



# RES4LIVE

ENERGY SMART LIVESTOCK FARMING  
TOWARDS ZERO FOSSIL FUEL CONSUMPTION

## COLLABORATION WITH OTHER PROJECTS

### Project title

RES4LIVE - Energy Smart Livestock Farming towards Zero Fossil Fuel Consumption

### Grant agreement: 101000785

From October 2020 to September 2024

### Prepared by: CETRI

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This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 101000785 **Disclaimer:** The sole responsibility for any error or omissions lies with the editor. The content does not necessarily reflect the opinion of the European Commission. The European Commission is also not responsible for any use that may be made of the information contained herein

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## **PARTNERS SHORT NAMES**

**AUA** - AGRICULTURAL UNIVERSITY OF ATHENS

**UNIBO** – UNIVERSITY OF BOLOGNA

**ATB** - LEIBNIZ INSTITUTE FOR AGRICULTURAL ENGINEERING AND BIOECONOMY

**EV ILVO** - RESEARCH INSTITUTE FOR AGRICULTURE, FISHERIES AND FOOD

**UGENT** - GHENT UNIVERSITY

**CERTH** - CENTRE FOR RESEARCH AND TECHNOLOGY-HELLAS

**AU** - AARHUS UNIVERSITY

**LVAT** - LEHR- UND VERSUCHSANSTALT FÜR TIERZUCHT UND TIERHALTUNG GROß KREUTZ E.V.

**PSYCTOTHERM** - G. LIGEROS & SIA OE

**PLEGMA LABS**- PLEGMA LABS TECHNOLOGIKES LYSEIS ANONYMOS ETAIRIA

**CRMT SAS** - CENTRE DE RECHERCHES EN MACHINES THERMIQUES

**TERRA** - TERRA ENERGY

**MG SUSTAINABLE** - MG SUSTAINABLE ENGINEERING AB

**CETRI** - CENTER FOR TECHNOLOGY RESEARCH & INNOVATION LTD

**GOLINELLI** - GOLINELLI GIULIO

**EAAP** - FEDERAZIONE EUROPEA PER LA ZOOTECNICA

**EUREC** - EUREC EESV

## COLLABORATION WITH OTHER PROJECTS FUNDED UNDER FNR-06 A&B

The clustering activities of the RES4LIVE project are briefly presented in the final PEDR document, as part of the dissemination and communication plan, since a detailed report is provided by D6.1 (due at M48) as part of Task 6.1 Clustering through stakeholders engagement. RES4LIVE is a member of the AREA ZERO Cluster which is an alliance aiming at working together to implement technologies, techniques, or strategies toward lower harmful emissions, cleaner energy, and improved energy efficiency in the agricultural sector. The current, ongoing projects of the AREA ZERO cluster are presented in the following Table 1.

*Table 1. AREA ZERO Cluster project members*

Project	Description
<b>REGACE</b>	The EU-funded <b>REGACE</b> project is dedicated to developing an innovative Agrivoltaics technology that uses CO <sub>2</sub> enrichment to sustainably increase greenhouse yields and improve electricity production. Based upon the patented responsive tracking system, developed by REGACE partner TriSolar, the project creates systems that enable the dual use of land and infrastructure leading to reduced construction and maintenance costs, duration of execution, and the reduction of CO <sub>2</sub> emissions caused by conventional Agrivoltaic installations.
<b>PV4Plants</b>	<b>PV4Plants</b> is a European Horizon Project which promotes the synergy of agriculture and energy sectors thanks to an innovative agriPV technology to improve growing conditions and land use efficiency, yield and renewable energy production. Our system is based on light spectrum engineering, a multi-indicator real-time monitoring system, and improved microclimate beneath agriPV panels to improve health and yield while producing renewable energy. Fundamentally, PV4Plants promotes the creation of AgriPV systems with climate, water and light spectrum control for safe, healthy and improved crop production.
<b>HyperFarm</b>	<b>HyperFarm</b> is an Innovation Action (IA) project which aims to demonstrate combined agrovoltaic systems, with dual land use for crop production and simultaneous power production. HyperFarm joins multiple types of actors intending to optimize viable agrivoltaic business models as well as test the marketability of the products, via the inclusion of new innovative photovoltaic technologies, radically new crop production systems, stakeholder innovation workshops, and citizen-consumer acceptance, public perception analysis, and farmer adoption studies. HyPERFarm also develops and demonstrates new ways of utilizing and distributing the energy produced on-farm.
<b>RES4LIVE</b>	<b>RES4LIVE</b> is an Innovation Action (IA) project dealing with the adaptation of RES technologies and machinery and their demonstration at a large scale on the farm level that require supporting measures concerning spatial planning, infrastructure, different business models and market organization, trends that are not all under control from a farmer's perspective.

