



Wet dead plants and human and animal waste are fed into the biogas digester, where they are broken down into a gas.

What is the Global Climate Change Alliance Plus?

The Global Climate Change Alliance Plus (GCCA+) is a European Union (EU) flagship initiative which is helping the world's most vulnerable countries to address climate change. Having started with just four pilot projects in 2008, it has become a major climate initiative that has funded over 70 projects of national, regional and worldwide scope in Africa, Asia, the Caribbean and the Pacific.

This EU initiative helps mainly Small Islands Developing States (SIDS) and Least Developed Countries (LDCs) increase their resilience to climate change.

The GCCA+ also supports these group of countries in implementing their commitments resulting from the 2015 Paris Agreement on Climate Change (COP21), in line with the 2030 Agenda for Sustainable Development and the new European Consensus on Development.

Ten years of GCCA+

2018 is a special year for GCCA+. In 2007, the European Union proposed launching a global alliance with developing countries that were most vulnerable to climate change. It became operational the year after.



10 years of GCCA+ in action

The EU GCCA+ initiative is making a significant contribution towards achieving the overall target of at least **20 % of the European Union budget spent for climate action.**

All GCCA+ projects must primarily aim at facilitating the transition to a climate-resilient, low-carbon future in line with the 2°C target.

70+ projects worldwide **€737m** GCCA+ 2007-2020

What role does Tanzania play in the GCCA+?

The programme was initiated in Tanzania in 2010 to support Tanzania's Government in strengthening the capacity of some of the most affected communities against the impacts of climate change. Now in a second phase of EU funding, 5 community-based projects began their implementation in mid-2015 and are scheduled to end in 2019.

Tanzania's economy is very dependent on sectors affected by climate variability

and change, notably agriculture. Current climate variability already results in significant economic damage. It is estimated that climate change will lead to large future additional economic costs, possibly amounting to 1-2% of GDP per year by 2030.

The Government of Tanzania has developed a national climate change strategy addressing both adaptation and mitigation. Strengthening capacities to cope with climate change impacts remains a priority, particularly in highly vulnerable sectors such as agriculture.



Biogas digesters and solar bottles revolutionize lives in pastoral communities in Tanzania

The use of biogas digesters for cooking has significantly reduced the amount of time it takes to collect firewood and has lessened the quantity of firewood needed, placing less pressure on deforestation.

Biogas digesters saves time and energy and reduces smoke inside a boma

The benefits of biogas

"When the ECOBOMA project selected our boma (homestead) to pilot biogas technology in our area I never believed it would change our lives to this extent," said Mrs. Naeku Loitore Mrefu – one of the beneficiaries of biogas digesters, installed by the lead partner Oikos, through the GCCA Tanzania project, funded by the EU.

"Before the installation of the digester, I used to collect firewood three-times a week but now I go once a week. I now use one bundle of firewood for seven days, compared to every three days before the installation. This allows me to do other social and economic activities," she recounted.

According to Loitore, the use of biogas has also led to improved cleanliness in their boma, as well as better health for the family, as there is no longer as much smoke in the house. Loitore says women from other bomas often come to prepare breakfast for their families at her boma. She believes the increased use of biogas digesters will greatly reduce the rate of deforestation in their area. She also encourages other bomas to use the technology as it is simple, economical and preserves the environment by not cutting down trees for firewood

"Domestic use of biogas for cooking is more time-efficient than conventional fuels, and this has been a key factor in the willingness of people to adopt it. Although communities still require time to collect waste and feed the digester, they now take a much shorter period than the equivalent required

to gather firewood and charcoal. Also, as combustion of biogas does not produce soot – like firewood, communities are prevented from respiratory infections and associated diseases as a result of reduced indoor air pollution," said Godlove Stephen, ECOBOMA Project Manager

How the biogas digester works

Any wet dead plants and human and animal waste are fed into the biogas digester, where they are broken down into a gas. This gas is piped through to a connecting stove where it can be used as a clean, safe and quick cooking fuel. Leftover waste from the digester can be used as a natural and efficient fertiliser for crops and plants or in aquaculture.



Simple solar technology sheds light into a Maasai home

Shedding light on the issue

Without a reliable and affordable source of energy, a typical Maasai mud hut is normally very dark – even during the day. But, thanks to a simple technology – a five-minute installation of a solar bottle, communities now enjoy light in their huts. A solar bottle produces a lamp with brightness equivalent to a 60-watt bulb.

"Without light I need to go outside the hut to prepare food for cooking, sew or do beading – this means I can't keep an eye on my baby," said Mrs Naeku Loitore Mrefu who has a two week-old baby. According to an age-old Maasai tradition she will remain in her hut for the next 5 months. It doesn't take much imagination to think what a difference light in her house will make.

Biogas and solar facts

Two **pilot biogas digesters** have been installed in the project area and installation of other **18 digesters** is underway.

65 solar bottles have been installed in houses and more than **150 households** have requested for the installation.

20 households in the project **will benefit** from the installation of biogas digesters and **representatives** from the communities are **trained on installation and maintenance** of digesters and solar bottles.

Some households have adopted the installation of solar bottles without support from the project.

How do the solar bottles work?

The 'litre of light' as it has come to be known, costs little more than \$2. The technology is simple – a two litre plastic bottle filled with water plus two capfuls of bleach to prevent algae. The bottle is

inserted into a small hole in the roof of the hut so that daylight from outside refracts through the water into the room. The hole is sealed with silicon to keep the bottle in place and to waterproof the installation preventing any roof leak.



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