Citrus Farm Replaces Coal with Biomass

A South African citrus farm and fruit juice producer switches from fossil fuel to climate-friendly biomass for steam and heat production.

Thereby this project reduces greenhouse gas emissions and makes use of a so far untapped local renewable energy resource.

1.66 t CO₂ avoided per tonne of fruit peels dried

4 permanent jobs

4,235 tonnes of coal avoided

Prior to the project, the citrus processor in Limpopo, South Africa, consumed coal to meet its thermal energy needs to dry fruit peels. Dried peels are a valuable side product and can be used as animal feed or fertiliser. The project has converted the kilns that provide the air to dry the peel in 2011. Since then, sawdust and wood chips are being used for this process.

Coal needs to be transported from long distances to the plant. But there is a better and local solution for thermal energy production than fossil fuel sourced from far away. The Limpopo region is home to a large number of sawmills processing wood from local forests and thereby accumulating...
huge quantities of sawdust and waste wood. This biomass waste is a so far untapped resource but readily available within a radius of 50 kilometres to the citrus farm.

Additionally to the reduction of CO₂, the project creates temporary and permanent jobs. A part of the money from the carbon finance will be donated to a worker’s trust, which will support for example the education of workers and their children trough scholarships or improvement of their housing on the farm.

Impacts and benefits achieved:

- 16,300 tonnes of sawdust have been burnt yet for drying 6,200 tonnes of fruit peels.
- Thus, 4,235 tonnes of coal have been avoided.
- For drying one tonne of peels 1.66 t CO₂ or 625 kg of coal are being avoided.
- The project created four permanent jobs.

Prior to the project, the citrus processor in Limpopo consumed coal to dry orange peels, releasing climate-damaging emissions.

Each year 120,000 tonnes of fruits are being processed.