



HarvRESt
Greener Farming with RES

D3.3

HarvRESt Capacity-building material

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DISCLAIMER

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HarvREST's methodology (GA No 101136904) for the capacity-building task builds on existing expertise, tools, and templates developed internally by White Research while also considering European Commission guidelines and best practices available in the literature. Part of the standard methodology adopted has already been developed in previous research projects where White Research was a beneficiary, such as the iPRODUCE (GA No. 870037) and the BeCOOP (GA No. No 952930) projects. This approach ensures optimal resource allocation, uniformity and adherence to project requirements. Ad hoc and tailored modifications were integrated into the methodology used by HarvREST to comply with GA conditions, EU recommendations and project specificities. This report presents the adjusted methodology as it was further developed and applied within HarvREST.

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ABBREVIATIONS

ARC	Awareness-Raising Campaigns
CHP	Combined Heat and Power
EU	European Union
GA	Grant Agreement
GDPR	General Data Protection Regulation
KPI	Key Performance Indicator
MCDA	Multi Criteria Decision Analysis
NGO	Non-Governmental Organization
PV	Photovoltaic
Q&A	Questions & Answers
R&D	Research and Development
RES	Renewable Energy Sources
ROI	Return on Investment
RTO	Research and Technology Organisations
SME	Small and Medium Enterprise
STEM	Science, Technology, Engineering and Mathematics
UC	Use Case
WP	Work Package

EXECUTIVE SUMMARY

The HarvRESt project aims to support the integration of renewable energy sources (RES) in European agriculture, helping farms and agro-communities reduce carbon emissions, improve resource efficiency, diversify income opportunities, and strengthen the sustainability of agricultural production.

Within this framework, **Task 3.4** focused on the development and implementation of a **capacity building programme** for farmers, rural stakeholders and other relevant actors involved in the HarvRESt Use Cases. The task addressed key knowledge and capacity needs related to RES uptake, including technical feasibility, environmental sustainability, policy and regulatory conditions, business models, financing mechanisms, stakeholder engagement and market understanding to empower rural actors and contribute to closing skill gaps.

This report presents the main outputs of **Task 3.4** and documents the HarvRESt capacity building programme developed during the task. The work was based on previous HarvRESt results, including findings on stakeholder needs, framework conditions and engagement strategies developed under **T2.2 and T3.1**, as well as on a specific **training needs analysis** carried out for the preparation of the capacity building material.

As part of this work, **five thematic training modules** were developed, covering the main dimensions of RES uptake in agriculture: **technical aspects of RES technologies, environmental and sustainability considerations, policy and regulatory frameworks, business models and financial mechanisms, and stakeholder engagement and market research**. These modules were prepared with the contribution of **WR, CIRCE, BETA, Suite5, ACSA, CKIC, ENG and HEC**, according to their respective expertise and role in the project. Together, they provide a common capacity building baseline for HarvRESt, while allowing each Use Case to adapt the content to its local context, stakeholder profile, language and technological focus.

This report also presents the main lessons of six training workshops organised in the HarvRESt Use Cases. These workshops aimed to facilitate knowledge transfer, practical learning and discussion among relevant stakeholders, while gathering insights on participants' questions, knowledge gaps, feedback and lessons learned. Across the HarvRESt Use Cases, the training workshops engaged **309** participants, including representatives from the agricultural sector, industry and technology providers, research and academia, public authorities and policymakers, investment and finance, advisory and support organisations, and civil society and local communities.

Across the workshops, **a key lesson emerging from the task implementation is that capacity building tends to be more effective when it moves beyond general information provision and is connected to concrete Use Case realities**, including practical demonstrations, real data, site-specific examples, peer exchange and direct discussion with technical experts, farmers, researchers, industry actors and public authorities. The training workshops also revealed that knowledge gaps still persist, specifically surrounding certification schemes, regulatory frameworks, financial viability, environmental considerations, and the use of planning and data-driven tools persist across different stakeholder groups, highlighting the need for future capacity building interventions to target these areas specifically.

Through these activities, Task 3.4 translated HarvRESt knowledge into practical training resources and locally adapted capacity building actions. The resulting material provides a common basis for further knowledge transfer, while the lessons generated through implementation can inform the refinement of HarvRESt tools, business guidance, policy activities and future stakeholder support.

1. INTRODUCTION

1.1 Purpose and scope of the capacity building programme

The HarvRESt capacity building programme has been developed to support the uptake of renewable energy sources (RES) at farm level by addressing knowledge, skills, and perception-related barriers identified across different agricultural and territorial contexts. While technological solutions for on-farm renewable energy production are increasingly available, their adoption remains uneven, highlighting the need for structured, context-sensitive training and knowledge transfer mechanisms.

The primary purpose of the programme is to strengthen the decision-making capacity of farmers and relevant stakeholders by providing targeted, practical, and accessible training on the technical, environmental, business, policy, and social dimensions of RES integration in agriculture. In line with good practices observed in previous Horizon Europe and Horizon 2020 projects, the HarvRESt approach positions capacity building as an iterative and adaptive process, closely linked to real-world implementation and stakeholder feedback rather than a one-off dissemination activity.

The scope of the programme includes:

- the identification of training needs and barriers to RES uptake;
- the development of modular training content that can be adapted to diverse farm typologies and regional contexts;
- the delivery of training workshops at Use Case level, ensuring proximity to end users and local relevance;
- the documentation and reporting of training activities to enable transparency, comparability, and replication.

By embedding training activities within the HarvRESt Use Cases, the programme ensures that capacity building directly supports practical experimentation, stakeholder engagement, and the longer-term objectives of sustainable and scalable RES integration in agriculture.

1.2 Link with WP3 objectives and HarvRESt outcomes

The capacity building programme directly contributes to the objectives of Work Package 3 (WP3), which focuses on stakeholder engagement, awareness raising, and the creation of enabling conditions for RES uptake at farm level. In particular, the training activities support WP3 by:

- enhancing stakeholders' understanding of RES technologies and their interaction with agricultural production systems;
- improving farmers' and advisors' ability to assess technical feasibility, environmental impacts, regulatory constraints, and economic viability;
- facilitating informed participation in other WP3 activities, including stakeholder engagement processes and monitoring and evaluation actions;
- generating structured qualitative and quantitative inputs that complement the monitoring framework described in Deliverable D3.5.

In addition, the capacity building programme contributes to wider HarvREST outcomes by strengthening the human and organisational capacities required to effectively use project tools, including decision-support systems and scenario-based modelling outputs developed in other work packages. The programme thus acts as a bridge between analytical project results and their practical application at farm and territorial level.

1.3 Structure of the deliverable

This deliverable is structured as follows:

- Chapter 2 presents the training framework and methodology, including the training needs assessment and the guidelines developed for the design, implementation and reporting of the capacity building activities.
- Chapter 3 describes the five thematic training modules developed under Task 3.4, covering the technical, environmental, policy, business, and stakeholder engagement and market research dimensions of RES uptake in agriculture.
- Chapter 4 documents the implementation of the capacity building activities across the five HarvREST Use Cases and discusses the main cross-cutting findings, knowledge gaps and implications for the project.
- Chapter 5 presents the main conclusions.

2. TRAINING FRAMEWORK AND METHODOLOGY

This chapter presents the methodological foundations of the HarvRESt capacity building programme. Building on evidence generated through WP2 and insights from the literature, it describes the identification of key training needs and thematic priorities and details the Capacity Building Guidelines developed to provide a harmonised yet adaptable framework for the design, implementation, and reporting of training activities across the HarvRESt Use Cases.

2.1 Training needs assessment

The Training Needs Analysis combined three complementary sources of evidence: findings generated under WP2, a targeted review of relevant academic and project literature, and input from the consortium partners responsible for developing the thematic training modules. Identified needs were grouped into thematic categories and reviewed according to their recurrence across the evidence, their relevance to the technologies and stakeholder groups represented in the HarvRESt Use Cases, and their alignment with the expertise and outputs available within the project. This process informed the selection of five priority training areas covering technical, environmental, regulatory, business, and stakeholder engagement and market research.

