



Wangkui biomass to energy, China

The project replaces fossil fuel use by utilizing local surplus biomass residue to generate sustainable electricity for North-East China.

Location



The project is located in northern China, in the province of Heilongjiang bordering Russia. The region is rich in agricultural resources and is a center for agriculture, making it a perfect place for a biomass-based emission reduction project.

Project



In China's northernmost province of Heilongjiang, forestry and agriculture traditionally form the most important economic piles. With the economic development, modern industries evolve and demand for electricity rises. In this situation, the Wangkui project has been implemented to fuel the province's economy with clean energy and at the same time benefit regional farmers.

Crop residues from maize, wheat and other agriculture are collected at four straw collection sites within a radius of 100km from the plant, providing additional income for hundreds of farmers and their families. Before the implementation of the project activity, the valuable biomass (mostly maize stalks and husks) was considered as waste and burned it in an unregulated manner. Now, 269,000 tonnes of biomass are collected by the project activity annually and transformed into carbon neutral energy for the wider region. Ash is given back to the farmers as fertilizer free of charge.



Technically, the project has a capacity of 30MW and consists of a state-of-the-art straw-fired boiler manufactured by a Western technology provider, and a set of turbine and generator produced domestically. The project transfers advanced biomass technology to a developing region. The project supplies 200 GWh of electricity to the Northeast China Grid, which makes for an enormous emission reduction. The implementation of a second power production line is already under planning, presenting a promising outlook to truly sustainable development.

Project achievements



Socio-economic impact:

- The project generated jobs for locals, namely 180 staff on site, another 620 in biomass collection and at process stations, and many biomass transport drivers.
- Farmers receive additional income for supplying the biomass that before was considered waste.
- The project owner improved the local infrastructure (e.g. by building a new road near the power plant).
- As a good corporate citizen, the company supports the poor and those in need in the area. Financial aid was given to earthquake victims in several regions.
- Local farmers are supplied with free, green fertilizer in the form of straw ash.
- The project activity lead to the significant reduction of open-field biomass burning that caused accidents, air pollution and respiratory diseases.

Environmental impact:

- Better air quality due to less open fires from burning the biomass on the fields.
- Biomass waste streams from the plant are being recycled and reused.

Checklist Project 300855



✓ Additionality and permanence:	according to the rules of the VCS
✓ 3 rd party verified:	by Bureau Veritas
✓ Transparency:	provided by Markit Environmental Registry
✓ Annual CO ₂ reduction:	120,000 tCO ₂ e
✓ Social and environmental benefits:	as documented in our database
✓ Marketing material:	high resolution pictures available