



Energy from waste gas, China

In China's so called "coal pit", in Shanxi province with its heavy industries, a waste gas recovery installation at a steel plant gives an example of how sustainable development can generate both climate and social benefits.

Location



The project is located in Shanxi province, in the northern part of the People's Republic of China. The province is dominated by coal and steel industry, which give it a rich potential of emission mitigation. With growing awareness for the advantages linked to modern, low-carbon processes, this project leads by example on China's way into a sustainable economy.

Project



Rich coal reserves made the province one of the places suffering most from the country's economic boom but also a place for innovation in the industry, as this project shows. Antai, a steel mill in the heart of the province, decided to assume responsibility and act. By installing modern technology, training their workers and developing a carbon mitigation project according to the strict rules of the Gold Standard, they not only managed to reduce their CO₂ emissions but at the same time improved the life of local communities.

At Antai, employees receive salaries and social insurance packages (with medical insurance and a retirement fund) above Chinese standards, get regular training on safety and technical issues, and are even given educational grants. In addition, the company supports students from the region with scholarships and funds the local musical orchestra. And every local can already tell the success of the waste gas recovery project: the air has become much cleaner over the past years.



Technically, the project consists of two 25MW steam turbine units and four 75t/h gas-fired boilers. The waste gas comes primarily from the facility's blast furnaces, with some additional surplus gas from steel converters and coke ovens. The electricity and steam generated by the project are totally consumed in the steel mill's production processes and thus reduce its power consumption from the grid. In the absence of the project, a large amount of combustible waste gas would be flared or even released directly to the atmosphere, polluting the air and contributing heavily to global warming.

Project achievements



Socio-economic impact:

- The project provided employment to locals during the construction phase. In the operation and maintenance of the power stations, employment opportunities on a regular and permanent basis are provided, with over 150 jobs for the local community created by today.
- The project gives employees a safe and positive work environment with compensation and benefits above Chinese standards. In addition, it provides a social insurance package with medical insurance and a retirement fund, which is not common in China's private industry.
- The project is providing Yaun villagers who are above the age of 60 and unable to work anymore with a subsidy of up to 400 Yuan per person and month, no matter if they worked at the steel plant before.
- Scholarships of around 10,000 Yuan are granted to young people of the region that enable them to attend a university in the next big city, Taiyuan.
- The project provides education to employees at local schools and colleges.
- The project owner funds cultural activities, e.g. by supporting the musical orchestra of Yaun.

Environmental impact:

- The project has reduced the emission of air pollutants such as sulphur dioxide (SO₂) and suspended particulate matter (TSP) from coal fired power plants.
- General air quality has improved around the plant location due to avoidance of uncontrolled gas emissions.
- Significant water consumption reduction of about 70% has been achieved by replacing water cooling applications with modern air cooling generator units.

Checklist Projekt 300303



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