2.1.1 *Summary of insights from WP2 (survey, interviews)*

The findings generated through the work conducted in WP2 tasks highlighted a generally positive attitude among farmers and rural stakeholders towards the energy transition, coupled with significant uncertainty regarding the practical implementation of RES solutions. The results of the survey carried out as part of T2.2, based on a Technology Acceptance Model (TAM) framework, identified perceived usefulness, perceived ease of use, environmental stewardship and risk aversion as relevant factors shaping farmers' interest in RES adoption. The path analysis indicated that perceived usefulness and perceived ease of use were positively associated with behavioural intention, while environmental stewardship influenced intention through several direct and indirect pathways. Risk aversion showed a more complex relationship, affecting some components of the acceptance model without producing a statistically significant total effect on intention.

The survey and interviews revealed that farmers are every day more aware of the environmental benefits associated with RES, including greenhouse gas reduction and improved resource efficiency. However, this **awareness does not consistently translate into adoption, primarily due to concerns related to economic viability, operational complexity, and regulatory uncertainty**. High upfront investment costs were identified as a prominent barrier, particularly for small and medium-sized farms with limited access to capital or tailored financial instruments.

Interviews with stakeholders from energy companies, public authorities, and farmer organisations further underlined the importance of context-specific guidance. Energy companies and advisors emphasised the need for better technical literacy among farmers to facilitate realistic feasibility assessments, while public authorities acknowledged gaps between existing policy frameworks and their effective implementation at local level. Farmers themselves expressed difficulties in navigating administrative procedures, obtaining permits, and understanding eligibility criteria for support schemes.

Across Use Cases, WP2 results highlighted that lack of tailored information and advisory support remains a critical bottleneck. Many farmers tend to rely on informal networks or peer examples to inform their decisions, reflecting limited trust in generic or top-down information sources. At the same time, interviews pointed to

growing interest in collective approaches, such as energy communities or cooperative RES projects, as a means to reduce individual risk and investment burden.

2.1.2 *Identified gaps in knowledge, skills and perceptions*

Building on the WP2 evidence, several interrelated gaps were identified in the literature that directly informed the design of the HarvRESt capacity building programme.

The integration of RES in European agriculture is central to meeting EU decarbonisation goals and enhancing the resilience of rural economies. However, **despite technological availability and supportive policy frameworks, uptake at the farm level remains fragmented**. A growing body of literature suggests that **insufficient training and capacity building structures constitute a critical bottleneck for adoption** (Pestisha et al., 2023; Wang et al., 2023).

Training needs in this context span technical, financial, and organisational domains. Farmers are increasingly expected to engage with complex energy systems (e.g., solar PV, anaerobic digestion, agri-PV), often requiring a broad set of skills. Successful RES adoption requires a combination of technical competence, familiarity with the relevant regulatory framework, and the capacity to plan strategically over the longer term (Michailidis et al., 2024). **Existing training opportunities are frequently generalist and not tailored to the diverse needs of farm typologies across Europe** (Paris et al., 2024).

As highlighted in the HarvRESt project's early findings, **"many farmers perceive RES as a promising but inaccessible innovation due to unclear information pathways, lack of peer examples, and insufficient local advisory support"** (HarvRESt, D2.1, 2024). Everest (2021), examining farmers' willingness to establish renewable energy cooperatives in north-western Turkey, found that willingness varied according to factors including engagement with agricultural organisations, internet use, farm size and geographical context. Although these findings are context-specific, they indicate that access to relevant networks and information may influence farmers' interest in collective renewable energy initiatives.

More broadly, Serebrennikov et al. (2020) found that the adoption of sustainable farming practices in Europe is shaped by a combination of economic and environmental attitudes, information sources, farmer characteristics and local conditions. While this review does not only focus on RES, but it also reinforces the importance of adapting capacity-building and knowledge-transfer approaches to the circumstances and information needs of different farmer groups. Conventional technology-push approaches may overlook farmers' practical experience and locally grounded knowledge. By contrast, co-creation and demonstration-based models can actively involve farmers in the learning process and connect technical guidance with real farming conditions. Farmers considering or implementing RES solutions consistently identify the need for training that includes:

- practical maintenance and troubleshooting;
- financial planning for RES investment (including subsidies and cooperative models);
- navigation of permitting and administrative requirements (Wang et al., 2023);
- effective communication and collaboration with local stakeholders, cooperatives, and energy advisors to support informed, collective decision-making (HarvRESt, D2.1, 2025).

2.1.3 *Prioritised training themes*

In response to the identified gaps, a set of prioritised training themes was defined to structure the HarvREST capacity building programme. These themes aim to ensure balanced coverage of the main dimensions influencing RES adoption while remaining directly relevant to farmers' decision-making processes leveraging from the work carried out in the HarvREST project.

The prioritised themes include:

- technical aspects of RES technologies suitable for agricultural contexts;
- environmental performance and sustainability assessment;
- business models, financial planning, and economic feasibility;
- policy frameworks, regulatory requirements, and available support mechanisms;
- stakeholder engagement, market dynamics, and territorial considerations.

These themes form the basis of the modular training structure described in Chapter 3 and are aligned with approaches successfully applied in previous EU-funded projects focusing on market uptake and capacity building.

2.2 Capacity building and training workshop guidelines

The implementation of the HarvREST capacity building programme was guided by a set of Capacity building Guidelines developed under Task 3.4 and shared with all Use Case teams to support the consistent design, delivery, and reporting of training activities. This document was conceived as a practical and harmonised framework to ensure that capacity building actions across diverse geographical, socio-economic, and agricultural contexts follow a common logic while remaining sufficiently flexible to address local needs.

The Guidelines built directly on the results of WP2, including the analysis of socio-economic framework conditions, stakeholder perceptions, and training needs, and were aligned with the broader stakeholder engagement and awareness-raising strategy developed within WP3. Their primary objective was to translate the evidence gathered in earlier project phases into an operational approach for capacity building that supports the uptake of RES at farm level in a structured, transparent, and replicable manner.

The Capacity building guidelines were designed with a twofold purpose. On the one hand, they defined a shared structure for training content, workshop design, and reporting, enabling comparability across Use Cases and aggregation of results at project level. On the other hand, they explicitly recognised the heterogeneity of farming systems, regulatory environments, and stakeholder landscapes across the HarvREST Use Cases, encouraging adaptation of content, format, and emphasis to local conditions. This dual approach reflected lessons learned from comparable EU-funded projects, where overly standardised training formats were found to limit relevance and engagement.

In alignment with the principles established in D3.1 (Stakeholder Engagement Strategy), the guidelines followed a participatory and practice-oriented training methodology, moving beyond one-way knowledge transfer towards interactive learning processes. Training workshops were conceived as spaces for dialogue, peer exchange, and collective reflection, allowing farmers and other stakeholders to relate technical and strategic information to their own operational realities. In line with WP2 findings, the Capacity building

Guidelines emphasised the importance of experiential learning, the use of concrete examples, and the integration of local case studies to enhance comprehension and trust.

Another central element was the adoption of a modular training structure, organised around **five thematic modules addressing technical, environmental, business, policy, and stakeholder engagement dimensions of RES uptake**. Rather than requiring all modules to be delivered in full in every Use Case, the Guidelines encouraged Use Case teams to prioritise and combine modules according to identified needs, levels of prior knowledge, and stakeholder profiles. This modularity supported targeted capacity building and avoided information overload, particularly for farmers with limited time availability.

The Guidelines also provided clear recommendations regarding target groups and inclusiveness. While farmers are the primary audience, the importance of involving a broader set of actors, including agricultural advisors, cooperatives, energy providers, local authorities, and representatives of energy communities was highlighted. This multi-actor perspective reflected HarvRESt's holistic approach and recognised that RES adoption at farm level is influenced by interactions across the wider rural and energy ecosystem.

