Cassava roots are processed into various products, including flour. The roots must first be chopped up.

Intelligent energy use in food production

A lot of energy is needed to feed the world's population. 30 per cent of the energy used worldwide goes into the production and processing of food from field to table. The vast majority of it comes from fossil fuels, being responsible for some 20 per cent of global greenhouse gas emissions*.

The world's population continues to grow, and with it the need for food and for energy to produce it. At the same time millions of farmers and processors in developing countries and emerging economies lack access to clean energy technologies.

How can these needs be met sustainably? The answer is: producing more food with less energy, making energy use more efficient, and introducing more clean energy technologies. That is exactly where the global project *'Powering Agriculture'* comes in. With its slogan *'Sustainable Energy for Food'*, it is boosting the uptake of clean energy technologies in the agricultural and food industry.

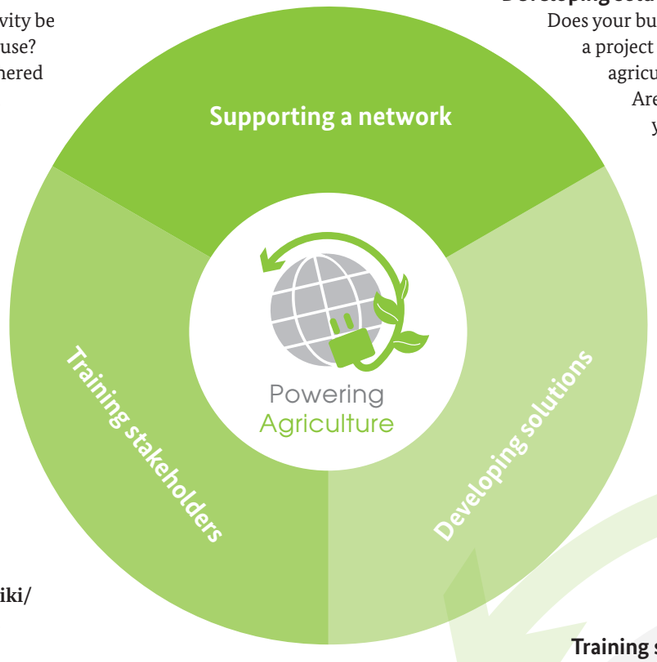
* Source: Food and Agriculture Organization of the United Nations (FAO) (2011) 'Energy-Smart Food for People and Climate – Issue Paper'

Powering Agriculture. What we do.

Supporting a network

How can agricultural productivity be boosted by sustainable energy use? What experience has been gathered so far? What questions remain to be answered? We provide information, organise expert events and commission studies. On our wiki portal, for instance, you will find a database on clean energy technologies (renewable energy and energy efficiency) used in the food industry. The portal and our events support an international network open to all stakeholders in energy and food.

To use the Powering Agriculture portal go to Energypedia at **https://energypedia.info/wiki/Portal:Powering_Agriculture**.



Developing solutions

Does your business want to carry out a project on sustainable energy use in agriculture? Do you need a partner? Are you looking for solutions to your energy-intensive production processes? We collaborate with both national and international energy and agricultural companies as well as with technical institutions in developing countries and emerging economies. Our aim is to set up model projects with the private sector and expert institutions and to disseminate their outcomes via the network.

Biogas plants use residual material to produce energy and high-quality fertiliser.

Training stakeholders

In developing countries and emerging economies it is often the case that farmers, technology suppliers, financial and energy service providers, and the agricultural industry and its advisors have little experience on the subject of sustainable generation and use of energy in agricultural production. Opportunities for further training are rare. We implement a competition and other measures to help local educational institutions to develop and provide specifically tailored training courses and further education programmes.

A model project

Improving energy efficiency in Kenyan tea factories

After the tea is picked the leaves undergo other energy-intensive processes: withering, rolling/CTC (crushing, tearing, curling), fermentation, drying, sorting.

Kenya is the largest tea producer in Africa and the largest tea exporter worldwide. However, most of the tea processing is highly energy-intensive. In particular, newly felled timber is used to generate energy. This is extremely inefficient and creates considerable environmental pollution.

