



Cooking Energy

Why it really matters if we are
to halve poverty by 2015

gtz

HERA – Household
Energy Programme

commissioned by



Federal Ministry
for Economic Cooperation
and Development



1. Key facts you should know about energy for cooking

- Cooking energy accounts for about 90 percent of all household energy consumption in developing countries.
- Worldwide, 2.5 billion people use biomass fuels for cooking. These include firewood, charcoal, dung and agricultural residues.
- Biomass fuels are often the only available energy source, especially in rural areas. In most Sub-Saharan countries more than 80 percent of the population use biomass fuels for their daily cooking.
- Despite massive efforts in substitution and electrification, the number of people relying on biomass energy is still increasing. It is estimated that in 2030, more than 2.7 billion people will cook with biomass.





2. Biomass for cooking – bad or good?

Disadvantages:

- Biomass fuels are mainly burned in inefficient open fires and traditional stoves.
- Every year, the smoke from open fires and traditional stoves kills 1.5 million people. This means that every 20 seconds a woman or child is dying due to inefficient use of biomass fuel.
- In many cases the demand for biomass fuels far exceeds sustainable supply. This leads to massive deforestation, land degradation and desertification.
- Dwindling resources lead to an additional workload for women and children, as they have to spend more time searching for firewood.

Advantages:

- Biomass can be a renewable source of energy.
- Biomass fuels are available in some form everywhere and can be burned without further processing.
- Usually biomass fuels are cheaper than alternative fuels such as gas, paraffin or electricity and are thus affordable for the poor.
- Technologies and techniques for sustainable production and efficient use of biomass energy are available. Further scaling up is needed.



3. Technologies for modern cooking

- Biomass fuels will remain the most important source of energy for the next decades. The best way of burning them efficiently and sustainably is the use of improved stoves.
- An improved household stove can save up to 60 percent of the fuel compared to the traditional three-stone fire.
- Energy-efficient stoves can greatly improve the combustion of fuels such that they emit very little smoke.
- Technologies range from artisanal or factory-produced clay and metal stoves to solar cookers, heat retainers as well as stoves using modern biofuels such as plant oil, ethanol or biogas.

For example Rocket Stoves:

The Rocket Stove has a unique fire chamber where virtually all the gases that are produced when the fire is lit are burnt up within the chamber and the heat that is produced is transferred efficiently and effectively to the pot. GTZ in cooperation with the Aprovecho Institute has designed various types of fuelwood stoves based on this principle.



4. Scaling up improved stoves

- Changing cooking habits is not an easy task; users have to be convinced that there are better methods than the traditional way.
- Improved stoves have to be efficient, clean-burning and convenient; they have to look modern and must still be affordable.
- Experiences of many different household energy initiatives have shown that a commercial approach is the most successful and sustainable way of promoting improved cooking technologies.
- Important activities include training of producers and facilitating their access to markets as well as awareness campaigns for users.
- Once an improved stove is used by every second household it becomes a “must-have” for the others. This “critical mass” is the basis for sustainable scaling-up.

For example Uganda:

The GTZ Energy-Saving Stove Project and its partners have reached over 200,000 households with improved stoves within two years. An innovative dissemination strategy has helped to reach over 80 percent of the population of the Bushenyi district.





5. How modern cooking technologies contribute to reduce poverty

- Where biomass fuel is bought, the use of efficient stoves directly saves money.
- The production and commercialisation of improved technologies generates jobs and small businesses.
- Both women and men produce and sell improved stoves, which gives them a better income. Many producers have become very successful.

For example Uganda:

During the last two years 290 jobs have been created.

They generate an income of about 261,000 Euro per year.



Millennium Development Goal 1

Eradicate extreme poverty and hunger

6. How modern cooking energy helps women

- By becoming entrepreneurs, women gain more self-confidence and improve their status in the community.
- In rural areas the time spent for collecting firewood is reduced, which enables women to do other things such as starting or expanding income generating activities. Children can spend more time learning.
- Cooking time is reduced and women can spend more time working in the fields or household as well as with their children.

For example Uganda:

On average, each household saves almost one hour per day in cooking time and collecting firewood.



Millennium Development Goal 3
Promote gender equality and empower women





7. How modern cooking energy improves health

- Improved stoves emit less particulate matter (PM), which reduces the risk of respiratory diseases and of eye infections significantly. Levels of carbon monoxide are also substantially reduced.
- The risk of burns is reduced since the fire is shielded by the stove.
- Mainly women and children benefit from clean and safe use of biomass for cooking.



For example Uganda:

Every second woman using the improved Rocket Stove reported suffering less eye irritation, burns or coughs.

Millennium Development Goals 4, 5, 6
Reduce child mortality
Improve maternal health
Combat diseases





8. How modern cooking energy protects the environment

- Reduction of woodfuel consumption reduces the pressure on forest resources and avoids costs for afforestation.
- Using less dung or agricultural residues for cooking can improve soil fertility and thus contribute to decrease of land degradation.

For example Uganda:

Thanks to the dissemination of improved stoves, over 200,000 tonnes of wood are saved per year. This is equivalent to spending almost eight million Euro in afforestation.



Millennium Development Goal 7
Ensure environmental sustainability

9. Modern cooking energy in a global partnership for development

- The UN Millennium Project seeks to halve the number of people without access to modern cooking fuels by 2015. To achieve this goal, every day, an additional 500,000 people have to get access to better cooking energy.
- This is a worthy goal, but it will require a massive concerted effort by the international community to tackle the problem and to raise awareness about the challenges and benefits of biomass energy.
- Increased commitments from governments in those countries affected by this issue are necessary to improve the policy framework for access to more sustainable, clean and affordable cooking energy.
- Cooperation between private and public sector in research and promotion of improved stoves has proven to be successful. Further joint activities are needed.





10. Cooking energy – what GTZ does

- During the past 20 years of running household energy projects, GTZ has gained a lot of experience. More than 1.5 million stoves have been disseminated with the support of GTZ.
- HERA is the umbrella programme for GTZ household energy projects in more than 15 countries, mainly in Africa and Latin America.
- Exchange of information, experiences and new developments, as well as networking, are essential for HERA's advising and lobbying services.
- HERA offers concepts and strategies in the field of household energy to its partners on a national, regional, and international level.







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