From an implementation perspective, the Guidelines set out key considerations related to logistics, language, and accessibility. Training workshops were to be delivered in the local language of each Use Case to ensure effective communication and engagement. Flexible delivery formats (in-person, online, or hybrid) were encouraged to accommodate local constraints and preferences. Attention was also given to practical aspects such as timing, duration, and seasonal workload, acknowledging that farmers' availability was shaped by agricultural cycles.

To support transparency, learning, and continuous improvement, the task leader prepared a set of standardised reporting tools and procedures. These included a common reporting template (Annex 1. Reporting template) for training workshops, attendance records, and mechanisms for collecting qualitative feedback from participants. The systematic use of these tools ensured that training activities can be documented in a comparable manner and that insights generated at Use Case level can feed into monitoring and evaluation activities, as well as into the synthesis presented in this deliverable.

Finally, the Guidelines addressed ethical and data protection considerations, particularly in relation to the collection of personal data during training activities. Clear procedures for informed consent and compliance with GDPR requirements were defined, ensuring that capacity building actions adhere to both legal and ethical standards.

In this way, the HarvRESt Capacity building Guidelines provided a coherent methodological framework that translated the project's analytical foundations into actionable training practices. By combining harmonised structures with local adaptability, participatory learning principles, and systematic reporting, the Guidelines ensured that capacity building activities effectively contributed to WP3 objectives and supported the broader goal of enabling informed, confident, and context-sensitive adoption of RES at farm level.

3. HarvREST TRAINING MATERIAL

Having established the methodological foundations and training priorities of the HarvREST capacity building programme, the following section presents the training modules developed to operationalise this approach. The section demonstrates how the needs and gaps identified through WP2 and the Training Needs Analysis were translated into a coherent learning framework, providing participants with the knowledge and skills required to support informed decision-making on renewable energy adoption in agricultural settings.

3.1 Modules' description

The HarvREST capacity building programme is structured around five thematic training modules, each addressing a specific set of barriers identified through the Training Needs Analysis and earlier WP2 activities (Table 1). The modular design follows recognised good practices from previous EU-funded projects, where capacity building was organised around clearly defined thematic pillars and adapted to local contexts.

Each module was developed by consortium partners with demonstrated expertise in the respective domain and follows the methodological principles set out in the HarvREST Capacity building Guidelines. The modules are designed to be:

- complementary rather than standalone,
- adaptable to different levels of prior knowledge,
- applicable across diverse agricultural and geographical contexts.

Together, the modules address technical, environmental, economic, regulatory, and social dimensions of RES uptake, reflecting HarvREST's systemic understanding of the energy transition in agriculture.

The five modules form a complementary learning framework. They can be used individually or combined according to the needs, stakeholder profiles and technological focus of each Use Case.

Table 1. HarvREST capacity building module pathway

1	2	3	4	5
Understand RES options	Assess sustainability	Navigate policy context	Assess financial viability	Engage actors and markets
Technical module	Environmental & sustainability module	Policy module	Business module	Stakeholder engagement & market research module
<i>Technologies and farm-level integration</i>	<i>Benefits, risks, trade-offs and circularity</i>	<i>Regulatory frameworks and support instruments</i>	<i>Business models, finance and investment logic</i>	<i>Stakeholder perceptions, local needs and market realities</i>

3.1.1 Technical module

Technical module	
Involved partners: CIRCE, Suite5	
Capacity building Step	
Understanding RES Options for Agriculture	
Objectives	
<p>The module supports participants to develop an understanding of the main renewable energy technologies applicable to agriculture, including solar photovoltaic, wind, hydropower, biomass/biogas, and green hydrogen systems. The course explores how these technologies can be integrated into agricultural operations for purposes such as irrigation, farm electricity supply, heating, and agro-industrial processes. Participants also gain insights into the technical requirements and operational considerations involved in implementing on farms. In addition, participants learn how to use analytical tools to evaluate and compare renewable energy options and identify solutions that are most suitable for specific agricultural contexts.</p>	
Content of the Module	
<p>The course provides an overview of key renewable energy technologies applicable to agriculture, including solar photovoltaic, wind, hydropower, biomass, biogas, and green hydrogen systems. It explores practical applications of renewable energy sources (RES) in agricultural settings, such as solar-powered irrigation, renewable-powered farm operations, biomass-based heating, and on-farm electricity generation and storage ((jError! No se encuentra el origen de la referencia.)).</p> <p>Participants also examine the technical considerations involved in deploying RES, including resource assessment, system sizing, installation requirements, operational and maintenance needs, and the expected lifespan of technologies. In addition, the course introduces energy self-consumption models and the concept of energy hybridisation, demonstrating how combinations of technologies such as solar, wind, batteries, and hydrogen can improve energy reliability, efficiency, and cost-effectiveness in farming operations.</p> <p>The course also introduces the concept of the Agro Virtual Power Plant (AVPP) as a digital tool for modelling energy generation, storage, and demand within agricultural systems. Finally, the course presents decision-support approaches, including DSS and MCDA methodologies, alongside practical case studies on agrivoltaics, hybrid solar-wind systems, hydrogen-powered agricultural machinery, and farm-level biomass and biogas installations.</p>	
Gaps addressed	
<p>The course addresses several existing knowledge and capacity gaps related to the use of renewable energy in agriculture. These include limited technical knowledge of renewable energy technologies applicable to agricultural systems, as well as limited understanding of how renewable energy solutions can be integrated into farming operations. The course also responds to challenges related to assessing the technical feasibility of renewable energy installations and evaluating different investment options and system configurations. In addition, it increases awareness of innovative renewable energy approaches in agriculture, including agrivoltaics, energy storage technologies, and green hydrogen applications.</p>	

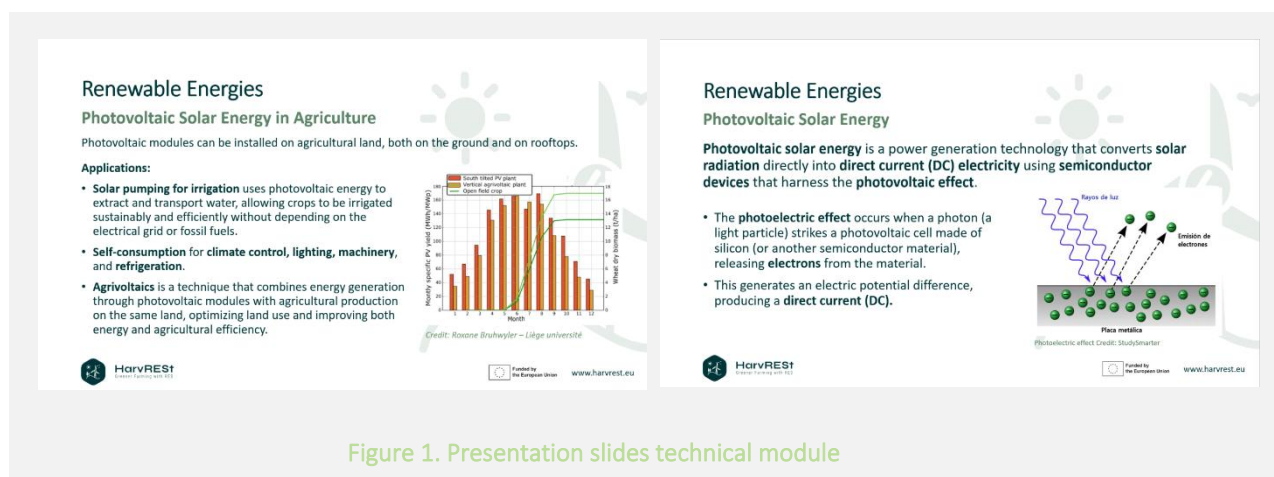


Figure 1. Presentation slides technical module

3.1.2 Environmental & sustainability module

Environmental & sustainability module

Involved partners: BETA

☰ Capacity building Step

Assessing Environmental Sustainability

🎯 Objectives

This module provides participants with an understanding of the environmental benefits associated with the use of renewable energy sources (RES) in agriculture, while also recognising the potential negative impacts and trade-offs that may arise from their deployment. The course explores opportunities for implementing RES in a sustainable manner that supports both agricultural productivity and environmental protection.