## SYMBIOSYST

The EU-funded **SYMBIOSYST** project will deliver standardised cost-effective solutions for agrivoltaics. This will involve developing PV modules, mounting structures, and operation and maintenance practices that meet the specific needs of different crops, climates and landscapes. The project will ensure the solutions developed are aesthetically pleasing and harmoniously integrated with farming practices.

## Value4Farm

To reduce the carbon footprint of the agricultural sector, the promotion of decentralised renewable energy production and use is seen as a reasonable solution, also encouraging rural development. In the case of farming systems, coupling the place of production and consumption of energy allows synergies between agriculture and renewable energy technologies but usually raises several challenges, such as the high price of technologies especially for small-size farms or the energy crop vs food dilemma. VALUE4FARM aims to demonstrate three renewable-based local value chains based on agrivoltaics and biogas and coupling sustainable food and renewable energy production.

The AREA ZERO Cluster is very active with its website, <https://AREAZEROcluster.eu>, presented in Figure 1. There are regular cluster meetings every 1 or 2 months amongst the members of the cluster to discuss issues related to common policy recommendations, good practices on technical issues, exchange networks to strengthen the international presence of the cluster as well as each of the project itself, competitiveness, business and technological maturity levels and dissemination, communication strategies for the promotion of the cluster targets as well as of the separate projects.

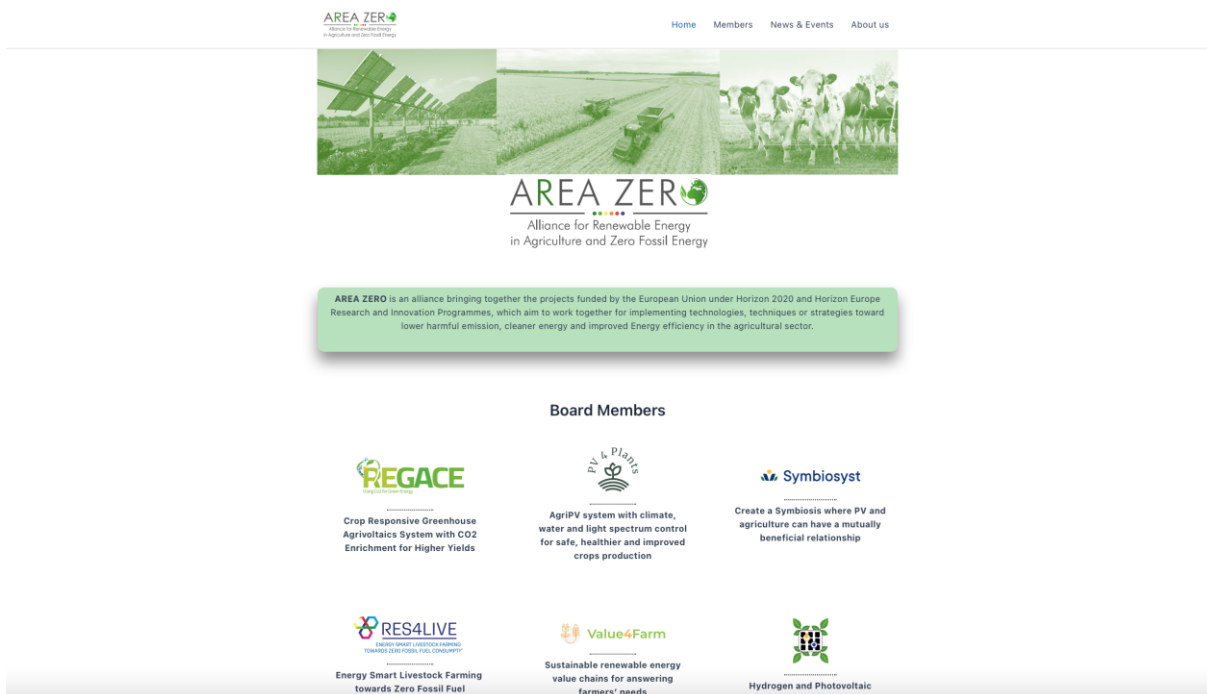


Figure 1. The AREA ZERO Cluster website.

