



Federal Ministry  
for Economic Cooperation  
and Development

# Green people's energy for Africa

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# 1 Background

*Africa is a continent of opportunity. The continent has vast natural resources and important raw materials. It has enormous potential in terms of renewable energy sources and a broad basis for sustainable agricultural production. However, energy supply remains a great challenge.*

About 620 million people in Africa – more than 58 per cent of the continent's 1.1 billion-strong population – have no access to electricity. Some 80 per cent of household energy is used for cooking. For cooking and heating, four in five people in sub-Saharan Africa rely on traditional biomass such as wood, crop residues and dung. Energy consumption is expected to grow steadily. By 2040, energy demand in Africa will have risen by 80 per cent. By 2100, four fifths of Africa's people will be living in cities. Rapid urbanization, including in smaller municipalities, is a particular challenge. Inadequate energy supply is the main cause of poor economic performance. Small and medium-sized enterprises in particular need access to energy in order to develop. Energy is the key to development opportunities.

Africa has the potential to provide modern and sustainable energy for all its people by tapping its energy sources, especially renewable sources, and by enhancing energy efficiency. However, in order to make that happen, clear priorities and new strategies are needed. Policymakers have to define clear goals, strategies and regulations to prepare the ground for a green energy future.

As part of the Paris climate agreement, African countries have defined emission reduction targets in order to link economic development with climate action. Germany and the G7 partners support Africa's goals in this field. The Africa Renewable Energy Initiative (AREI) has the goal of installing an addi-

tional 10 gigawatts in renewable energy capacity in Africa by 2020, and as much as 300 gigawatts by 2030.

In addition to large power plants and stable power grids, Africa will also need decentralized mini-grids and "green people's energy" in order to build a renewables-based energy supply. We want to help citizens and their municipalities, small and medium-sized enterprises (SMEs), hospitals and schools to set up green energy supply systems.

"Green people's energy" for Africa is the answer that can help meet the rising demand for energy across the African continent while preventing the development of a high-carbon energy sector. Sun, wind, biomass and hydropower are available in abundance. Everyone can benefit from these sources of energy and from the expansion of energy access.

Through green people's energy, we want to eradicate energy poverty and help put Africa on a climate-friendly development path. That is why Africa is the priority continent for the activities that the Federal Ministry for Economic Cooperation and Development (BMZ) is pursuing in the energy sector. We have cooperation in the energy sector with 27 African countries. In order to ensure that no one will be left behind, we will continue to expand our support for green people's energy in Africa over the next five years.

## 2 Green people's energy for Africa

In the 19th century, energy cooperatives were a driving force behind rural electrification in Germany. In Germany's current energy transition, this model is making an impressive comeback. It was only thanks to the dedicated efforts of citizens, municipalities and SMEs that renewable energy sources were developed on a massive scale. At present, nearly 900 energy cooperatives are members of the Deutscher Genossenschafts- und Raiffeisenverband (German Cooperative and Raiffeisen Confederation). Some 160,000 people in Germany are active in energy projects of this kind. The energy transition in Germany is deeply rooted in society: bioenergy villages, municipalities that are energy self-sufficient, municipal utilities that belong to the people, and citizens who produce their own energy form the backbone of the energy transition. Most of Germany's renewable energy installations are owned by individuals, municipalities or farmers.

In its development cooperation programs, Germany wants to partner with the countries of Africa, sharing this vast experience with them and thus starting a movement for green people's energy in Africa.

**Specifically, we want to bring about the following achievements:**

### *Encourage small and medium-sized enterprises to generate and use green energy*

Small and medium-sized enterprises (SMEs) are the basis for inclusive economic development, and they create local jobs. For SMEs to be successful, they must have reliable access to energy. This enables them to run their equipment and machinery, improve productivity and product quality, create jobs and increase their earnings. At the same time, there is vast potential in SMEs getting involved in energy genera-

tion. In Nigeria, enterprises only buy four per cent of the power they use from the public grid. 96 per cent of their energy consumption is based on self-organized power generation, usually through expensive, inefficient, air-polluting diesel generators. Our goal must be to find green answers to that situation. We want to help our partners set up small-scale grids based on renewable energy. With support from Germany, SMEs in Africa can manage to successfully move to green energy.

We will therefore combine the development of green energy supplies with practical action for SME development. In that way, the development of energy supply in Africa can make a direct contribution to business and agricultural development on the ground, create new job opportunities and simultaneously help prevent the development of a high-carbon economy in Africa.

