industry in Africa](#), creating jobs, increasing levels of energy access and thus contributing to [socio-economic development and poverty eradication](#). For the EU – and notably European businesses – cooperation between the two continents in the field of renewable energy creates [attractive opportunities for business partnerships](#) with African counterparts. Africa and Europe thus have a common

interest in accelerating the use of renewable energy resources in Africa.

Under the framework of the RECP, the two continents share a commitment to a significant expansion of renewable energy in the energy mix in order to increase access to energy, reduce dependency on fossil fuels, improve energy security, and form the backbone of a [future low-carbon economy](#). Through the RECP, Africa and Europe will take joint action to accelerate the use of renewable energy in Africa, thereby contributing to efforts to increase access to energy. The RECP will aim to make the continent of Africa a prime destination for renewable energy investments, through a strengthening of institutional, scientific and technological and cooperation between Africa and Europe. The RECP will complement existing Africa-EU cooperation while mobilising the technology expertise and innovation capacity of Europe in order to build knowledge and capacity in Africa, and support the growth of a new industrial sector over the coming years. Synergies between the RECP and existing African initiatives, strategies and programmes on renewable energies at the regional and national levels will be exploited in order to avoid duplication of efforts and for coherence purposes and ownership.



Dr. Elham M.A. Ibrahim, Commissioner for Infrastructure and Energy, African Union Commission and Günther Oettinger, Commissioner for Energy, European Commission

STRATEGIC APPROACH TO THE RECP

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The Africa-EU Renewable Energy Cooperation Programme (RECP) will follow a structured and strategic approach (see Figure 2) to overcome the existing constraints and barriers, and exploit the opportunities that the renewable energy sector in Africa presents.^{3,4,5}

Scope of the RECP

The RECP includes all renewable energy technologies, resources, and applications. The RECP will adopt a holistic approach, covering the entire energy value chain, from resource management to energy end use sectors. In addition to the generation of electricity from renewable resources, it will also cover renewable energy as a source for mechanical and thermal power, cooking, agro-processing, etc. The programme seeks to maximise opportunities for cooperation between governments, NGOs, research institutions and universities, and business organisations in Europe and Africa.

The most promising opportunities, and the scale of project activity where cooperation under the RECP can be most effective, is thought to reside at the *meso-scale of renewable energy investments*; that is to say mid-range € multi-million investments in large grid connected units, as well as programmes that bundle hundreds of smaller distributed units together. Such *meso-scale* project activities have been identified as having the greatest potential for expanding energy access. Due to existing barriers such as the relatively small transaction sizes (and consequently higher financial costs in comparison to large projects such as hydropower plants that are already covered by development banks), investors have thus far given this area little attention⁶.

Rather than focussing exclusively on installed hardware for energy supply, the RECP will include building up local assembly and manufacturing capacities where appropriate in order to develop a renewable energy industry in Africa, creating

³ See e.g. Ritchie, Duncan (2010): *Barriers to private sector investment in the clean energy sector of developing countries*, in: Private Sector Development, Proparco's Magazine, 6 (May 2010)

⁴ See e.g. KfW and World Bank (2005): *Financing Renewable Energy: Instruments, Strategies, Practice Approaches*, Discussion Paper No.38.

⁵ See e.g. Sonntag-O'Brian, V. and Usher, E. (2004): *Mobilising Finance for Renewable Energies*, Thematic Background Paper, No. 5, January 2004, International Conference for Renewable Energies, Bonn, 2004.

⁶ See e.g. The World Bank (2008): *Development and Climate Change: A Strategic Framework for the World Bank Group*, p. 45.



Constraints

RECP Action Areas

Lack of Enabling Environment	<ul style="list-style-type: none">» Need for supportive policy & regulatory frameworks for renewable energy investment in Africa (<i>see Figure 4 on page 20, IPCC</i>)» Need for strengthened institutions» With conducive environment: valuable opportunities to attract foreign & local investment in renewable energy sector	1 Policy Advisory Services
Insufficient Private Sector Involvement	<ul style="list-style-type: none">» Need for better information for foreign investors and stronger links between African and EU private sector» Great potential to promote business links and thereby stimulate investments as well as trade	2 Private Sector Cooperation
Limited Support in RE Project Preparation and Financing	<ul style="list-style-type: none">» Need to counter higher initial transaction and project development costs» Need to bring 'good ideas' to bankable projects» Need to facilitate appropriate project financing» Opportunity to demonstrate potential and profitability of RE	3 Project Preparation and Flagship Investment Projects
Knowledge, Skills & Capacity	<ul style="list-style-type: none">» Need for qualified young individuals to sustain renewable energy technology industry» Need for applied renewable energy research (e.g. resource assessments)» Joint capacity building with African and European universities	4 Technology, Innovation, and Capacity Development
Increased energy access through acceleration of use of renewable energy in Africa by <ul style="list-style-type: none">» creating a supportive policy and regulatory environment,» promoting private sector engagement,» preparing projects and demonstrate potential & profitability of renewable energy,» and by training the next generation of energy professionals in Africa.		

Figure 2
Strategic approach of the RECP



employment and thereby contributing substantially to sustainable economic development. Importantly, the RECP recognises that renewable energy needs to be treated as an **integral part of the wider energy system** with respect to energy policy development, planning, and capacity building in the sector.

RECP Start-up Phase (2011-2013)

Intended as a **long-term framework**, the RECP has received support for some activities during its **Start-up Phase** of three years (2011–2013) with an initial financial contribution of € 5 million provided by the **European Commission** from climate funding. Further financial contributions are required from both European and African parties to implement this strategy.

The Start-up Phase currently comprises three initial components implemented jointly by the **EU Energy Initiative Partnership Dialogue Facility (EUEI PDF)** and the **Agence Française de Développement (AFD)**:

- » Component A: Development of the RECP programme, M&E, and Communications (EUEI PDF);
- » Component B: Policy Advisory Services (EUEI PDF);
- » Component C: Capacity Building for Project Preparation and the Mobilisation of Financing (AFD);

- » An additional component on Research and Higher Education is under discussion.