A Powering Agriculture development partnership with *Bettys & Taylors of Harrogate* and *Kenya Tea Development Agency Holdings Ltd.* explores the potential for energy savings. Energy audits in four tea factories analyse energy use and develop recommendations for improvements. Training courses provide technicians with the qualifications to carry out energy audits in more factories.

The Powering Agriculture network

Be part of the solution!
Work with us on the global knowledge network for energy and food. Log onto our platform at **https://energypedia.info/wiki/Portal: Powering_Agriculture** on Energypedia. More than 3,500 users throughout the world are already signed up on Energypedia.

Our platform offers you the opportunity to

- Get information. At the portal you have access to agriculture and energy professionals, scientists and other interested opinion leaders.
- Share what you know. Pool your knowledge and practical experiences, create your own articles, add to or comment on existing content.
- Discuss the latest issues and problems. You can join the subject forums and raise questions of your own for discussion.
- Tell people about publications and events. Flag up your event or publication and reach experts across the globe.
- Meet people. Join groups and discuss issues that matter to you.
- Stay up to date. Keep abreast of the latest developments and experiences regarding energy and food and find out about events and publications.

Even simple sorting processes raise the end value of goods such as tomatoes considerably.

Threshing grain: The edible parts of the grain are separated mechanically.

Powering Agriculture. The project.

There are numerous successful examples in the agricultural and food industry demonstrating how energy can be used sustainably and efficiently. However, widespread implementation of technical solutions is still rare.

The global project *'Powering Agriculture – Sustainable Energy for Food'* improves conditions for using energy more sustainably in agriculture. We promote model projects in developing countries and emerging economies with agricultural potential and processing industries. In addition, we promote knowledge transfer and contacts between key actors from politics, science, industry and civil society.

We are part of the global initiative 'Powering Agriculture – An Energy Grand Challenge for Development' (PAEGC). In this initiative we work on behalf of the German Federal Ministry for Economic Cooperation and Development (BMZ) with the US Agency for International Development (USAID), the Swedish International Development Cooperation Agency (SIDA), the US government agency Overseas Private Investment Corporation (OPIC) and the US energy company Duke Energy. Together we support the development and dissemination of marketable initiatives for clean energy technologies in agriculture.

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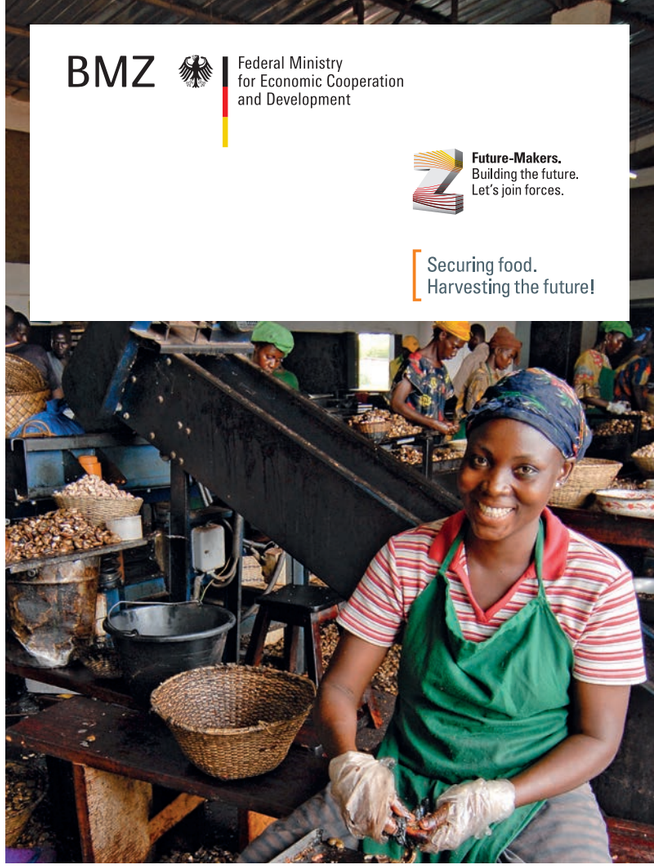
Future-Makers. Building the future. Let's join forces.

Securing food. Harvesting the future!



Powering Agriculture –
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