📖 Content of the Module

The course explores the environmental dimensions of renewable energy deployment in agriculture, including both the positive impacts and potential trade-offs associated with different technologies. Participants will examine the environmental co-benefits of RES, such as microclimate regulation, improved soil moisture retention, crop protection, and opportunities to enhance biodiversity within agricultural landscapes. At the same time, the course addresses potential environmental challenges related to renewable energy deployment, including land-use conflicts, resource-intensive manufacturing processes, waste management issues, and impacts on wildlife and ecosystems (*Error! No se encuentra el origen de la referencia.*).

Participants also learn about environmental planning and impact management approaches, including environmental impact assessments, sustainable siting of renewable energy installations, life-cycle management of technologies, and integrated planning strategies that balance food production, energy generation, and ecosystem protection. In addition, the course includes practical examples and case studies on topics such as biogas production, digestate use, and biobased fertilizers. Finally, the course highlights pathways toward environmentally sustainable renewable energy deployment through circular economy approaches, climate-smart agriculture, environmental monitoring, knowledge-sharing partnerships, and supportive policy frameworks.

🔍 Gaps addressed

The course addresses existing knowledge gaps related to the environmental implications of renewable energy deployment in agricultural systems, including both the environmental benefits and potential risks associated with different technologies. It also responds to limited awareness of environmental monitoring tools and approaches that can support sustainable renewable energy implementation. In addition, the course strengthens understanding of how renewable energy technologies interact with agricultural ecosystems, particularly in relation to soil health, water management, biodiversity, and nutrient cycles.



Figure 2. Presentation slides sustainability module

3.1.3 Policy module

Policy module

Involved partners: CKIC-HEC Paris

☰ Capacity building Step

Understanding the Policy and regulatory Context

🎯 Objectives

The course explores the role of public policies as important mechanisms for supporting sustainability, growth, and competitiveness at the farm level. It provides participants with an understanding of how European Union policies influence the development and adoption of RES and familiarizes them with both EU-level and national policy frameworks that support renewable energy integration in agriculture. The course also examines barriers and enabling factors related to policy uptake, highlighting both challenges and successful examples of RES adoption in agricultural contexts. In addition, it delves into different policy instruments, including subsidies, carbon pricing mechanisms, taxation measures, and other financial incentives designed to encourage renewable energy deployment. Finally, the course supports participants in developing ideas for farm-level policy roadmaps that can facilitate the sustainable integration of renewable energy technologies within agricultural systems.

📖 Content of the Module

The course examines the role of public policy in supporting renewable energy adoption in agriculture at international, EU, and national levels. It explores key policy frameworks, including the EU Green Deal, Common Agricultural Policy (CAP), Renewable Energy Directive (RED III), Recovery and Resilience Facility (RRF), National Energy and Climate Plans (NECPs), Horizon Europe, and circular bioeconomy strategies. The course also introduces

policy instruments that support renewable energy uptake, such as subsidies, feed-in tariffs, carbon pricing, tax incentives, advisory services, certification schemes, and regulatory standards. In addition, it offers participants an insight into policy design and implementation processes, as well as the technological, institutional, behavioural, and financial factors influencing renewable energy adoption at farm level. Real-world case studies of policy-supported renewable energy deployment are also included (Figure 3).

Q Gaps addressed

There remains limited awareness of policy frameworks that support renewable energy in agriculture, particularly EU and national programmes available to farmers. In addition, there is limited capacity to navigate complex policy landscapes and funding schemes, including understanding requirements, eligibility conditions, and implementation processes. Farmers also face barriers to accessing renewable energy source (RES) policy support.

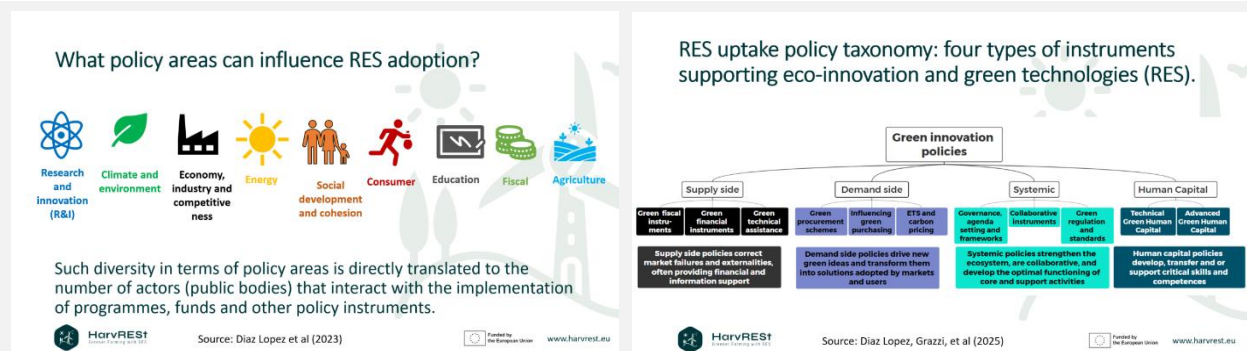


Figure 3. Presentation slides policy module

3.1.4 Business module

Business module

Involved partners: EnGreen

☰ Capacity building Step

Assessing economic and business viability

🎯 Objectives

The session provides participants with an understanding of the scope of business modelling and introduces the Business Model Canvas (BMC) as a key tool for developing business models. It also covers the main concepts related to business planning and financial planning, while discussing the principal financial instruments relevant to the energy and agricultural sectors.

📄 Content of the Module

The course introduces participants to the fundamentals of business modelling through the Business Model Canvas, enabling them to understand how value is created, delivered, and captured within agricultural and renewable energy initiatives. Participants learn how to translate a business model into a structured business plan, including elements such as market analysis, operational planning, and financial planning. The course also addresses problem setting by helping participants identify the specific needs, constraints, and challenges faced by target groups to ensure that proposed value propositions respond to relevant and validated problems. In addition, participants gain practical knowledge of sensitivity analysis as a financial assessment tool used to evaluate the stability and robustness of business plans under different scenarios (Figure 4).

The course provides an overview of key financial instrument categories, including equity, grants, and debt financing, and explores their relevance for supporting energy and agricultural projects. It enables participants to examine the implications of different financing mechanisms in terms of risk, expected returns, ownership, and governance structures. The course also presents available financial mechanisms relevant to renewable energy integration within the agri-food sector, including country-specific and multi-country financing opportunities. Participants are introduced to approaches for analysing financial and regulatory risks associated with different financing instruments in order to identify suitable funding solutions for various project types.

In addition, the course introduces the Financial Mechanisms Catalogue (D.3.2) and examines existing financing gaps that may limit renewable energy deployment in agriculture. Participants analyse structural financing barriers and identify underserved technologies and market segments. The course also explores how gap analysis can support the development of more effective and targeted financial instruments aimed at accelerating RES adoption within the agri-food sector. Finally, participants are introduced to different business model approaches, including Joint Special Purpose Vehicles (SPVs), hybrid partnerships, precision irrigation models, and farm-owned photovoltaic systems that enable farmers to diversify income through both agricultural production and energy generation.

🔍 Gaps addressed

The course addresses several challenges related to the development and financing of renewable energy solutions in agriculture. These include limited capacity to design viable and sustainable renewable energy business models tailored to agricultural contexts, as well as insufficient focus on problem-driven innovation approaches that respond to the actual needs and constraints of target groups. The course also responds to difficulties in navigating complex financial mechanisms and funding opportunities for renewable energy projects. In addition, it examines structural financing barriers and funding gaps that hinder renewable energy adoption in agriculture, including limited support for certain technologies and underserved market segments.