The **RECP Start-up Phase** has been endorsed by the **Joint Experts Group (JEG)** in order to prepare the ground for a larger RECP programme. Under Component B for example, **regional renewable energy policy guidelines** are being developed in cooperation with the **ECOWAS Centre for Renewable Energy and Energy Efficiency (ECREEE)**; these are intended to be adapted to national contexts in the region. Similarly, under Component C, the RECP will organise practical workshops on project structuring and financing, for each of the main renewable energy technologies. The **outcomes of the Start-up Phase** are intended to present replicable examples and provide opportunities for learning from experiences in the first three years that feed into the activities in the **four Action Areas** of the main programme – as will valuable experiences from other renewable energy programmes in Africa (such as those under the **ACP-EU Energy Facility**, the **EU Commission funded COOPENER programme**, programmes of the African Development Bank, bilateral donor organisations, etc).

The Four Pillars of the RECP

The **four Action Areas** comprise the main pillars of the RECP. Overall strategic and political guidance during and after the Start-up Phase, on implementation and governance of the RECP is provided by the Joint Experts Group (JEG), as well as reviewing the RECP's progress at three key points during the programme – 2013, 2017 and 2020. The purpose of these reviews will be to assess progress against anticipated results, and make programme adjustments as appropriate.

In the period following endorsement of this strategy, implementation modalities, action plans and anticipated results for the individual **Action Areas** will be defined, alongside arrangements for programme management and governance. Lessons will be learned from ongoing African and European initiatives. Synergies and coordination will be achieved with existing programmes and initiatives, principally at the level of implementation of each **Action Area**.

Due to the diverse, but complementary nature of the **four Action Areas**, and the varied requirements of different stakeholders and donors expected to

support them, each **Action Area** may be managed separately. Given its anticipated nature as a multi-donor programme, the RECP will contribute to international efforts on **aid effectiveness** set out in the Paris Declaration, reaffirmed in the Accra Agenda for Action and the Busan Partnership Agreement. At the same time, the RECP will also serve as a platform for cooperation and **joint programming** amongst EU member states. It will thereby not only contribute to streamlining EU member states' activities in the sector but provide a space for concerted efforts for effective development of the renewable energy sector in Africa.

To achieve the **collective impact of the RECP** the programme will require a body for overall support and coordination to maximise synergies between the **Action Areas**, to synthesise key lessons learnt from the different activities, and to provide M&E, and communications and outreach services. In addition such a body would seek synergies with key African bodies (e.g. the **Conference of Energy Ministers of Africa (CEMA)**, **African Union Commission (AUC)**, **African Development Bank (AfDB)**) and cooperation with other programmes and initiatives.

A potential set-up could take this form:

Political Guidance by
Joint Experts Group (JEG)

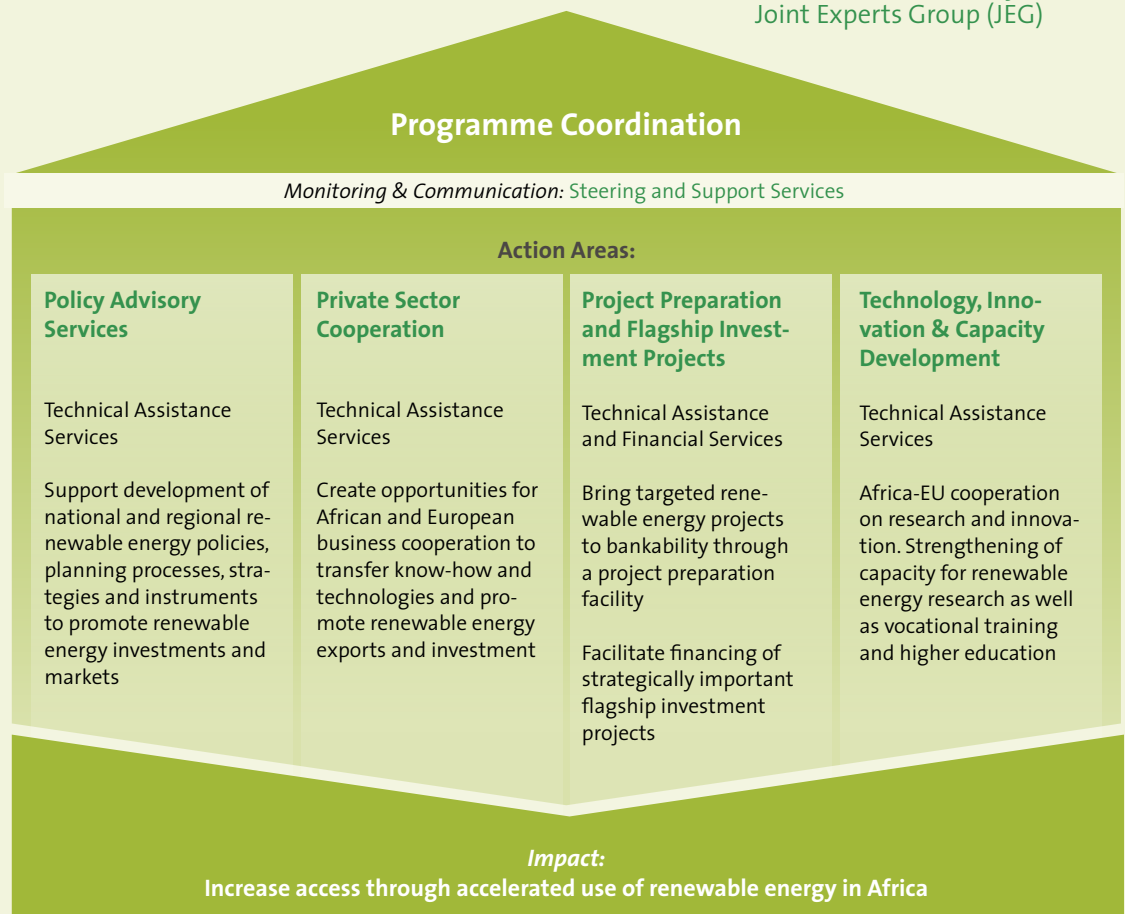


Figure 3
Africa-EU Renewable Energy Cooperation Programme (RECP) Organisational Structure

