

Mongolia: Improved Insulation and Fuel-Efficient Stoves



Based in Ulan Bator, the world's coldest capital, this Gold Standard project has set up supply and distribution chains for stove and insulation products; supporting local production, creating jobs and reducing indoor air pollution and fuel costs. The poorest households here spend a significant proportion of their monthly winter income on heating fuels. Designed specifically for the ger "yurt" districts of the city, improved, efficient stoves and advanced insulation "blankets" reduce heating fuel requirements and costs by as much as 60%.

Project type: Household devices

Region: Asia



Standards:

Gold Standard
Climate Security & Sustainable Development

Securing warmth: Children from one family enjoy the improved household insulation and stove heat.



The project

A ger, also known as a yurt, is a portable felt-covered dwelling that is a low-cost alternative to a house for many Mongolians. They are quickly assembled and have proliferated in Ulan Bator as people migrate to the city in an attempt to escape rural poverty. Winter temperatures here can average -20°C and the heating season lasts about eight months from September to April. This puts significant strain on the vulnerable families living in the poorest parts of the city who typically spend up to 40% of their monthly winter income on heating fuels.



The project area suffers from extremely cold temperatures and widespread poverty issues.

Vulnerable families in the poorest areas typically spend up to 40% of their monthly winter income on heating fuels

The five layer ger “blanket” sold in the project goes over the home and is comprised of layers of wool or felt covered in a waterproof layer. This significantly reduces heating requirements and subsequent fuel costs. Additionally, the project distributes four types of fuel-efficient stove and partners with a microfinance institution to make the stove and insulation blanket affordable to households. This increases the number of homes which are sufficiently insulated from the severe cold and offers improved levels of household financial security.

The insulating five layer ger “blanket” reduces heating requirements by up to 60%.



Contribution to sustainable development

The project contributes to sustainable development in several key areas:

Health & well-being

The stoves reduce air pollution by at least 80% which has a significant impact on the health and well-being of each family. The new stoves are coal fuelled and designed with a highly insulated combustion chamber to retain heat for longer and at a higher temperature than the traditional versions. Currently 88% of households use a traditional, inefficient stove for cooking and heating. The new stove enables households to keep warmer while using less fuel.

Energy access

The increased distribution of the blankets and stoves ensures the share of energy-efficient resources is improved throughout the country. The fuel-efficient products improve the affordability of energy within the project areas as less money is needed for expensive fuels.

Financial security

The five layer ger “blanket” offers greater protection from the harsh weather conditions and reduces household heating fuel requirement by up to 60%, allowing household income to be attributed elsewhere. Additionally, the project works with XacBank, one of Mongolia’s largest microfinance institutions, which allows households who can’t afford the upfront costs, and who also lack collateral and verifiable credit history, to take small loans to repay the cost of the devices. As the project receives carbon revenues, it could enable the funding of an increasing number of microloans for future customers in the ger districts.



Ulan Bator is the largest city in Mongolia and is home to 45% of the population.

Job creation

The project involves 24 small local businesses in the supply, sale and installation of the insulation blankets, creating 240 new jobs. Approximately 30 product centres have been established in low-income neighbourhoods and are used to display, market and sell the stoves and insulation. 60 employees have been hired full-time to work in these product centres which also provide after-sales service and support.

Economic growth

The project developer has set up supply and distribution chains for the cookstove and insulation products; supporting local production and creating channels to sell the products to outside markets. These production facilities and supply centres also create job opportunities and alternative incomes for the local communities. Demand for the products has been high – by 2014 the project had reached 167,000 households with a plan to double that impact in the following three years, further contributing to the country's economic growth.

Infrastructure development

Currently 91% of gers are only insulated with single or double layers. The five layer ger “blanket” sold in the project goes over the home and is comprised of layers of wool or felt covered in a waterproof layer. This insulation offers greater protection from the elements, offering more adequate and reliable shelter for communities.

The region

Despite strong national economic growth in recent times, as demonstrated by an average annual growth rate of 10.6% in GDP between 2008 and 2012, the transition to a market economy after the breakup of the Soviet Union has come with a significant increase in poverty. Prior to 1990, the centrally planned economy meant that livestock and property were state owned but people were guaranteed work, free education and access to other essentials such as commodities. Consequently, there was almost no poverty. Now nearly 25% of the Ulan Bator population and almost 40% of the whole country live below the national poverty line of US \$1.25/day (World Bank, 2012) and the average monthly income of households in the area is US \$175/month.

Following the Soviet Union's collapse, there was rapid urbanisation as the rural population attempted to escape joblessness and freezing winters. The increasingly severe climate means that Mongolians have continued to leave behind their traditional pastoral lifestyle (the percentage of Mongolia's population in urban areas jumped from 57% to 68% between 2000 and 2010)¹. The rapid pace of urbanisation in Ulan Bator in particular has left the capital unable to provide for even the basic needs of its urban poor².

1 UNFPA Mongolia, 2011/07/17, NEWS (http://mongolia.unfpa.org/2011/07/17/3540/mongolia_has_launched_the_main_findings_of_its_2010_population_and_housing_census/)

2 <http://www.irinnews.org/pdf/in-depth/tomorrowscrisestoday-chapter11.pdf>

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