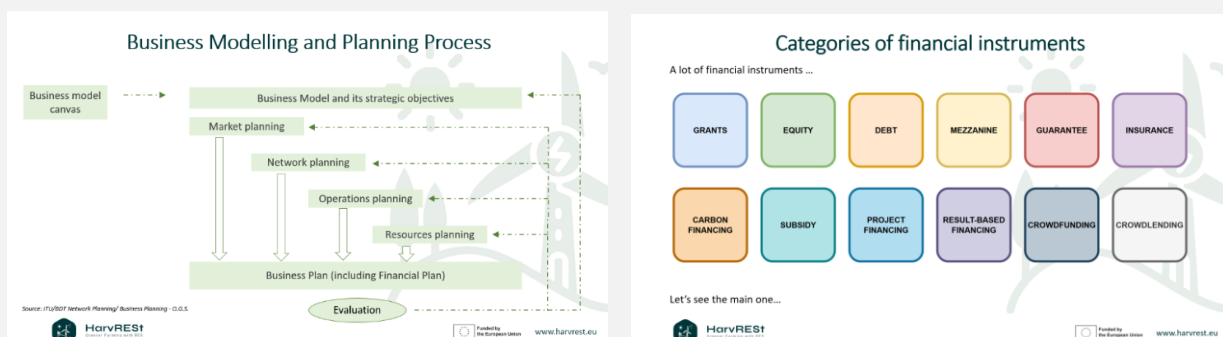


Figure 4. Presentation slides business module

3.1.5 Stakeholder engagement & market research module

Stakeholder engagement & market research module	
Involved partners: White Research	
Capacity building Step	
Engaging stakeholders and understanding local markets	
Objectives	
<p>The course helps participants develop an understanding of the importance of stakeholder engagement and market research for accelerating the uptake of RES in their local agricultural contexts. Participants learn how to identify key actors, map their roles, and build trust-based relationships that support joint decision-making and long-term collaboration. Participants also discover how these methods are being applied in HarvREST Use Cases to develop locally grounded awareness campaigns and business strategies for RES. In addition, the activities aim to build local capacity and strengthen stakeholders' ability to shape energy transitions in ways that reflect the values, needs, and realities of their own communities.</p>	
Content of the Module	
<p>The training covers the steps involved in developing a stakeholder engagement strategy, including stakeholder identification, mapping, and analysis. Participants learn how to use stakeholder matrices, such as the Influence and Impact Matrix, and explore a range of stakeholder engagement tools relevant to RES integration, including the Stakeholder Map, Net-Map Toolbox, Power/Interest Grid Templates, Engage2020 Action Catalogue, Stakeholder Analysis Tools developed by FAO and GIZ, and Participedia.net (Figure 5).</p> <p>The course also introduces practical tools for stakeholder mapping, communication, and engagement planning, such as MindTool's Stakeholder Mapping Tool, Kumu, Stakeholder Circle, MURAL/Miro, Slido, and Mentimeter. In addition, participants examine approaches for monitoring and evaluating the engagement process. The course features examples of stakeholder engagement within HarvREST Use Cases, including experiences from Spain (VdV-VRT and ACSA-Sorigué), Italy, Denmark, and Norway. The training further addresses common challenges in stakeholder engagement, strategies for effectively managing these challenges, approaches to preventing stakeholder fatigue, and ethical considerations together with strategies to address them.</p> <p>Finally, participants explore market research methods used to capture stakeholders' perceptions, motivations, concerns, and behavioural patterns. This will include both primary research methods, such as surveys, interviews, and focus groups, and secondary research methods, including government and industry reports.</p>	
Gaps addressed	
<p>There is an insufficient understanding of stakeholders' needs, motivations, and perceptions, which can limit effective engagement and collaboration. In addition, there is a need for more structured approaches to identifying, engaging, and communicating with stakeholders.</p>	

4. IMPLEMENTATION OF TRAINING WORKSHOPS

This section delves into the implementation of 6 training workshops across the Use Cases. These workshops were performed between 3 March 2026 and 25 May 2026 in the five local Use Case areas located in Spain, Italy, Denmark and Norway, and engaged a total of 309 stakeholders (Table 2). The capacity building material used by the Use Cases in their training workshops can be found online on the project website, more specifically [here](#).

Table 2. Capacity building overview

<p>Use Cases covered</p> <p>5</p> <p>Italy, Denmark, Spain VdV-VRT, Spain ACSA and Norway</p>	<p>Reported training activities</p> <p>6</p> <p>Capacity building activities reported across five Use Cases</p>	<p>Participants reached</p> <p>309</p> <p>Direct participants reported across all capacity building activities</p>
<p>Stakeholder groups represented</p> <p>agricultural sector, industry and technology providers, research and academia, public authorities and policymakers, investment and finance, advisory and support organisations, and civil society and local communities</p>	<p>Training modules developed</p> <p>5</p> <p>Technical, environmental, policy, business, and stakeholder engagement / market research</p>	<p>Themes covered</p> <p>5</p> <p>Regulatory aspects of RES in agriculture, biogas potential in agriculture, energy planning, treatment and use of digestate, RES and digitalisation in agriculture</p>

Table 2 provides a consolidated overview of the scope and reported reach of the HarvREST capacity-building programme. To complement this project-level summary, Table 3 presents the main characteristics of the activities implemented in each Use Case, including their timing, location, thematic focus and stakeholder participation.

Table 3. Summary of capacity building workshops

Use Case	Date	Location	Workshop Focus	Participants
Italy	6 March 2026 & 19 May 2026	Rimini, Italy	Technical, financial, and environmental	13 participants including energy communities, energy industry representatives, industrial clusters and associations
Denmark	10 March 2026	Gråsten Landbrugs-skole, Fiskbæk	Testing and validation of biogas planning and decision-support tool	39 participants including Biogas consultants, biogas operators, agricultural Lecturers, agricultural students, agricultural advisors, local authorities, energy planners, RES investors
Spain VdV-VRT	25 May 2026	online	RES applications in farming operations & energy decision making, Agro Virtual Power Plant (AVPP)	28 participants including Farmers, researchers, and industry stakeholders
Spain ACSA	3 March 2026	Sorigué's installations near Balaguer, Catalonia, Spain	Biogas production and the treatment and use of digestate	29 participants including public administration, researchers, livestock and agricultural sectors, waste management, the agri-food industry and energy industry
Norway	3 – 4 March 2026	Øksnevad Agricultural school, Kleppe, Norway	Digitalisation in the farming sector	200 participants including agricultural pupils, farmers, municipality representatives, local citizens, stakeholders from agro-industries

The following section provides a more detailed account of the capacity-building activities implemented in each HarvREST Use Case. For each activity, it describes the workshop context and objectives, thematic focus, stakeholder participation, implementation experience, identified knowledge gaps and the main lessons emerging from delivery.

4.1 Workshops at Use Case level

4.1.1 Italian Use Case

Table 4. Capacity building workshop Italian Use Case

Date	Location	Title	Number of participants	Stakeholders reached
6 March 2026	Rimini, Italy	HarvRESt Capacity building on RES applied to agricultural sector	10	Energy Communities, Energy Industries, Industrial Clusters and associations
19 May 2026	online	HarvRESt Capacity building on RES applied to agricultural sector	3	Energy Industries, Industrial Clusters and associations

First capacity building workshop

The capacity building workshop of the Italian Use Case was organised on the 6th of March 2026 at the Key Energy Fair in Rimini, Italy, which is a leading expo for renewable energy innovation (Table 4). Hosted in a dedicated booth within the exhibition grounds, the workshop provided the opportunity to engage directly with key actors involved in - and interested in the green energy transition. The workshop brought together 10 stakeholders from energy communities, energy industries, industrial clusters and associations.