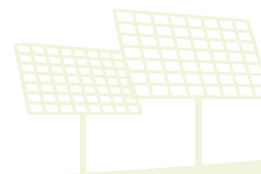




Photovoltaic power plant for health centre in Ethiopia

ACTION AREA 1

POLICY ADVISORY SERVICES



Potential investors in renewable energy in Africa repeatedly cite⁷ as their most important pre-requisite, a stable, clear and consistent policy environment, that targets renewable energy as an integral and growing part of the overall energy supply picture. The need for stability is easily understandable, since investments in renewable energy are long-term and capital-intensive. For instance, a stable and consistent policy environment can reduce pre-investment project development costs by more than 50%⁸. This is particularly important, since such costs are generally higher for renewables than those for fossil fuel systems⁹. A stable policy environment helps investors to understand the risks and more reliably predict return on investment, thus helping to catalyse the necessary investment in setting up of the necessary trained and skilled workforce and justify the pre-investment costs required (see *Figure 4, p.20*). Improved policy and regulatory environments will support the development of both meso scale renewable energy markets as well as larger, regional, African Priority Projects (PAP) under the Programme for Infrastructure Development in Africa (PIDA).

It is important to consider the development of renewable energy policies within the broader context of sound energy sector policies, such that renewables are treated as an integral part of the energy system. Europe's experience with RE policies over the last decade is particularly instructive. The lessons, positive and negative, can guide policy design for the very different investment scenarios in Africa.

Local factors of production and consumption must be well understood and policies adapted to them. *Figure 4 (IPCC, 2011)* illustrates the need for policy support in Africa. Europe's experience will be valuable in designing capacity building to create the necessary trained and skilled workforce. Synergies will be sought with existing AUC studies the results of which may be used for RECP activities (e.g. solar study, Hydropower 2020 Initiative etc). In addition, the active participation of the private sector and the financing community in this process will be sought in order to guarantee that any new regulations address the specific requirements of these stakeholders.

1

⁷ See e.g. *ibid.*, or Hamilton, Kirstie (2010): *Scaling up renewable energy in developing countries: finance and investment perspectives*, Chatham House; or UNEP (2009): *Deploying Low Carbon Technologies: Private Sector Costs of Readiness*, UNEP.

⁸ Project development costs for "first movers" into environments where no policy framework exists are estimated to be between USD 100-180/kW (Ritchie, Duncan (2010), p. 21).

⁹ Project development and pre-investment costs are estimated to be 1-3.5 times higher for renewable energy projects (USD 60-80/kW) than for conventional energy projects (USD 17.50-30/kW) (see Ritchie, Duncan (2010): *Barriers to private sector investment in the clean energy sector of developing countries*, in: Private Sector Development, Proparco's Magazine, 6 (May 2010), p. 21).

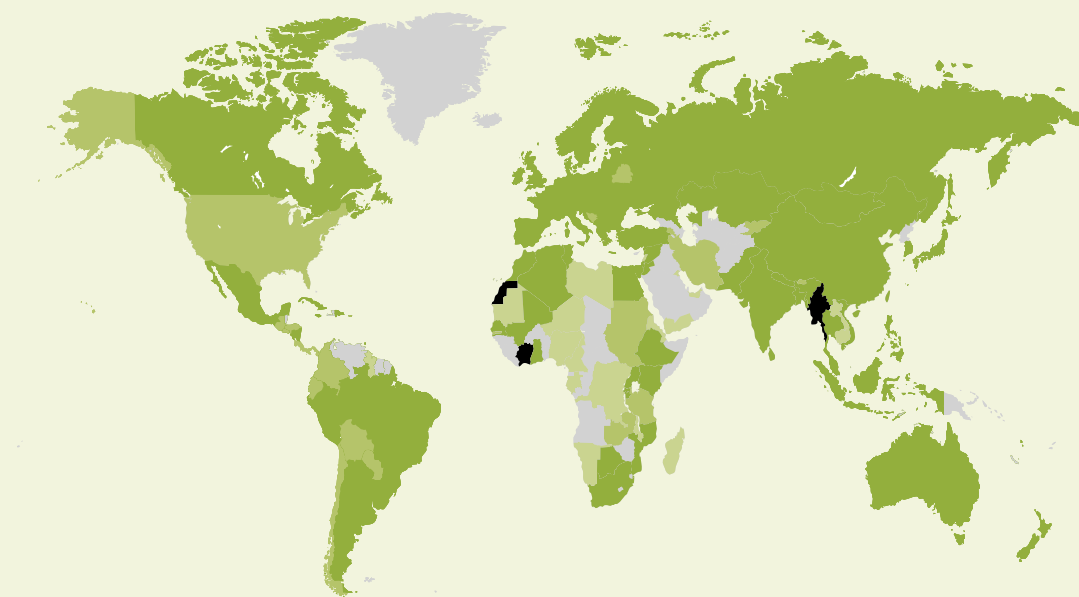


Figure 4
Renewable energy-
specific policies
and targets 2011

- Countries with at least one national policy and one re target
- Countries with at least one national policy
- Countries with at least one re target
- Countries without re policy mechanisms and re targets
- No data

The outcomes of the work under this **Action Area** will complement and support activities under **Action Area 2: Private Sector Cooperation** and **Action Area 3: Project Preparation and Flagship Investment Projects**.

Effective regional policies will prepare the ground for a shared market for equipment, energy products and technical services through effective regional trade agreements, power trade arrangements, a skilled regional labour force, common standards, cooperation on research and technology acquisition as well as cooperation in the development of regional resources such as hydropower etc. Guidelines for developing such cooperative and coherent policies will be developed at a regional level to guide national policies of member states. The work within **ECOWAS** (see **ECREEE** page 23) or the Northern African institution **RCREEE** could be used as a model to support the creation or strengthening of regional renewable energy centres in other regions, with a view to developing an African network. At national level technical assistance provided by the programme will result in improved policies, regulation, legislation and institutional arrangements.

