

# Glossary

## Clean Development Mechanism (CDM)

The Clean Development Mechanism (CDM) is one of the flexibility mechanisms defined in the Kyoto Protocol that provides for emissions reduction projects which generate Certified Emission Reduction units which may be traded in emissions trading schemes.

The purpose of the CDM is to promote clean development in developing countries, i.e., the “non-Annex I” countries (countries that aren’t listed in Annex I of the Framework Convention).

The CDM is one of the Protocol’s “project-based” mechanisms, in that the CDM is designed to promote projects that reduce emissions. The emissions baseline are the emissions that are predicted to occur in the absence of a particular CDM project. CDM projects are “credited” against this baseline, in the sense that developing countries gain credit for producing these emission cuts.

The economic basis for including developing countries in efforts to reduce emissions is that emission cuts are thought to be less expensive in developing countries than developed countries. For example, in developing countries, environmental regulation is generally weaker than it is in developed countries. Thus, it is widely thought that there is greater potential for developing countries to reduce their emissions than developed countries.

From the viewpoint of bringing about a global reduction in emissions, emissions from developing countries are projected to increase substantially over this century. Infrastructure decisions made in developing countries could therefore have a very large influence on future efforts to limit total global emissions. The CDM is designed to start off developing countries on a path towards less pollution, with industrialized (Annex B) supporting these reductions financially.

## Gold Standard

The Gold Standard is a standard for creating high-quality emission reductions projects in the Clean Development Mechanism (CDM) and Voluntary Carbon Market. It was designed to ensure that carbon credits are not only real and verifiable but that they make measurable contributions to sustainable development worldwide. Gold Standard projects must adhere to a stringent and transparent set of criteria developed by the Secretariat, overseen by an independent Technical Advisory Committee and verified by UN accredited independent auditors. The certification process uniquely requires the involvement of local stakeholders and NGOs.

The Gold Standard Foundation that governs the certification standard is funded in its work by the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU), the Renewable Energy and Energy Efficiency Partnership (REEEP) and the WWF.

In 2017, the Sichuan Household Biogas Programme has migrated from the traditional Gold Standard and its early versions to the new Gold Standard for the Global Goals (GS4GG) as the first Gold Standard certified PoA ever to do so.

## Household Biogas Digesters

The technology of household biogas digesters is amazingly simple and hasn’t changed in decades. The manure is fed into the digester through the inlet pipe. Usually, the digester is constructed directly beneath the animal barns, so that the manure can just be swiped into the inlet. In the main digestion chamber, the biogas is generated and collected below the dome of the digester. Through a thin gas pipe and an attached hose, the gas is routed into a cooker in the household’s kitchen, where it is combusted as fuel.

Because the biogas is collected under the digester dome, it pushes down the surface of digestate within the chamber. Therefore, the digester generates a slight gas pressure that is sufficient to press the gas through the pipe into the cooker. Once the digester is filled, the households can access the effluent through the effluent extraction chamber. From there, the manure is either manually scooped out with buckets or pumped out with a small pump. After the biogas generation process, the fertiliser quality of the effluent is greatly improved compared to the natural animal manure. It can therefore be directly applied on the surrounding fields to close a natural cycle.

## Programme of Activities (PoA)

A PoA, or Programme of Activities is the type of project that we have chosen as a framework for the Sichuan Household Biogas Programme. A PoA consists of a set of so called Component Project Activities (CPAs) or Voluntary Project Activities (VPAs) with standardized criteria for eligible households, the same methods for calculating the emission reduction and harmonized monitoring procedures. As we supported more and more households with the construction of a household biogas digester, we have added them to the programme by including new CPAs resp. VPAs under the already registered umbrella PoA and, in doing so, we have been able to scale up the programme to 87 CPAs/VPAs and nearly 400,000 households within a few years and at moderate costs.

## Tonnes of Carbon Dioxide Equivalent (tCO<sub>2</sub>e)

Equivalent carbon dioxide (CO<sub>2</sub>e) is a measure for describing how much global warming a given type and amount of greenhouse gas may cause, using the functionally equivalent amount or concentration of carbon dioxide (CO<sub>2</sub>) as the reference.

This unit is used to compare the effect on climate change from gases like methane (CH<sub>4</sub>) to the effect of carbon dioxide. Methane has a Global Warming Potential (GWP) of 21, compared to CO<sub>2</sub> with 1. This means, that one ton of methane has the same warming effect on the climate as 21 tons of carbon dioxide.

As the emission reduction from the Sichuan Household Biogas PoA is partly achieved through the avoidance of methane and partly through the reduction of coal use, the total emission reduction is given in the unit of tCO<sub>2</sub>e.

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## UNFCCC

The United Nations Framework Convention on Climate Change (UNFCCC or FCCC) is an international environmental treaty negotiated at the United Nations Conference on Environment and Development (UNCED), informally known as the Earth Summit, held in Rio de Janeiro from 3 to 14 June 1992. The objective of the treaty is to “stabilize GHG concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system”.

The UNFCCC, is located in Bonn, Germany. The CDM Executive Board (CDM EB) is the UN body that overlooks the Clean Development Mechanism (CDM), manages the registration of new projects and the issuance of Certified Emissions Reductions (CERs).

With the start of the Paris Agreement on 1. January 2021 and the end of the Kyoto Protocol, the CDM will be phased out and will be replaced by the new Art. 6.4 mechanism which shall become fully operative in the next couple of years. Projects certified under this mechanism will generate Art. 6.4 Emission Reductions (Art. 6.4 ERs).

**As this PoA will not be transitioned from CDM to Art. 6.4, it will generate GS VEs under the Gold Standard for the Global Goals (GS4GG) until the end of its crediting period in 2025.**