The main focal points of the agenda

- Introduction to HarvRESt and the Italian Use Case
- Agrivoltaic applications, educational initiatives, and field demonstrations
- Environmental Sustainability of Renewable Energy in Agriculture
- Policy Frameworks Supporting RES Adoption
- Technical Applications of Renewable Energy in Agriculture
- Practical applications and opportunities for energy self-sufficiency on farms
- Business Models and Financial Mechanisms
- Interactive stakeholder engagement session using Mentimeter to collect real-time participant feedback and insights

Workshop implementation: key successes and challenges

The workshop being delivered within the framework of the Key Energy Fair in Rimini, provided access to a targeted audience of stakeholders from energy communities, energy industries, industrial clusters, and sectoral associations (Figure 7). The combination of presentations and interactive elements, including the use of Mentimeter, contributed to a high level of participant engagement and facilitated knowledge exchange among attendees. Participants actively contributed to discussions and expressed strong interest in the topics presented.

However, the fair setting also presented challenges. While the event benefited from the visibility and networking opportunities offered by the exhibition environment, attracting and retaining participants throughout the entire workshop proved difficult. Background noise, competing activities, and the constant flow of visitors reduced participants' ability to fully focus on the session. In addition, not all attendees engaged with the Mentimeter exercise (Figure 6), limiting the collection of participant feedback.

Skills and knowledge gaps

Although no significant knowledge gaps were formally identified during the workshop, discussions revealed particular stakeholder interest in regulatory and environmental aspects related to renewable energy deployment in agriculture. Participants also demonstrated interest in understanding the synergies between photovoltaic systems and agricultural production.

Conclusion

Overall, the workshop was successful in the sense that participants responded positively to the training content and actively engaged with discussions on renewable energy integration, environmental sustainability, and regulatory considerations. The training environment chosen meant that stakeholders were easy to attract and that interest levels were high due to the context of the event. However, it simultaneously provided challenges for retaining participants, highlighting the need for training environments that facilitate focused interaction and knowledge exchange.

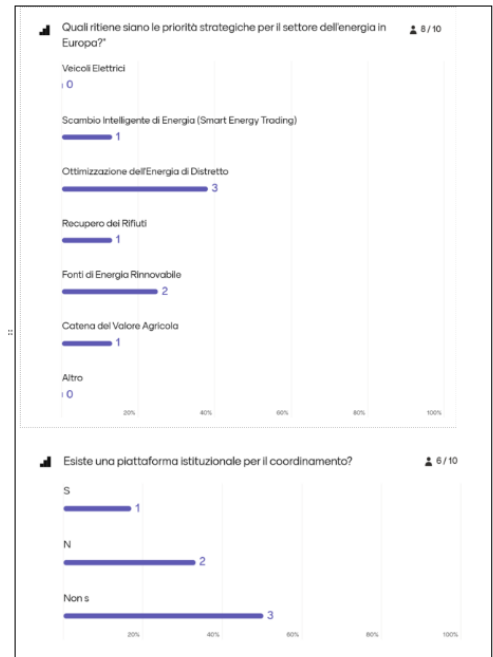


Figure 6. Mentimeter exercise



Figure 7. Italian Use Case capacity building workshop

Second capacity building workshop

The second capacity building workshop of the Italian Use Case was organized as a follow-up activity online on 19 May 2026 (Table 4). The workshop followed a similar presentation format as the previous workshop at Rimini Key Energy, and the activity engaged representatives from the energy sector, industrial clusters and associations.

The main focal points of the agenda

The workshop was based on the same presentation format as the previous workshop and therefore followed the same agenda. Except for that it did not conclude with a Mentimeter exercise due to lower participation rates.

Workshop implementation: successes and challenges

Building on discussions held during the previous workshop, the workshop explored the regulatory processes associated with the installation of RES in agricultural settings (Figure 8). The topic generated considerable interest, with participants actively engaging in the discussion and showing a particular appreciation for practical case studies and real-world implementation experiences. However, overall attendance was lower than anticipated, which inevitably limited the breadth of exchange among participants. This could have been prevented by more targeted communication and promotion of the workshop.

Barriers

While participants showed strong interest in the RES market within the agricultural sector, it surfaced repeatedly during the workshop that regulatory barriers remain an issue - especially in Italy - where obtaining permits still comes with unique challenges.

Conclusion

The second capacity building workshop contributed to reinforce the key themes introduced during the initial training session and provided an additional opportunity for stakeholders to deepen their understanding of renewable energy applications in agriculture. Discussions confirmed a continued interest in practical case studies and real-world implementation experiences, particularly regarding the regulatory and administrative processes associated with RES deployment, thus validating findings from previous engagement activities.



Tutte le politiche vengono utilizzate per lo stesso scopo o contemporaneamente?

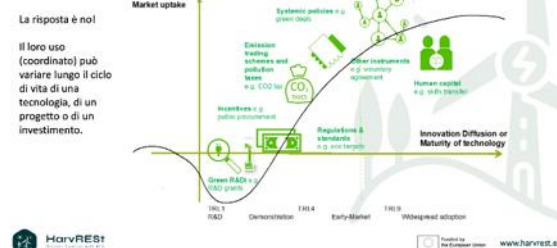


Figure 8. Presentation slides Italian capacity-building workshop

4.1.2 Danish Use Case

Table 5. Capacity building workshop Danish Use Case

Date	Location	Title	Number of participants	Stakeholders reached
10 March 2026	Gråsten Landbrugsskole (agricultural school) Fiskbæk	Potential for Biogas Production in Agriculture	39	Biogas consultants, Biogas operators, Agricultural Lecturers, Agricultural Students, Agricultural Advisors, local authorities, energy planners, RES investors

The Danish capacity building workshop was held on 10 March 2026 at Gråsten Landbrugsskole under the title “Potential for Biogas Production in Agriculture”. The workshop brought together 39 stakeholders, including biogas consultants and operators, agricultural lecturers and students, agricultural advisors, local authorities, energy planners and RES investors (Table 5).

The workshop combined capacity building with the testing and validation of a biogas planning and decision-support tool in a real-life setting. Its objective was to strengthen the knowledge of stakeholders involved in biogas development and agricultural advisory services, while gathering practical feedback on the usability and relevance of the beta-version of the tool (Figure 9).

The main focal points of the workshop agenda

- Introduction to the workshop objectives and HarvRESt Task 3.4
- Contextual framing of biogas potential in agriculture
- Expert presentation on the properties of degassed biomass
- Presentation and live demonstration of the beta-version biogas planning and decision-support tool
- Interactive testing of the tool based on a case study using real data from Gråsten Agricultural School
- Site visit to the renewable energy facilities at Gråsten Agricultural School, including the biogas plant
- Final plenary discussions and reflections on practical implementation and tool usability

Workshop implementation: key successes and challenges

The opportunity to interact directly with the tool online and apply it using real-world data was well received by participants. The workshop audience demonstrated a strong understanding and familiarity of data-driven approaches and their application within the biogas and agricultural sectors, alongside the ability to critically

engage with modelling results and assess their relevance for practical decision-making. Discussions reflected substantial experience in applying sector-specific knowledge to sustainable land management and planning, as well as an appreciation of the importance of robust and quality-assured modelling for reliable analysis and decision support. Participants also showed awareness of the challenges involved in translating complex scientific data into intuitive and accessible tools, while actively contributing to peer-to-peer exchanges of practical and technical knowledge.

A further positive aspect was the peer-to-peer exchange between different stakeholder groups. The diversity of the audience helped bring forward different expectations for the tool, including technical accuracy, practical usability, advisory relevance and planning value. This contributed to a richer discussion on how the tool could serve different types of end users.

From an implementation perspective, the broad profile of the workshop audience created both value and complexity. Different stakeholders approached the tool from different perspectives, ranging from practical usability to modelling assumptions and data requirements. This made it challenging to balance in-depth technical discussion with the need to keep the session accessible and relevant for the wider group.

Barriers

The main barriers identified were linked to the usability and flexibility of the current version of the tool. Feedback also highlighted the need for greater flexibility and usability to better support practical application across different user groups. Several participants suggested improvements were considered achievable before the final delivery of the tool, while others were recognised as requiring longer-term development and continuous updates in future refinement cycles.