Activities under this Action Area of the RECP will include:

- » Support to governments and regional organisations, in collaboration with external stakeholders including business representatives, for the **development of renewable energy scenarios** in the context of energy sector scenarios as a whole (potentially in cooperation with the **International Renewable Energy Agency (IRENA)**) including support to energy planning as well as the **design of legislation, or specific policy instruments** (e.g. feed-in tariffs, quotas, standards etc);
- » **Dialogue events** to exchange experience between European and African decision makers, parliamentarians, utility managers, regulators and private sector organisations on policy design and implementation, including the design of policy instruments;
- » In cooperation with the activities under **Action Area 4: Research, Innovation, and Capacity Development**, this component may also provide capacity building to local partners e.g. in the area of energy planning to integrate renewable resources into the existing energy system.



The activities under this **Action Area** will build on the considerable experience and work that has been undertaken with support from the **European Commission** and **EU member states** for instance under the Energy Facility and the **EUEI Partnership Dialogue Facility (EUEI PDF)**. Activities will focus

both on national and regional level and be demand-driven, and thus initiated through requests from governments and regional organisations, with the technical assistance provided through consultants working to agreed terms of reference.

1

Building on the experiences from the Start-up Phase Component B (implemented by EUEI PDF):

- » Reviews of the policy environment, and analysis of the impact of different policy instruments and regulatory practice in Africa, Europe and other parts of the world including identification of particular policy gaps;
 - » Synthesis of the different policy options and recommendations as to their suitability under different scenarios (e.g. different power generation mix, levels of electrification, distribution of population, endowment of fossil fuel and renewable energy resources, level of economic development etc.);
 - » Production of model legislation, institutional arrangements, financial incentives;
 - » Regional policy guidelines for specific regions (starting with the ECOWAS region) to include recommendations for regional cooperation in areas such as standards, trading arrangements, power system integration etc. This could also include policies specific to particular renewable energy resources such as geothermal, biofuels, large hydro, wind;
 - » Pilot cases on specific policy guidelines to generate examples on regional level and best practices on policy implementation at national level.
-

Examples

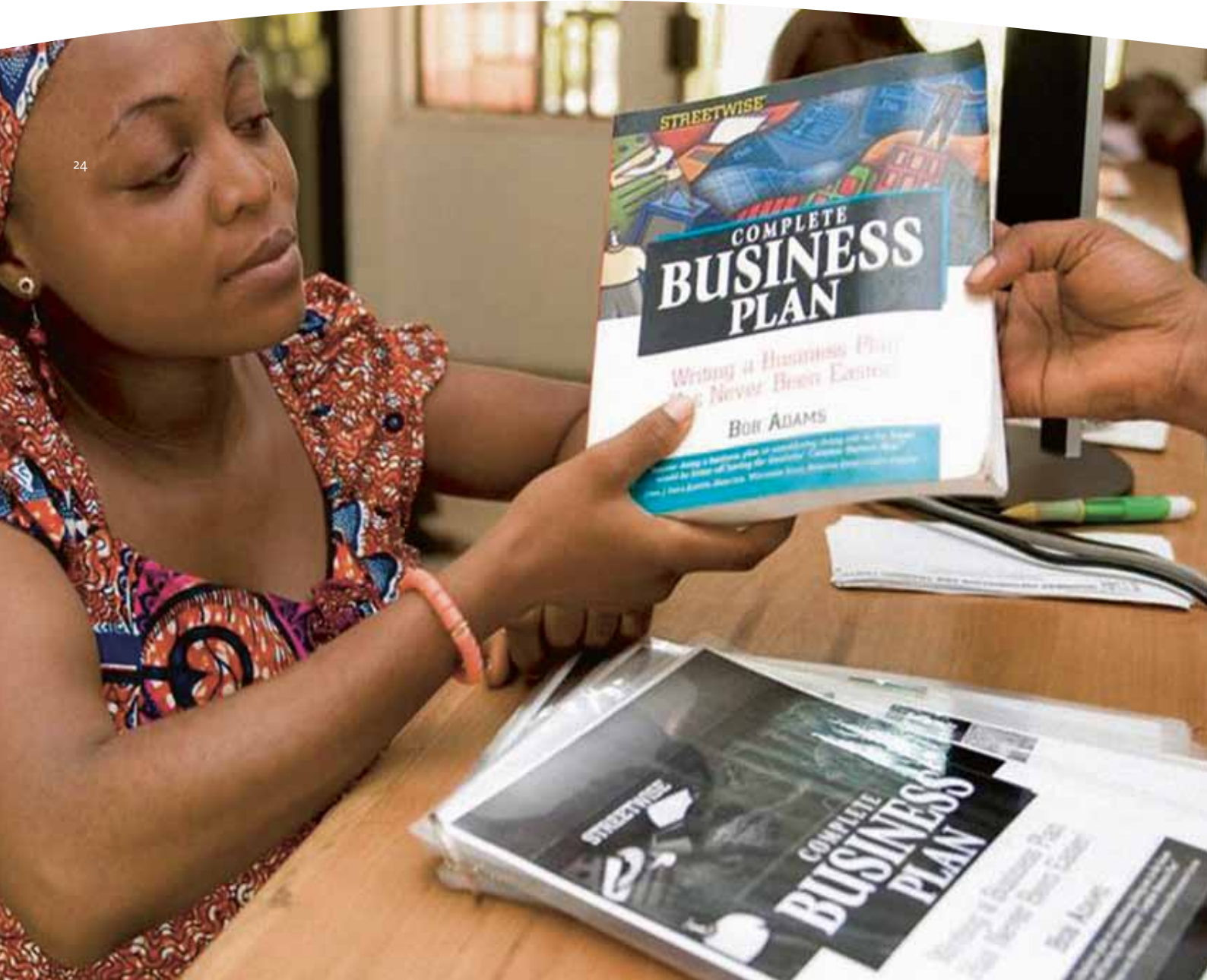
of actual and potential RECP Activities in Action Area 1:

Regional Policy Development.