### *Partner with citizens and municipalities in Africa to foster green energy*

Without broad-based participation by the people and by municipalities, it will not be possible to develop sustainable energy supplies and expand the use of renewable energy in Africa. Such participation ensures that local energy projects are in line with energy needs on the ground and that they become a permanent success. However, at present, the national environment often makes it difficult, or altogether impossible, for citizens and municipalities to become involved in the energy sector. Often, municipalities do not have the authority, the capacity or the funding to generate their own energy. In order to develop decentralized energy supplies, capacity building is therefore needed at all levels at which energy is

required. This is one of the insights gained in the course of Germany's own energy transition.

We will support our partners in putting in place the requisite political and legal environment and institutions (such as energy agencies, municipal utilities, and energy cooperatives) for a decentralized energy system, and we will initiate and support energy partnerships with German pioneer municipalities and bioenergy villages such as Neustrelitz, Chemnitz and Wildpoldsried.

#### ***Create job opportunities in the energy sector***

Expanding the use of green energy in Africa will create new job opportunities for young people. However, in many places there are no appropriate training opportunities. Well-trained skilled workers on the ground are a vital prerequisite for sustainable green people's energy. The BMZ will therefore increase its training activities within the framework of current infrastructure programs and through its new Energy Training Initiative.

#### ***Mobilize investment at the local level***

The development of sustainable energy systems at the local and municipal level requires project investments and knowledge on investment management, especially on the part of private players. More and better investment plans are needed in order to make that happen. Many development finance instruments still focus one-sidedly on large, centralized energy systems. When it comes to needs-based decentralized solutions, there is often a lack of funding and a lack of legal certainty and, thus, of investment certainty. This is a key problem for renewable energy, as the investment cost of renewables is higher than

that of other sources of energy, but operation cost tends to be low. Development banks could foster the development of green energy by focusing on needs-based local projects and by providing new guarantee instruments to help minimize risks.

Specifically, we want to provide advice to small and medium-sized enterprises and to municipalities and communities on how to develop and implement green energy projects that are in line with energy needs, bankable, and based on participation by the people. Simultaneously, we want to help local savings groups, cooperatives and bank branch offices in rural regions to provide the requisite investment capital as well as instruments such as guarantees and liquidity support facilities.

## 3 Goals and activities

The concept of green people's energy for Africa is based on successful international initiatives and multilateral partnerships such as Energising Development (EnDev), the Africa Renewable Energy Initiative (AREI), the Africa-EU Energy Partnership (AEEP) and the EU Energy Initiative for Poverty Eradication and Sustainable Development (EUEI) and its Partnership Dialogue Facility (EUEI PDF). We want to continue to use and support these initiatives. And we invite other partners such as the African Development Bank (ADB), the European Union (EU), the International Renewable Energy Agency (IRENA) and the members of the G20 and the G7 to join the movement. **Specifically, the following activities are to be undertaken:**

### *Green energy initiative for small and medium-sized enterprises*

Over the next five years, we want to provide green energy for 500 small and medium-sized enterprises (SMEs), of which at least 50 per cent should be in the agricultural sector. Simultaneously, we want to enable these enterprises to make their business climate-friendly for the long term and, where appropriate, generate their own green energy and use it efficiently.

We will combine programs for the utilization and generation of green energy with targeted support measures for local enterprises from the skilled trades, industrial, services and agricultural sectors. This will involve training modules with a focus on business development, management and marketing; technical training; networking between entrepreneurs and credit institutions; the provision of grants, risk mitigation

instruments and guarantees; and networking between African SMEs and German technology companies. Simultaneously, we will ensure that the legal and political environment is conducive to minimizing investment risks.

### *Green energy by and for the people and municipalities of Africa*

It must be made sure that citizens and municipalities have a chance to be actively involved in the expansion of green energy systems. To that end, we want to assist eight African countries over the next five years as they put in place the requisite legal and administrative framework for the establishment of people's energy cooperatives. Moreover, by 2022, we want to establish 100 people's energy partnerships with Germany in which municipalities or individual citizens are able to get directly involved.

Efforts will be undertaken to introduce specific laws and policies to facilitate the participation of citizens and municipalities. In parallel, we will help build the capacity of local regulatory authorities by providing advice and training, and we will assist with the development of new municipal systems for citizen participation. People's energy cooperatives, people's energy agencies and municipal utilities should become the pioneers of green people's energy. There will be twinning arrangements between specific municipal actors involved in Germany's energy transition – municipal utilities, cooperatives and bioenergy villages – and African municipalities in order to lend targeted support to this endeavor.

### *Energy Training Initiative for Africa*

Training and services in the African energy sector must be improved in terms of quality and quantity, and a focus on green people's energy must be introduced. In eight African countries, additional skilled personnel will be trained for the energy sector, and support will be given to these countries as they create a quality management infrastructure.

**In response to specific local needs, we will offer the following services:**

- Development of new vocational training programs and adaptation of existing vocational training programs (both initial and ongoing training)
- Improvement of teacher and instructor training
- Provision of appropriate technical equipment
- Introduction of consumer protection elements
- Development of quality assurance mechanisms for energy sector services
- Development of a web portal to certify energy sector products and services. This, too, is an area where twinning arrangements with German partners are very promising.

