CCER Household Biogas Projects, Sichuan (China)
Clean biogas for poor rural households

**Background**

The rural areas in Sichuan Province are among the poorest in China. The average annual per capita income in rural Sichuan is approximately 500 Euro, and the province contains 43 counties that have been officially defined as national poverty counties in order to qualify for economic assistance from the government. The situation is now even worse, due to the heavy 2008 earthquake in Sichuan that claimed the lives of nearly 70,000 people and left another 4.8 million homeless. An estimated 12 million animals of productive livestock were also killed during the devastating event.

**Project Description**

UPM’s CCER Sichuan Household Biogas Projects (namely SC01 and SC02) aim to support a total of 27,598 poor Sichuan rural households by installing efficient biogas digesters on their premises. These proven and reliable systems reduce methane emissions originating from the widely used pits to store animal manure and provide the households with clean biogas for cooking, heating and lighting.

Due to the reduction of methane emissions originating from the pits and of carbon dioxide emissions caused by the common use of coal and wood as cooking fuel, the participating households account for an annual GHG emission reduction of approximately 106,000 tCO$_2$e for both projects combined.

In addition to the CCER sales revenue, and as these project are integrated into the existing infrastructure framework of UPM’s Sichuan Biogas Programme of Activities (PoA), the Rural Energy Offices in Sichuan will additionally provide the project households with free annual maintenance service and on-demand technical support.

The credits are available for purchase over-the-counter to all mandatory players in the emissions trading pilots being implemented in Beijing, Shanghai and Tianjin as well as to any industry players in voluntary carbon markets globally.

**Key Facts**

<table>
<thead>
<tr>
<th>Project Type</th>
<th>Household Biogas</th>
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</thead>
<tbody>
<tr>
<td>Location</td>
<td>China, Sichuan Province</td>
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<tr>
<td>Methodology</td>
<td>CMS-001-V02 Thermal energy used by user, with or without electricity (2nd ed.)</td>
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<td></td>
<td>CMS-026-V01 CH$_4$ recovery from agricultural activities of family or small farm (1st ed.)</td>
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<tr>
<td>Reference</td>
<td>CMS-021-V01 CH$_4$ recovery from animal manure management system</td>
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<td>Carbon Credit Standard</td>
<td>Chinese Certified Emission Reduction (CCER)</td>
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<td>Validator/Verificator (DOE)</td>
<td>China Quality Certification Centre (CQC)</td>
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<td>Registration Date</td>
<td>21/01/2016</td>
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<tr>
<td>Date of First Credit Issuance</td>
<td>October 2016 (expected)</td>
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<tr>
<td>Number of Households included</td>
<td>SC01: 13,800</td>
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<td>Annual Credit Volume</td>
<td>app. 106,800 CCERs (SC01: 52,825 CCERs</td>
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<td>Crediting Period</td>
<td>10 years</td>
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Sustainability Benefits

The use of biogas digesters and stoves has several advantages beyond GHG emissions reduction when compared to current prevailing habits of manure pit storage below animal confinements and the use of coal and/or firewood as cooking fuel. Specifically, the use of digesters in rural environments can benefit community members by:

- Reducing the time spent by women collecting firewood or travelling to purchase fuel.
- Reducing the amount of household income spent on cooking fuel.
- Improving the indoor air quality: The project provides smoke-free fuel and significantly reduces the concentration of SO$_2$, CO, CO$_2$, NH$_3$ and PM10. In regions with traditionally high coal consumption, respiratory diseases are an especially serious health issue for women, who cook and stay home during the day, and their children.
- Improved sanitation systems: The project provides a clean and proper way of treating animal manure; thus preventing zoonotic diseases and infections due to improper manure handling.
- Providing high-quality fertilizer: The manure treated in a biogas system is a much higher quality fertilizer than manure originating from incomplete digestion processes in the commonly used pits. It can therefore substantially increase the income of the project households.

Project Location

The projects’ areas are located in selected national poverty counties of China’s Sichuan Province. For SC01: Mianyang, GuangAn, Suining, Leshan, Meishan and Aba; For SC02: Leshan, Neijiang, Zigong, Yibin and Luzhou.

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