The ECOWAS Centre for Renewable Energy and Energy Efficiency (ECREEE), set up in response to the needs of its member states to boost investment in the vast renewable energy resources of the region, including 23,000 MW of hydropower, is funded by, amongst others, the Austrian Development Agency (ADA), the Spanish government (AECID), the European Commission and the Government of Cape Verde. ECREEE is developing regional RE policy guidelines and renew-

able energy policy advice for member states with technical assistance from the EU Energy Initiative Partnership Dialogue Facility (EUEI PDF). The regional policy approach will be developed with agreement of the member states and then applied at national level. The design of the regional guidelines will be based on a review of existing policies in the region and will take account of recent experience in Europe and other parts of the world. Similar regional policy development is likely to be required in other regions in Africa.





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**COMPLETE
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*Writing a Business Plan
for the Never-Before-Entered*
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ACTION AREA 2

PRIVATE SECTOR COOPERATION

The private sector has the resources, flexibility and entrepreneurial skills needed to complement the limited delivery capacity of the public sector. In the last two decades European companies have developed considerable capabilities in renewable energy; although they have begun to establish partnerships and a business presence in Africa there is considerable scope to expand Europe-Africa business links and to support the creation of local self sustained renewable energy markets.

Complementing the activities under **Action Area 1: Policy Advisory Services**, the RECP will **stimulate the market for renewable energy in Africa by encouraging and supporting private sector engagement**. More specifically, it will create opportunities for African and European private sector cooperation to develop businesses, acquire know-how and support technology transfer. Engaging private

sector companies as well as business associations on both continents, the activities under this

Action Area will result in:

- » Improved market conditions for private sector actors from Africa and the EU;
- » Knowledge and technology transfer and cooperation between businesses in Africa and the EU;
- » Increased knowledge of profitability of renewable energy investments and the potential for market penetration in Africa by the business communities on both continents;
- » Local added value in terms of positive effects on economic development through assembling and manufacturing of technology;
- » Business development and private sector actors mobilised for penetration of African markets, both in terms of service delivery and assembly of some renewable energy components.



2

Activities under this Action Area will include

- » **Technology-oriented market studies/reports**, including information on resource assessments, political conditions, market access, business environments, investment conditions and potentials for different technologies (solar, wind, geothermal, hydropower, and biomass) at the request of business associations in Africa and the EU;
- » Collaborating with business associations representing the renewable energy private sector, given their potential to act as a catalyst for private sector investment;
- » **Informing and alerting African and European businesses** about opportunities in the renewable energy sector in Africa;
- » Organising **road-shows in Africa and Europe** to bring together experts and thereby provide companies willing to invest with practical advice, and help them link up with local partners;
- » Organising **trade missions and trade fairs in Africa and the EU** in order to enable businesses to establish contacts with local private sector actors as well as decision makers and provide opportunities for African and European companies to market their products;
- » In coordination with the activities under **Action Area 4, capacity building measures** will be initiated in cooperation with businesses and local partners in order to transfer required skills for preparation, operation, and maintenance of sites.

Examples

of potential RECP Activities in Action Area 2:

Market Research.

Building on experience of existing programmes promoting private sector cooperation in renewable energy between African and European countries, one proposed activity could comprise the production of well-researched reports on the actual and potential markets for renewable energy industry in selected countries, as the basis for informing and encouraging greater cooperation between European and African renewable energy businesses. The market reports would include data on national resources, firms and potential projects, and would form the basis of workshops and trade fairs and events with representatives of African and European businesses and business associations and joint capacity development activities.

Business Cooperation and Exchanges.

It is proposed that funds will be provided for application by eligible firms and business associations in Africa and Europe for a number of exchange and business development activities, including visits to trade fairs on both continents, exchange visits between clusters of specific industry sectors (e.g. wind, geothermal, solar, biofuels) trade missions etc. Particular attention will be paid to the needs of small and medium industries at the local level, which might otherwise find difficulty in funding such cooperation; these organisations can have a strong leveraging effect on the development of local markets.

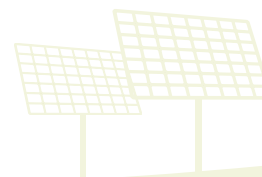




Wind park in Egypt

ACTION AREA 3

PROJECT PREPARATION AND FLAGSHIP INVESTMENT PROJECTS



While preparing the environment for renewable energy investment through activities such as technical assistance on policy, private sector cooperation, capacity building and research, the **Renewable Energy Cooperation Programme** will also provide concrete demonstration of how to enable sound investments in renewable energy and thus provide valuable **learning opportunities through the physical demonstration** of progress during the period 2011 to 2020.

Building on the groundwork of **Action Area 1 and 2**, it will do this through **flagship projects and programmes**, which will provide strong replicable examples through cooperation between Africa and the EU, illustrating the advantages and the impact of renewable energy when the right conditions are in place. This demonstration effect will be of most benefit in countries or regions where there is currently limited awareness of the potential for renewable energy or where it can be demonstrated how specific investment constraints can be overcome.

This **Action Area** will help prepare and develop markets for specific technologies which have thus far not attracted investors despite their great poten-

tial. In these areas, the flagship projects will help establish the market for renewable energy, building on European expertise and local knowledge. Bearing in mind the higher project development costs for renewable energy (*in comparison to conventional energy sources, see footnotes 2-3, p. 9-10*) this **Action Area** will help to close the gap between valuable project ideas and concrete and bankable investments.

The activities under this **Action Area** will involve projects and investments mostly at the meso-scale (multi-megawatt or € multi-million scale), which can benefit most from Africa-EU cooperation. They may include bundled financial support to local industry for large-scale implementation of smaller projects¹⁰.

Building on the experiences from the Start-up Phase Component C (implemented by AFD):

- » Identification of areas of interest for the banking industry and the private sector;
- » Identification of capacity gaps in the banking sector in Africa;
- » Information dissemination of best practices in project preparation and financing mobilisation.