Knowledge gaps

The workshop highlighted knowledge gaps related to the properties of degassed biomass and how these influence calculations of nutrient balances and greenhouse gas emissions. As new knowledge in this field is continuously emerging, discussions focused on how quickly and effectively these insights can be integrated into the planning tool and reflected in practical advisory work. In connection with this, the workshop also showed the importance of translating scientific and technical knowledge into decision-support formats that different user groups can apply. Discussions on calculation assumptions, data quality, tool updates and user-interface requirements suggest that further capacity building may be needed to help advisors, planners, operators and investors interpret modelling outputs and use them confidently in practical biogas planning.

Conclusion

The Danish capacity building workshop successfully combined tool testing with stakeholder learning on biogas planning and decision-support. Through presentations, real-data case testing, and a site visit, participants actively engaged with both technical and practical aspects of biogas systems and demonstrated strong competence in interpreting data-driven tools and modelling outputs for decision-making in agricultural planning. The workshop highlighted useful feedback on tool usability and functionality, alongside broader recognition of the need to balance technical robustness with user-friendly design. It also identified knowledge gaps related to degassed biomass properties and their impact on nutrient and greenhouse gas calculations, underlining the importance of continued collaboration between researchers, advisors, and tool developers to ensure that new scientific insights are effectively integrated into practical applications.

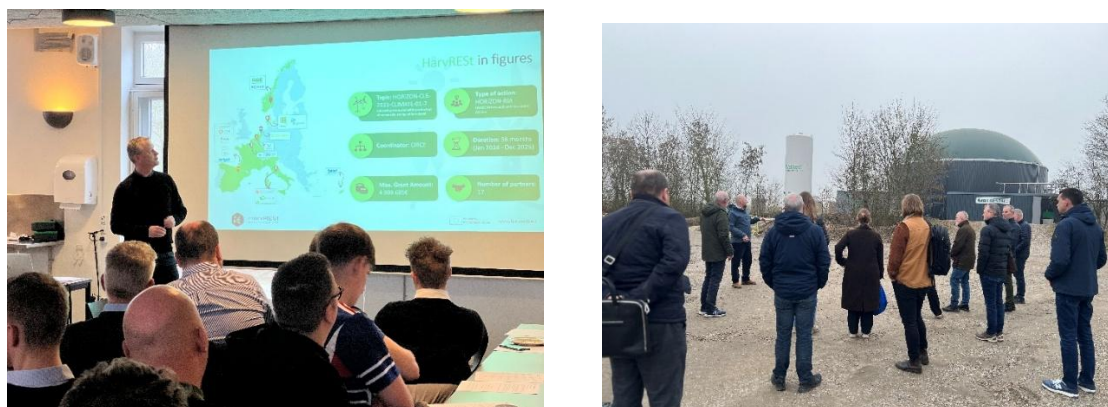


Figure 9. Danish Use Case capacity building workshop

4.1.3 Spanish VdV-VRT Use Case

Table 6. Capacity building workshop Spanish-VdV-VRT Use Case

Date	Location	Title	Number of participants	Stakeholders reached
25 May 2026	online	Decarbonizing Agriculture with HarvREST	28	Farmers, researchers, and industry stakeholders

The capacity building workshop for the Spanish VdV-VRT Use Case was held on the 25 May online under the title “Decarbonizing agriculture with HarvREST”. The workshop was organised as an online format and brought together 28 stakeholders, including farmers, researchers, and industry representatives (Table 6).

The main focal points on the agenda

- Energy context of the agricultural sector: current challenges, costs, and the transition towards sustainable models
- Renewable energy in agriculture: key technologies and practical applications in farming operations
- Energy self-consumption: opportunities, limitations, and adaptation to agricultural demand
- Hybrid systems: combining technologies and storage to optimize energy supply
- Agro Virtual Power Plant (AVPP): simulation, optimization, and support for energy decision-making
- Closing session: key conclusions, future outlook and Q&A

Workshop implementation: successes and challenges

The implementation of the workshop benefited from a well-structured dissemination and coordination strategy, which proved effective in ensuring both organisational efficiency and participant engagement. To address initial challenges in participant recruitment, a targeted dissemination approach was implemented, combining social media promotion with email campaigns coordinated by the Spanish partners. This approach contributed to improved visibility of the workshop and supported the achievement of a satisfactory level of participation.

From a content delivery perspective, the workshop materials were carefully structured to ensure clarity and accessibility for participants with diverse backgrounds. The use of practical examples and applied Use Cases supported the understanding of technical concepts and contributed to a smoother knowledge transfer during the session. Overall, the dissemination strategy proved highly effective and is considered a key success factor

for the workshop implementation. The structured agenda, combined with a balanced mix of theoretical explanations and practical content, was also effective in maintaining participant engagement throughout the workshop (Figure 10).

Conclusion

Overall, the workshop was successfully executed and provided participants with a comprehensive overview of energy management for RES in agriculture. For future workshops, greater emphasis could be placed on interactive elements, such as live polls, digital engagement tools, and more structured discussion formats, in order to further encourage participant involvement and exchange. In addition, allocating more time for open discussion and feedback would strengthen the exchange of knowledge among participants. Finally, continued adaptation of the content to different levels of expertise should be prioritised to ensure accessibility while maximising the technical depth and impact of the sessions.



Figure 10. Presentation Spain VdV-VRT capacity-building workshop

4.1.4 Spanish ACSA Use Case

Table 7. Capacity building workshop Spanish-ACSA Use Case

Date	Location	Title	Number of participants	Stakeholders reached
3 March 2026	Sorigué's installations near Balaguer, Catalonia, Spain	Biogas development in Catalonia: farm production of renewable energy and improvement of the environmental sustainability through the treatment and use of digestate	29	public administration, researchers, livestock and agricultural sectors, waste management, the agri-food industry and energy industry

The capacity building workshop for the Spain-ACSA Use Case was organised on 3 March 2026 on Sorigué's installation near Balaguer, in Catalonia, Spain, with the objective of training participants on the treatment and use of digestate (Table 7).

The main focal points of the workshop agenda

- Technical details of managing a biogas plant in a farm
- Policy framework and perspectives of biogas in Catalunya
- Economic analysis: investments, operational costs and viability
- Environmental aspects and benefits in terms of sustainability

Workshop Implementation: Successes and Challenges

The event was initially meant to be organised as a site visit to Torre Santa Maria farm. However, the permission to visit the farm was unexpectedly withdrawn right before the visit was meant to take place, which meant that the event had to be restructured last-minute. To adapt to a new format, more speakers were included in the event programme.

Participants were highly engaged during the workshop and demonstrated strong practical knowledge and experience in farming and biogas production. The opportunity to discuss practical aspects of digestate application alongside economic perspectives was highly appreciated. The presence of stakeholder representing researchers, industry and farmers enabled knowledge transfer which helped to clarify doubts regarding the economic and regulatory aspects of biogas projects (Figure 11).

Participants were adept at discussing both the economic, environmental, and agronomic aspects of digestate management, including appropriate application practices, nutrient recovery, and environmental impact considerations. Through the discussions, participants demonstrated technical understanding of anaerobic digestion processes and emissions mitigation strategies, which also indicates familiarity with practical approaches to decarbonising the livestock sector and the role of biogas systems in supporting climate mitigation objectives.

Discussions also reflected a foundational understanding of biomethane markets, particularly the role of greenhouse gas emission reductions in determining biomethane value. Exchanges between participants demonstrated a general awareness of how market mechanisms, such as biomethane certificates and greenhouse gas accounting, influence biomethane pricing and commercial viability. Participants also showed knowledge of the relationship between feedstock type and emissions reduction potential.

Barriers and Knowledge gaps

Discussions during the workshop highlighted several interconnected barriers and knowledge gaps affecting the implementation and wider uptake of sustainable biogas and digestate management practices. While participants demonstrated a foundational awareness of these topics, understanding of the economic costs associated with digestate treatment and the practical implementation of best agricultural practices for digestate application was still limited.

