

Valorisation of biogas thermal energy for the integrated production of feed and food proteins

Riferimenti

Tipo di progetto

Gruppo Operativo

Acronimo

POWERFOOD

Tematica

Energia rinnovabile

Information

Time frame

2020 - 2023

Durata

30 months

Partners (no.)

6

Regione

Piemonte

Comparto

Multifiliera

Localizzazione

ITC16 - Cuneo

Costo totale

€478.513,84

Fonte di finanziamento principale

Programma di sviluppo rurale

Programma di sviluppo rurale

2014IT06RDRP009: Italy - Rural Development

Programme (Regional) - Piemonte

Parole chiave

Farming/forestry competitiveness and diversification

Waste, by-products and residues management

Energy management

Farming practice

Agricultural production system

Sito web

<http://power-food.eu>

Project status

completed



Objectives

Validation on the Piedmontese territory of the production technologies of protein biomasses (algae and insects) exploiting the thermal energy, carbon dioxide (CO₂) and digestate produced by existing anaerobic digestion plants, with subsequent realization of pilot plants in Piedmontese companies.

Activities

Analyze, test and validate the production technologies of protein algae (*Spirulina* spp and *Chlorella* spp.) with different solutions; analyze, test and validate protein production technologies from insects (*Hermetia illucens*). Analyze the technical and legal obstacles to overcome for the large-scale adoption of Piedmontese technologies. Activate at least two small or medium-scale pilot plants at Piedmontese agricultural anaerobic digesters, which will be technically monitored and evaluated from an economic point of view. Studying and implementing supply chain organizational solutions. Disclose the obtained information.

Context

The overall energy efficiency of the biogas plants is low due to a limited exploitation of the thermal energy produced. The result is a serious economic damage to the agricultural production system and a failure to fully exploit the renewable energy produced. This is mainly due to the location of the plants, placed at a great distance from potential thermal utilities, and because of the production methods of thermal energy: the plants supply thermal energy without the possibility of accumulation. The POWERFOOD project aims to valorise the thermal energy produced by

biogas plants, as well as other by-products (CO2 and nutrients) to be reused for the production of alternative protein sources (algae and insects).

Partenariato

Role	Azienda	Address	Telephone	E-mail
Leader	Consorzio Monviso Agroenergia	Via del Gibuti n.1 10064 Pinerolo TO Italy	0121 3259164	info@monvisoenergia.it
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Partner	Università degli Studi di Torino - Dipartimento di Scienze Agrarie, Forestali e Alimentari (DiSAFA)	Via Largo Braccini,2 10095 Grugliasco TO Italy	011 6708791	michele.lonati@unito.it
Partner	Azienda Carrera Società Semplice Agricola	Via Giordano Bruno n. 4 28060 Granozzo con Monticello NO Italy	3476228921	aziendacarrera@gmail.com
Partner	Società Agricola Maracuja di Montersino s.s.	Frazione Cervignasco n.59 12037 Saluzzo CN Italy	0175 71310	mauro.monter84@gmail.com
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Pratiche abstract

Description

Analyze, test and validate the production technologies of protein microalgae (*Spirulina* spp. E *Chlorella* spp.) with different solutions aimed at their prototype application in the Piedmontese context. The pilot plants producing algae will exploit part of the thermal energy, CO2 and the digestate produced by existing anaerobic digestion plants.

Link utili

Titolo/Descrizione	Url	Tipologia
Sito web del progetto	http://power-food.eu	Sito web
Articolo La Stampa del 01/11/2023	https://power-food.eu/comunicati-stampa/	Materiali utili
Articolo La Stampa del 25/10/2022	https://power-food.eu/comunicati-stampa/	Materiali utili
Locandina dell'evento organizzato nell'ambito dell'Innovation Agri Tour	https://power-food.eu/2023/10/19/innovation-agri-tour-2023/	Materiali utili
Materiale divulgativo	https://power-food.eu/documenti/	Materiali utili
The biogas sector as circular hub: the Powerfood model (English version)	https://power-food.eu/wp-content/uploads/2023/11/Convegno_CMA_English_Version_1...	Materiali utili
Il settore del Biogas come modello circolare: Il Progetto Powerfood (Versione Italiana)	https://power-food.eu/wp-content/uploads/2023/11/Presentazione_Powerfood_1_00.p...	Materiali utili
Poster di presentazione del progetto al Convegno in Québec "Insect to Feed the World 2022"	https://power-food.eu/wp-content/uploads/2023/11/Poster_POWERFOOD_IFW_22_DF.pdf	Materiali utili

Valorizzazione dell'energia termica da biogas per la produzione integrata di proteine feed e food

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<https://www.innovarurale.it/pei-agri/gruppi-operativi/bancadati-go-pei/valorizzazione-dellenergia-termica-da-biogas-la>

Titolo/Descrizione	Url	Tipologia
Opuscolo informativo del progetto	https://power-food.eu/2023/11/04/opuscolo-divulgativo/	Materiali utili