¹⁰ Completion of very large projects such as large hydropower cannot reasonably be included in the time frame, and such projects normally involve a wide international circle of funders, though development assistance often has a key role in ensuring that they reach financial closure.



Project Preparation activities under this Action Area

Following the general logic of the RECP, the focus of the proposed **Project Preparation Facility (PPF)** will be on the meso-scale (multi-megawatt or € multi-million scale) of single renewable energy projects or bundled financial support to local industry for large-scale implementation of smaller projects. Project Preparation Services can be categorised in three different phases of the project preparation cycle.

In the **early stages** of a project's preparation, support required includes:

- » Resource and market assessments;
- » Project conceptualisation, including development of appropriate institutional arrangements (e.g. bundling according to the interest of a certain energy-intensive industry sector or according to a certain technology);
- » Partner identification;
- » Elaboration of technical concepts, including external technical advice;
- » Pre-feasibility studies, including financial sensitivity analysis;
- » Potentially CDM project development;
- » Legal agreements (exclusivity, non-disclosure etc.) between potential project partners;

- » Choice and conceptualisation of operator model;
- » Design of business plans;
- » Provision of early-stage risk financing.

After these activities have taken place, a typical renewable energy project will in its **middle stages** require support for:

- » Feasibility study;
- » Negotiation/Development of project agreements (e.g. company/partnership agreements, for connection to the grid or other necessary licenses, power purchase agreements etc.);
- » Environmental impact studies, etc.

In the **later stages** of the project's preparation, support is required for making connection with financial sources (equity and/or debt financing) including guarantees as well as obtaining licenses for operation.



Flagship Investment Projects activities

- » Finance implementation of specific renewable energy investment projects and programmes up to the € multi-million scale in the form of loans and/or partial equity finance to reduce risks and leverage investment by other investors;
- » Establish new financing modalities and innovative financing instruments to reduce risks for local finance institutions investing in renewable energy, in partnership with national, regional or pan-African financing institutions;
- » Documentation of the detailed history of the projects, analysing the critical success factors and synthesising the key lessons.

The RECP will consider supporting project preparation of **Priority African Projects (PAP)** developed under the **Programme for Infrastructure Development in Africa (PIDA)** – endorsed by the AU Assembly - where the scope of PIDA and the RECP align.

Criteria for project selection will include concepts such as country readiness, demonstration potential and opportunities to stimulate markets. Focus will be on innovative approaches to break down market

barriers, e.g. novel institutional arrangements or technologies previously unfamiliar in certain geography. Programmes championed by the **AUC**, such as the **East Africa Geothermal Risk Mitigation Facility**, may be one source of flagship projects under the RECP.

Activities under this **Action Area** will be implemented through **technical and financial assistance for project preparation and the facilitation of financing** in order to close the gap between good ideas and bankable projects. Infrastructure project preparation services are currently provided by a number of donor-supported facilities, although few, if any, provide specific expertise in meso-scale renewable energy projects – a gap that this activity will fill. Existing instruments providing project preparation services will be analysed to assess whether they can be used as the vehicle for project preparation under the RECP, adapted as necessary, or whether new instruments are required. Cooperation with existing instruments providing project preparation services based in Africa, such as those hosted by the AfDB, will be considered Existing funds provid-

¹¹⁾ <http://www.afdb.org/en/topics-sectors/topics/partnerships/non-regional-member-countries/denmark/>