### *Foster energy investment at the local level*

We want to support the development of viable business models at the municipal and local level. This is the prerequisite for facilitating investment by SMEs. Specifically, we want to support the efforts of 500 local and municipal players to develop business plans (including innovative payment systems) and concrete projects in eight African countries in the period up to 2022.

Together with development banks, we want to engage in targeted efforts to enhance appropriate support instruments and improve the investment environment.

**Our goals**

- Develop decentralized energy structures in rural regions with the help of municipalities, cooperatives and private-sector investments
- Build the capacity of African municipalities to provide affordable, reliable and sustainable energy
- Improve regional and transboundary energy supply networks
- Expand vocational training in the energy sector
- Prevent the development of a high-carbon economy in Africa

## 4 Sustainable energy transformation in Africa

Our efforts to foster green people's energy in Africa complement our development programs at the regional and national levels, as great challenges persist at these levels, too, which are an impediment to the development of green energy systems: Power grids do not reach all the regions; problems include transmission congestion and inefficiency. There are not enough power plants to meet the growing demand for electricity. There is enormous potential for improving energy efficiency, but it is not being used. Moreover, there is not enough investment. We are addressing these challenges in a cost-effective, pragmatic, swift and environmentally sound manner.

Together with our African partners, we are developing strategies, plans for the expansion of green energy, regulatory frameworks, and incentives. In that way, we want to create a basis for mobilizing investment and ensuring effective project implementation.

We will assist small players involved in power generation as they jointly set up mini-grids, so as to foster the development of new economic infrastructure. This includes the introduction of innovative digital solutions such as smart grids. Moreover, support must be given to the expansion, in line with needs, of transmission and distribution networks and the construction of (central) renewable energy plants in order to make sure that the green energy system as a whole will become stable.

Simultaneously, we are paying attention to coherence between policies and strategies in the energy sector and beyond. We support energy sector dialogues and

dialogues with other sectors in order to create synergies and accelerate development.

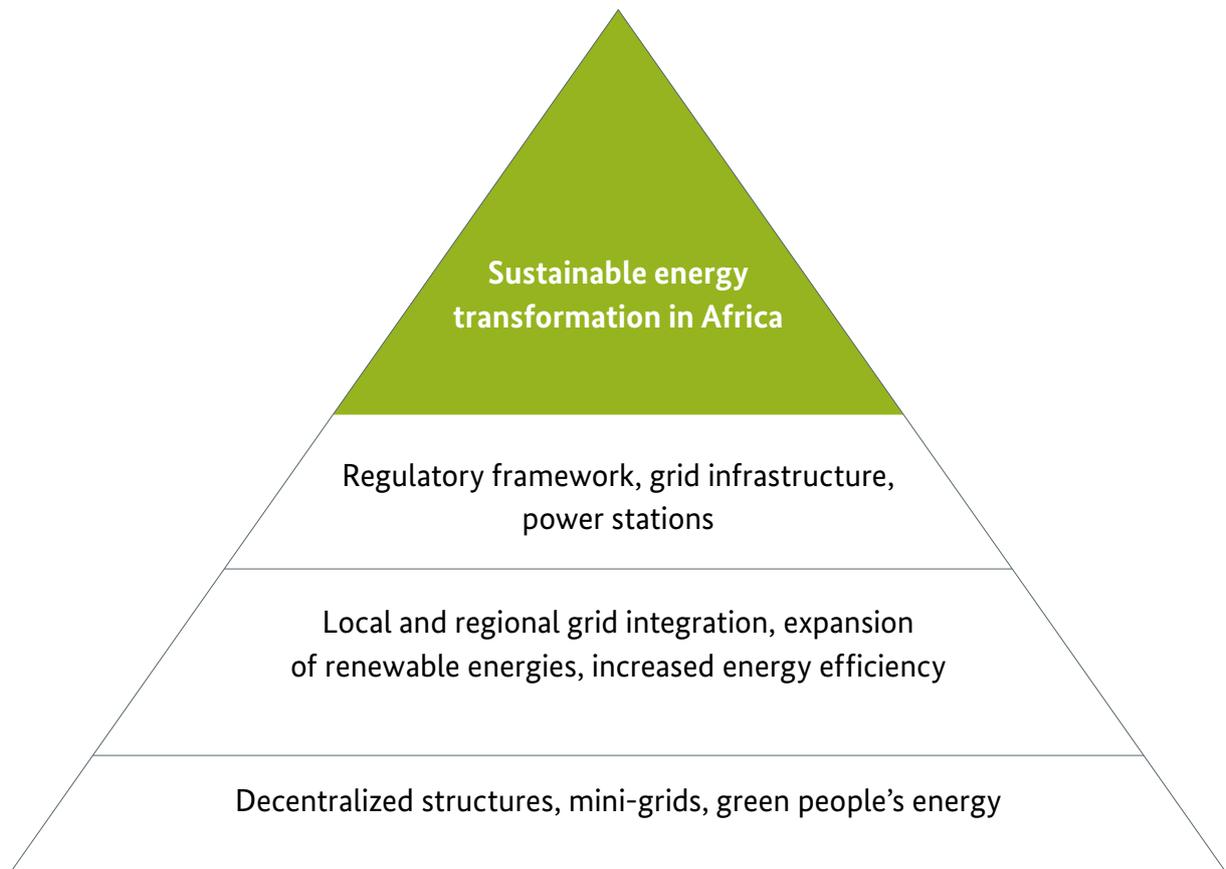
This is the only way in which we can create a basis for implementing the Sustainable Development Goals and the Paris climate agreement.