The AREA ZERO cluster has also a YouTube channel with 7 subscribers and 253 views where webinars organized amongst the different projects have been uploaded. During the webinars, each of the cluster members presented its goals and the corresponding achievements at that point, followed by a Q&A section before closing with a final concluding discussion and the future of the farming has been discussed.



Figure 2. The AREA ZERO Cluster webinar is available on YouTube.

On the 14<sup>th</sup> of March 2024, and as part of the extended program of the EU Sustainable Energy Week 2024 (EUSEW 2024), the Area Zero Cluster organized a webinar entitled “The Farming Future: Opportunities and Challenges in the Agricultural Energy Transition”. The online event was organised in collaboration with the projects HyPERFarm, RES4LIVE, TheGreefa, PV4PLANTS, REGACE and Symbiosyst. The event focused on practical solutions and their social implications, ensuring that new technologies are adopted and well-received by the farming community. The participants, audience, and viewers were introduced to the solutions proposed by the three ongoing projects HyPERFarm, RES4LIVE and TheGreefa, which presented their results in terms of improvement of energy and resource efficiency in the agricultural sector whereas the three new projects PV4PLANTS, REGACE and Symbiosyst introduced and presented as new members of the AREA ZERO Cluster. A panel of experts discussed the social aspects and acceptance of the newly developed technologies. The online event has been recorded and it was uploaded on the AREA ZERO Cluster YouTube account with 170 views, so far.

**AGENDA**

**WEBINAR**

**The Farming Future: Opportunities and Challenges in the Agricultural Energy Transition**

**14/03/2024, 2PM – 4PM CET**

**AREA ZERO**  
Alliance for Renewable Energy in Agriculture and Zero Fossil Energy

**SUSTAINABLE ENERGY WEEK**

Time	Title	Speakers
2:00 PM - 2:05 PM	Opening of the event	Jasper van den Berg – PNO Consultants
<b>Innovative Technological Applications</b>		
2:05 PM - 2:50 PM	TheGreefa: thermochemical fluids in greenhouse farming	Serena Danesi – ZHAW
	HyPErFarm: key highlights and results of the HyPErFarm Agrivoltaics pilot sites	Wouter Merckx – TRANSFARM
	RES4LIVE: PVT installation in livestock farms	Alexander Loris – MG Sustainable Engineering
2:50 PM - 3:10 PM	<b>Adaptations to Farms</b> <i>Panel discussion on social aspects and acceptance of the developed technologies</i>	Marleen Gysen – Boerenbond ( <i>Moderator</i> ) Raphaël Herculim – Strane Innovation Tom Schaecken – Boerenbond Petros Tegenaw – ILVO
<b>New EU-funded projects</b>		
3:10 PM - 3:55 PM	PV4PLANTS: AgriPV system with climate, water and light spectrum control	Selçuk Yerci – ODTU-GUNAM
	REGACE: Greenhouse Agrivoltaics	Esther Magadley – Trisolar
	Symbiosyst: Creating new synergies between solar energy and agriculture	David Moser – Eurac Research
3:55 PM - 4:00 PM	Closing remarks	Jasper van den Berg – PNO Consultants


 These projects have received funding from the European Union's Horizon 2020 Research and Innovation programme.  
 (HyPErFarm-GA101000785, RES4LIVE-GA101000785, TheGreefa-GA101000801)




 #AreaZero areazerocluster.eu #EUSEW2024

Figure 3. The online event was organized by the AREA ZERO cluster members as part of the extended EUSEW 2024.

## Conclusions

This deliverable aims to demonstrate the clustering activities conducted up to M48. The participation of RES4LIVE in parallel cluster activities has accelerated the dissemination and exploitation strategy. Brainstorming meetings amongst the AREA ZERO Cluster projects regarding common policy recommendations and best practices ensures that all projects on the same topic are on the same page

and establishing a common strategy. Even further, a common publication in the European Energy Innovation magazine under the Cluster umbrella promoted RES4LIVE even more and showed that the route to fossil-free solutions in livestock farming is not a matter of just a project. In conclusion, the networking expansion through clustering increased the visibility of RES4LIVE rendering the project's social media accounts exposed to a wider audience and our participation in several workshops, events, etc. to get magnified.