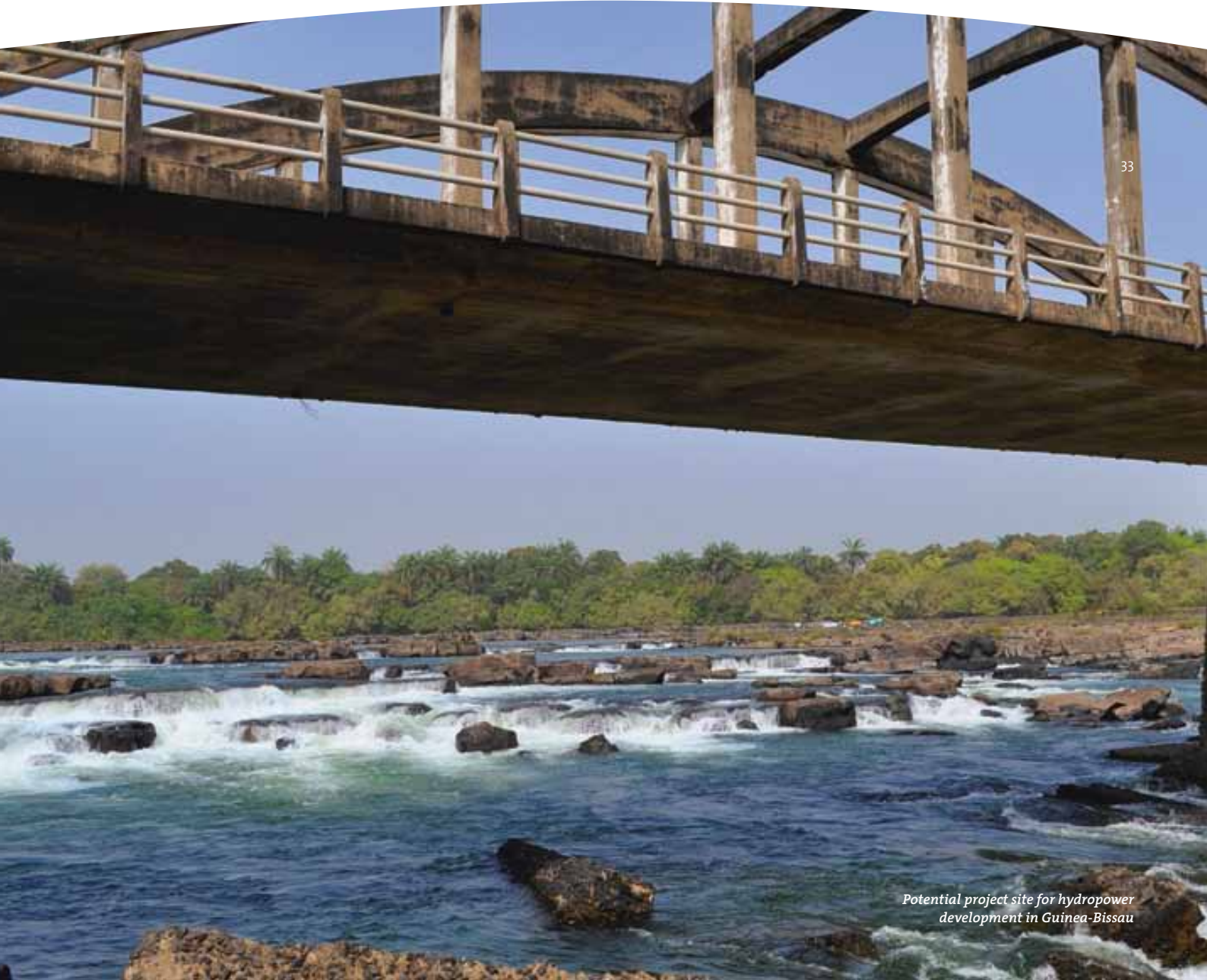


ing project preparation services, and associated with multilateral or regional development banks, include for example the [EU-Africa Infrastructure Trust Fund](#) and the [Sustainable Energy for Africa \(SEFA\)](#) hosted by the [AfDB](#)¹¹. Advice on implementation modalities for the investment element of **Action Area 3** will be sought from development banks.

Renewable energy often is more difficult to finance sustainably than other technologies. Thus, many infrastructure projects in the area of renewable energy are not able to attract private investors or lenders. This is where multi- and national development institutions have a role to play and can provide adequate co-funding (in terms of volume, maturity and interest rates). Therefore, **innovative financing methods** such as partial loan guarantees,

insurance instruments or concessionary equity financing will be promoted in order to provide the necessary long-term finance and reduce risks for project developers. Buying down the costs for project preparation particularly in its early stages will, as evidence suggests, leverage substantial further capital for later stage project preparation and even more so for private investments into renewable energy technology (e.g. the plant itself). Further, project preparation activities will also explore the potential contribution of carbon finance, given the likely future focus on African LDCs in the [Clean Development Mechanism \(CDM\)](#) market due to changed rules under the [EU Emission Trading Scheme \(EU ETS\)](#), including links with [Nationally Appropriate Mitigation Actions \(NAMAs\)](#), where these exist.







Installation of solar water heating in Rwanda

ACTION AREA 4

TECHNOLOGY, INNOVATION, AND CAPACITY DEVELOPMENT

The African renewable energy market holds good promise for the development of a knowledge-based industry in Africa, creating jobs, economic growth, and competitiveness. One of the main challenges – due to the nature of the energy sector being highly technological – is the need to expand local capability to meet the demand. **Action Area 4** will address Africa's strong need to sustain ongoing and future renewable energy activities by training a new generation of energy professionals and by strengthening African research institutions and firms, and their innovation capacity in the field of renewable energy. In the spirit of the overall Joint Africa-EU Strategy and the AEEP, **Action Area 4** will be implemented in close cooperation between institutions from the two continents, building on and coordinating and seeking synergies with existing structures, including the European research Framework Programme.

Complementing activities of the first **three Action Areas** the activities under **Action Area 4** will result in:

- » Enhanced applied research capacity of African institutions and firms, and ability to acquire technologies, adapt existing technologies to local contexts and further develop them;
- » Decision-making in the African energy sector in planning, investment, and policy-making enhanced at all levels through academic training in engineering and policy-relevant Masters programmes as well as short-term and executive courses throughout Africa;
- » Business development and management trainings targeting specifically (potential) entrepreneurs and other stakeholders involved in the project cycle, with particular attention should given to the local financing sector;
- » Vocational training provided for technicians specifically for renewable energy technologies.



4



Activities under this Action Area will include

- » Facilitate the establishment of **partnerships between African and European research institutes** – and inter-African cooperation – including exchanges of scholars and researchers and joint research programmes focussed on **applied renewable energy research** (e.g. resource mapping), **technology transfer and adaptation of technologies** to local contexts;
- » In partnership with the private sector as well as EU institutions, **vocational training structures and institutions** will be strengthened or set up (incl. curriculum development and *training of trainers*) to cater for the demand for technicians needed in the renewable energy sector;
- » Strengthen or create **Masters programmes on renewable energy**. This will include both Masters of Science (MSc) degrees with a focus on engineering as well as Masters in Philosophy (MPhil) degrees with a focus on policy-making;
- » Create **executive education programmes on renewable energy** particularly designed for policy-makers and private sector stakeholders.

Examples

for potential RECP Activities in Action Area 4:

Competitive Research Contract Programme.

It is proposed that finance will be made available for 3 calls for programmes of joint research through small consortia of African and European research organisations (which could be as small as one European and one African partner). Eligible organisations will include private firms, universities and public research bodies, and NGOs with sufficient capacity. The calls for proposals will be under specific agreed topics, with sufficient freedom for applicants to propose an area of applied research, with specific anticipated outcomes with practical application. The applicants will be expected to subsequently exploit the results of the research themselves, or make them publicly available. The application will need to demonstrate that cooperation between Africa and Europe is critical to the success of the research.

Education and Training Capacity.

Proposals will be invited for strengthening (or establishing, where necessary) university programmes in Africa at Masters level from linked African and EU universities and for the establishment of training courses through cooperation between African and European training centres for technicians and engineers – to develop curricula, to train lecturers and trainers and to provide well equipped training facilities and courses. Funding can include the costs of equipping laboratories, exchange of staff and students, and bursaries and scholarships for highly qualified students. It is anticipated that the programme will cover all regions of Africa.



