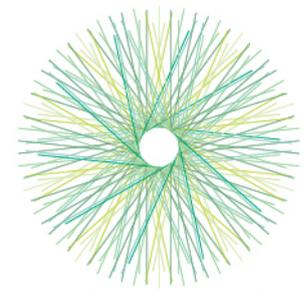


Press article

Energy at farm level

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Farming for energy

Italian farmers develop circular economy for clean electricity

Using waste and crops to generate power is well established among farmers in some parts of Europe, like in Italy. In northern Italy's Po valley, farmers use specially-grown crops to create electricity using the process of anaerobic digestion. According to Anna Trettenero, a farmer who runs biogas digester *Alfalfa Energia*, it ticks both the environmental and income boxes, so long as there is sufficient investment and feed stocks available. "The Alfalfa Energia plant adds value to my region's agricultural production, while working along the principles of circular bioeconomy," she says.

Facing the consequences of a restructuring sugar sector, a small group of farmers decided to seize the opportunity to diversify and add value to their crops. Trettenero says: "When our regional sugar mill closed in 2006, farmers in my region, including me, were cultivating around 3000 hectares of beet. Urged to look for diversification possibilities and with a favourable national regulatory framework for the development of energy from renewable sources, we figured that our area had a lot of potential for anaerobic digestion. So, we put plans together for a 5 million Euro plant. The facility would be powered by the silage of the main crops produced in the region: corn, sorghum, wheat, barley and rye. Next, we set up a company - Alfalfa Energia - in which the farmers are shareholders. This company bought the necessary land in Bottarolo so that the biogas plant could be built."

The facility became operational in 2012, creating biogas which is then burned to generate electricity. The plant produces 1 MW of electricity and 1.2 MW of surplus thermal energy which is recovered for additional processing. "Our electricity feeds into the national grid," Trettenero says. "we signed up when tariffs were at their peak and we are currently still being paid at a guaranteed price for 1 MW produced. This is sufficient to keep our activities above the survival line, however we know this price support will be phased out in the coming years. The real market price is so low that the installation will no longer be viable after the price support disappears."

When asked how she is dealing with this challenge, Trettenero replies: "As well as electricity generation, we also built our business model around the production and packaging of high quality dehydrated alfalfa. The surplus heat does not leave the facility but is redirected to a dehydrator. The dehydrated alfalfa has been well received, both globally by livestock farmers and locally by Parmigiano Reggiano producers. Still, more innovation could help!" Trettenero already has a plan for how she can generate more innovative ideas: "To get that going, I would like to start an Operational Group that looks into how the plant could be kept viable without policy support." All in all, Trettenero is urging farmers with marginal or unused land to consider what she calls "energy farming" – producing crops specifically to generate power. "In these tough times for farmers, it may provide them with alternative income streams, while keeping their operations viable."

Press article 250words

Farming for energy

Italian farmers develop circular economy for clean electricity

Anna Trettenero is one of the farmers in Italy's Po valley who uses crops to create electricity through the process of anaerobic digestion. "It ticks the environmental and income boxes, so long as there is sufficient investment and feed stocks available. Our biogas plant Alfalfa Energia adds value to my region's agricultural production, while working along the principles of circular bioeconomy," she says.

When their regional sugar mill closed in 2006 because of a restructured sugar sector, farmers, including Anna, were cultivating around 3000 hectares of beet. Urged to look for diversification and with a favourable national regulatory framework to develop energy from renewable sources, their area had a lot of potential for anaerobic digestion. Anna explains: "We put plans together for a 5 million Euro plant. The facility would be powered by the silage of the main crops produced in the region: corn, sorghum, wheat, barley and rye. Next, we set up Alfalfa Energia in which the farmers are shareholders."

Since 2012 the plant produces 1 MW of electricity and 1.2 MW of surplus thermal energy, recovered for additional processing. "We signed up when tariffs were at their peak and we currently receive a guaranteed price for 1 MW produced. However, the real market price is now so low that the installation will no longer be viable after the price support disappears."

Trettenero deals with this challenge: "Innovation could help. So, I would like to start an Operational Group that looks into that." All in all, Trettenero urges farmers to use unused land to produce crops to generate power. "It may provide them with alternative income."

Background information

Project information

Alfalfa Energia, Pavia, Italy
Anna Trettenero

Pictures

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Farmer Anna Trettenero (on the left) explains to EIP-AGRI Focus Group 'Renewable energy at farm level' members: "The plant produces 1 MW of electricity and 1.2 MW of surplus thermal energy."



The biogas digester is powered by the silage of the main crops produced in the region: corn, sorghum, wheat, barley and rye.