

Description of INNOVATION

Innovation	
Title	Thermovoltaic Biomass Dryer
Picture	
Domain	Infrastructure
Source of wood	Woody biomass, waste
Location	Nouvelle-Aquitaine
Implementers	Forest operators
Actual status	Running
Approach	<p>BASE has developed Cogen'Air, the first Thermovoltaic solar panel, capable of producing electricity and heat simultaneously. While a conventional solar panel converts only about 15 to 20% of the solar energy received into electricity, Cogen'Air produces 10% more electricity and 3 times more heat, for a total efficiency of more than 60%. This Thermovoltaic panel is therefore 4 times more efficient than a conventional solar panel.</p> <p>BASE designs and markets heat and electricity production solutions for agricultural drying activities and biomass drying activities.</p> <p>It also markets solutions for the energy efficiency of buildings: heating support, electricity and domestic hot water production.</p>
Main results	<p>The dryers designed with Cogen'Air Thermovoltaic technology ensure a homogeneous and fast drying of the wood energy. The control system allows the dryer to operate optimally, based on numerous temperature and humidity sensors.</p> <p>These dryers make it possible to recycle wood waste and give it a second life. One of the BASE dryers is intended, for example, for the recovery and drying of crushed strains, dry chips that will then be marketed in supermarkets as firelighters. This product from the Cogen'Air drying process has a high PCI and is ideal for boilers.</p> <p>The electricity is resold and provides additional income to the operator.</p>
Lessons learned	<p>The main objectives are:</p> <ul style="list-style-type: none"> - Provide innovative and cost-effective solar solutions to contribute to a sustainable society. - Guarantee a drying quality superior to that of open-air drying and allow the production of a fuel with constant characteristics specific to the needs of boilers. - Improve the value of wood by preserving the resource in particular. - Reduce stocks and the mass to be transported. - Achieve a higher PCI, reduce wood consumption, increase boiler

	life - Generate income from photovoltaic production.
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Innovation assessment

Region	Nouvelle-Aquitaine
Time scale	Since 2009
Mobilization Potential	Technological innovation to increase the profitability of wood energy
Kind of wood concerned	Woody biomass, waste
Sustainability Potential	Positive: promotes energy transition and the circular economy
Impact on environment & biodiversity	No impact: solar panels are installed at the wood energy processing site
Ease of implementation	Easy
Economic impact	Additional income from photovoltaic energy production
Job effect	NA
Income effect	Reduction of logistics costs
Specific knowledge needed	NA
Costs of implementation	NA
Technical readiness level	Applicable in the next year
Key information for adoption	NA