Declaration

³⁸
of the first
High Level Meeting

RECP

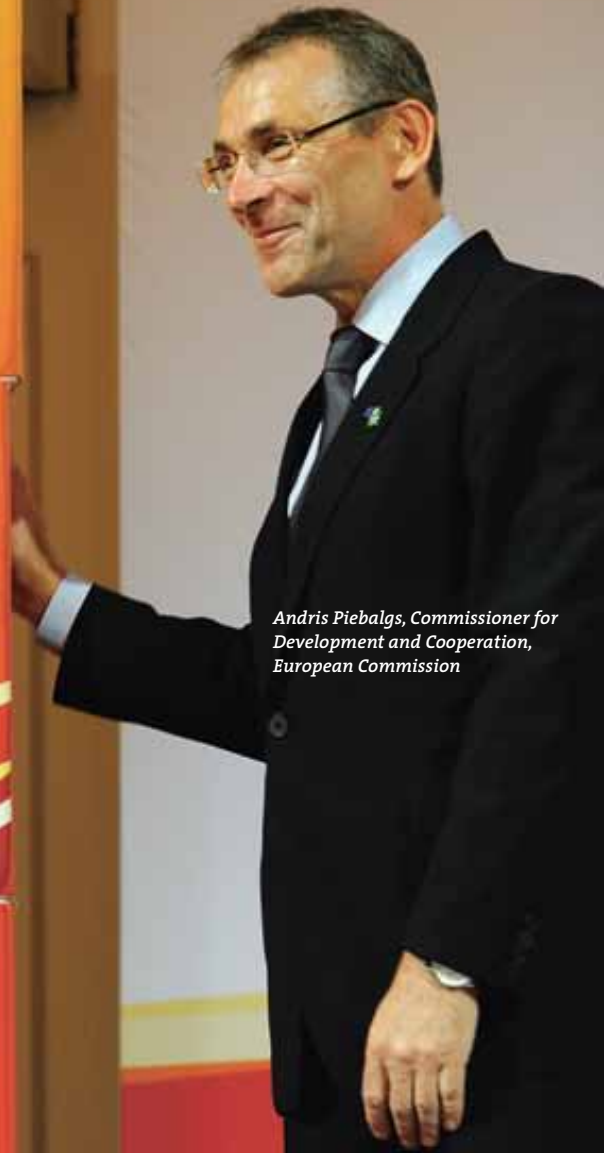
Africa-EU Renewable
Energy Cooperation
Programme

Energy Security

Renewable Energy

Doubling
cross-border
intercon

Hydro -
Wind - Solar



*Andris Piebalgs, Commissioner for
Development and Cooperation,
European Commission*

RECP COORDINATION & STEERING AND SUPPORTING SERVICES



In order to implement and coordinate the activities in the four different **Action Areas** effectively, the RECP will draw on several steering and supporting activities.

- » Set-up as an integral part of the **Africa-EU Energy Partnership (AEEP)**, the RECP builds on the political and strategic guidance of the Joint Experts Group of the AEEP;
- » An organisation will be nominated to be responsible for the overall programme coordination to ensure coherence of the RECP and its activities, through communication and dialogue activities;
- » The individual **Action Areas** will be funded through a variety of sources and implemented through instruments by the organisations to which management of projects has been delegated. The JEG will monitor and review the activities and provide overall strategic guidance;
- » Close coordination will be sought with national governments, regional and continental organisations (such as **Conference of Energy Ministers of Africa (CEMA)**, the **African Union and European Commissions**, the **African Energy Commission (AFREC)**, etc.), development banks (such as **AfDB**, **AFD**, **KfW**, etc.), multilateral organisations (such as the **World Bank**, its **Energy Sector Management Assistance Programme (ESMAP)**), with

the **International Renewable Energy Agency (IRENA)**, as well as civil society, private sector and research and education communities and programmes (e.g. the **European Commission's Seventh Framework Programme**).

Monitoring and Evaluation for the RECP will be lean and cost-effective and serve two main purposes.

- » Internally, it will constitute a valuable tool to advance learning from past experiences with the aim of further improving the programme's procedures and identifying promising avenues for future activities under the four **Action Areas** of the RECP. Thereby, the **M&E system** will contribute to the efficient and effective operation of the RECP;
- » Externally, the M&E system will monitor progress that has been made towards achieving the RECP's main objectives (i.e. to increase access to modern energy services and thereby contribute to economic development and poverty eradication and thereby work towards the achievement of the AEEP political targets). It will thus provide accountability to the programme's contributors.



Communication and outreach will ensure programme transparency to external stakeholders and thereby inform, interest, and involve such stakeholders including civil society and private sector actors.

- » Internal communication will serve the purpose of coordinating, aligning, as well as connecting and maximising synergies between the various activities;
- » External Communication will concentrate on communicating the outputs and outcomes of each action and of the RECP in order to inform and influence further investment. It will also provide information on the opportunities for investments in renewable energy in Africa, availability of training courses, trade fairs etc all of which will be published in an RECP portal on the programmes designated website;

- » The programme will establish a communication strategy, to be endorsed by the JEG, for a variety of communication tools in different media, targeted at entities active in the sector in Africa, including African Regional Economic Commissions (RECs), and Europe. This will be integrated with the communication tools used for the AEEP.

FINANCING THE RECP

The finance for the RECP will come from a variety of sources. It is expected to include substantial financing from European public institutions as well as African public institutions, which will in turn leverage substantial investment from the private sector (particularly through **Action Area 3**). The programme will also explore the opportunities that carbon finance may present.

It is estimated that the total capital budget required to achieve the AEEP renewable energy targets amounts to at least € 20 billion. Assuming that public financing can leverage private investment at a rate of five times, the total public financing required to achieve the AEEP renewable targets in full would be € 3.33 billion, while achieving 50% of these targets would require € 1.67 billion and

achieving 10% of the targets would need € 0.3 billion etc. The degree of contribution that the RECP makes to the AEEP renewable targets will depend on the financing made available to the programme from public sources in Africa and Europe, and in turn the private investment that this support is able to leverage.

These amounts relate mainly to project investment under **Action Area 3**. In addition, to achieve broad geographical coverage within Africa of the sector support activities provided under **Action Areas 1, 2, and 4**, as well as programme coordination and support, around € 250 to € 300 million would be required.

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