We will continue to offer this kind of support in the future. If all people in Africa are to benefit from green energy and sustainable development, an integrated approach will be needed that links local potential and larger issues related to the energy infrastructure.

Germany's energy transition has become a model for many countries around the world. They can see that it is in fact the most ambitious project worldwide for leading a highly industrialized economy away from fossil and nuclear power toward renewable energy. The transformation of the entire energy system is geared toward green energy. In our partnerships, we will share our experience, especially with regard to creating the necessary legal and regulatory environment to ensure long-term, seamless integration of the various energy sources.

We want to pass on the lessons we have learned. Green people's energy is possible, especially in Africa, but it requires an appropriate regulatory environment and proper design. Through our strategy, we want to make our expertise part of our development cooperation at all levels for the benefit of Africa, based on strong partnerships for people's energy and intermunicipal cooperation arrangements.

**OUR STRATEGY FOR GREEN PEOPLE'S ENERGY IN AFRICA IS PART OF AN OVERALL APPROACH FOR A SUSTAINABLE ENERGY TRANSFORMATION IN AFRICA:**



## GLOSSARY

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AEEP	<p>The Africa-EU Energy Partnership (AEEP) provides an institutional platform for policy dialogue and cooperation between Africa and the EU in the energy sector. It was founded in 2007 and seeks to achieve the following targets by 2020:</p> <ul style="list-style-type: none"> <li>→ <b>Access to energy.</b> Provide access to modern, sustainable energy services for an additional 100 million people in Africa.</li> <li>→ <b>Energy security.</b> Double the capacity for power trade within Africa and between Africa and the EU; double the use of natural gas in Africa; and increase gas exports to Europe.</li> <li>→ <b>Renewable energy and energy efficiency.</b> Increase the use of renewable energy in Africa (10,000 megawatts in hydropower, 5,000 megawatts in wind power, 500 megawatts in solar power; triple the use of all other renewable energy sources) and enhance energy efficiency, especially in the electricity sector.</li> </ul>
AREI	<p>The Africa Renewable Energy Initiative (AREI) has the goal of ensuring the accelerated installation of up to 10 gigawatts in additional renewable energy capacity in Africa by 2020, and as much as 300 gigawatts by 2030. AREI is an initiative with strong African leadership. At the Paris climate summit, the initiative was presented to the participants. Under Germany's Presidency, the G7 committed themselves to support AREI. The G7 and other donors pledged 10 billion US dollars, the largest contributions coming from Germany and France, which are providing 3 billion euros each.</p>
Energy Training Initiative	<p>At the Intersolar exhibition 2016, the BMZ launched its Energy Training Initiative. In an effort to increase its support for a global energy transition, Germany is providing training in the energy sector. The Initiative is starting in India, where Germany has a large-scale solar partnership with the government. The Initiative targets skilled manual workers and engineers and will be tailored to the local context in each partner country. This is intended to help introduce new quality standards and to give companies a chance to hire urgently needed skilled workers.</p>
EnDev	<p>EnDev (Energising Development) is a multi-donor partnership geared toward giving people access to energy. It was founded in 2004 and helps poor people and small and medium-sized enterprises as well as social institutions to get access to energy. Its target is to provide at least 20 million people with access to modern, climate-friendly and affordable energy by 2019. EnDev is currently active in 26 countries, with an emphasis on least developed countries and rural regions in Africa. EnDev is supported by Germany, the Netherlands, Norway, the UK, Sweden and Switzerland.</p>
IRENA	<p>The International Renewable Energy Agency (IRENA) is an intergovernmental organization and was founded in Bonn in 2009. IRENA and its members have set themselves the goal of fostering the expansion of all forms of renewable energy worldwide. So far, 151 countries and the European Union have become members of the organization.</p>

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