Participants also identified uncertainties related to regulatory frameworks, public incentives, and the role of public administration in supporting sustainable manure and digestate management. In addition, discussions also revealed challenges linked to biomethane pricing mechanisms and the dependence on certification systems and avoided greenhouse gas emission credits for economic viability. Participants expressed particular interest in gaining further knowledge about biomethane certification systems, greenhouse gas accounting, and how avoided emissions influence the final market value of biomethane, alongside practical approaches for effective digestate management.

Conclusion

Key conclusions from the workshop highlighted the importance of integrating digestate management as a central component of sustainable biogas projects, the need for good agricultural practices and appropriate timing of digestate application to maximise nutrient recovery and reduce environmental impacts, and the significant role of biomethane certification systems and avoided greenhouse gas emissions in determining economic viability. The discussions also revealed the need for continued dialogue, training, and collaboration

between farmers, researchers, industry actors, and public administrations to support the sustainable development of the biogas sector.



Figure 11. Spain-ACSA capacity building workshop

4.1.5 Norwegian Use Case

Table 8. Capacity building workshop Norwegian Use Case

Date	Location	Title	Number of participants	Stakeholders reached
3 March - 4 March 2026	Øksnevad Agricultural school	The Future Farmer 2.0 - Test and learn	100 per day	Agricultural pupils, farmers, municipality representatives, local citizens, stakeholders from agro-industries etc.

The capacity building workshop for the Norwegian Use Case was facilitated on from 3 - 4 March 2026 at Øksnevad Agricultural school, during the 'test and learn' days organised by Nordic Edge, which brought together students, farmers, and agritech companies for hands-on demonstrations of digital farming tools, renewable energy solutions, drones, and precision agriculture technologies (Table 8Table 8).

The main focal points of the workshop agenda

The workshop was organised as a two-day event including various talks and demonstrations of solutions towards future farming (Figure 12Figure 12). The program started with an official opening by representatives of Rogaland county and continued with various demonstrations of novel farming equipment, both indoors and outdoors. The presentations and demonstrations covered the following themes:

- The digital farm
- From data to soil
- Machines at work
- AI and farm management
- Drones and data harvest

The event also included a small expo area where participants had the possibility to informally talk to some of the contributors, including Kjell Ivar, the farmer at Røyselund Farm. The farm's learning environment and

practical examples of digital farming applications provided a valuable setting for demonstrating how renewable energy solutions can be integrated into agricultural operations, with insights shared by Kjell Ivar based on his own experience.

Positive aspects and skills identified among the participants

Participants were highly engaged and demonstrated strong interest in exploring how different solutions could be applied in specific practical contexts, while also reflecting on the need to rethink food, energy, and water preparedness in response to geopolitical instability and climate change.

Discussions during the workshop demonstrated growing awareness among participants of the need to rethink the relationship between food, energy, and water systems in response to climate change and geopolitical instability. Participants were particularly engaged in discussions surrounding preparedness, alternative energy solutions, business models, and biomass-based energy production such as wood chip firing.

Conclusion

The workshop also highlighted the importance of practical demonstrations and direct interaction with farmers and technology providers in supporting understanding and engagement with innovative farming solutions. This combination of technical demonstrations, informal dialogue and peer-to-peer exchange helped stimulate interest in future partnerships and support ongoing learning among stakeholders from different sectors.

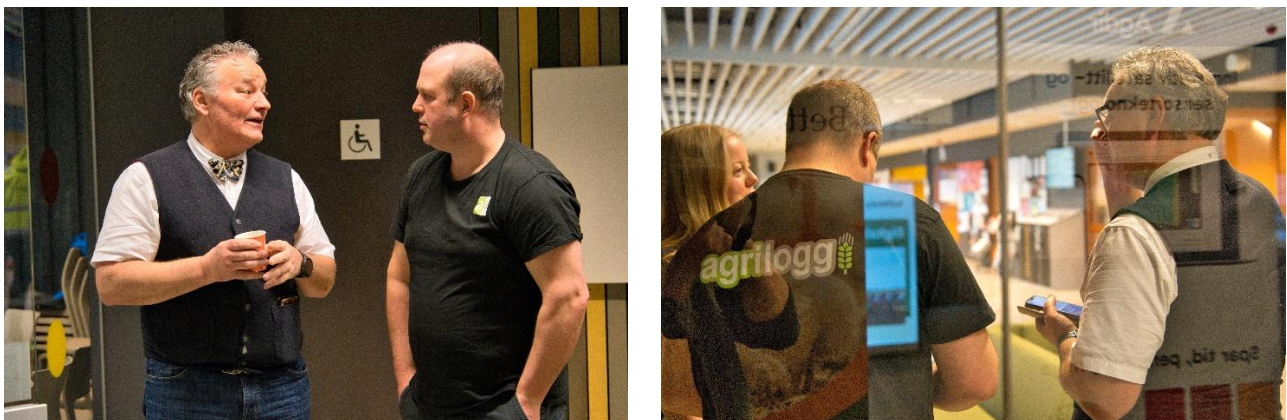


Figure 12. Norwegian Use Case capacity building workshop

4.2 Discussion and Implications

Across the HarvRESt Use Cases, six reported training activities were implemented in five territorial contexts, engaging **309** participants across multiple stakeholder groups, including farmers, agricultural students, advisors, biogas consultants and operators, researchers, energy planners and investors, agri-food industry representatives and local authorities.

The implementation of the workshops confirms the value of a modular and adaptable approach to capacity building. Rather than applying a single standardised format across all locations, the Use Cases adapted the common HarvRESt capacity building material to the specific context in which learning was expected to take place. The five thematic modules covering technical, environmental, policy, business, and stakeholder engagement and market research dimensions provided a shared basis for the activities, while allowing each Use Case to emphasise the topics most relevant to its technological focus, stakeholder profile and local conditions.

This adaptive approach was reflected in the diversity of the reported training activities. Some of the workshops conducted comprehensively covered numerous modules, whereas other workshops took a more focussed approach. In Denmark, the workshop focused strongly on biogas planning and decision-support, combining technical discussion with the testing of a beta-version planning tool using real data from Gråsten Agricultural School. The training workshop conducted by the Spain ACSA Use Case focused on biogas development, digestate management, environmental sustainability, policy perspectives and economic viability. The VdV-VRT workshop addressed renewable energy in agriculture, energy self-consumption, hybrid systems and the Agro Virtual Power Plant. The Italian Use Case activities focused on renewable energy applications in agriculture, including environmental, regulatory, technical and business aspects, while the Norwegian Use Case workshop was embedded in a broader demonstration-oriented event on future farming, digital tools and preparedness.

Several common lessons can be identified across the workshops. Stakeholders were more actively engaged when training was linked to practical examples, real facilities, real data or concrete implementation cases. This was particularly visible in the Danish workshop, where participants interacted with a decision-support tool and discussed modelling outputs in relation to real farm data, and in the Spain ACSA workshop, where participants engaged with practical questions around digestate treatment, biogas production and environmental sustainability.

These workshops not only facilitated knowledge transfer but also sparked extensive discussions amongst participants. The presence of different stakeholder groups created opportunities for farmers, advisors, researchers, industry actors, public authorities and energy stakeholders to discuss renewable energy adoption from complementary perspectives. In addition, the local relevance of the content was critical, as participants engaged more meaningfully when discussions were connected to the regulatory, environmental, economic or technological conditions affecting their own context.

At the same time, the workshops confirmed that knowledge gaps and capacity needs remain across the Use Cases.

Across the workshops, some of the key knowledge gaps identified were (Table 9).

Regulatory and permitting processes for RES deployment: Participants expressed uncertainty regarding permitting procedures, administrative requirements, and regulatory frameworks governing renewable energy installations in agriculture.

Environmental impacts and sustainability considerations: Stakeholders sought greater understanding of the environmental implications of renewable energy deployment, including interactions with agricultural production systems, biodiversity, and land-use management.

Digestate management and application practices: In the Spanish ACSA workshop, participants highlighted the need for greater knowledge on digestate treatment, application methods, nutrient recovery, environmental impacts, and associated costs.

Biomethane certification and greenhouse gas accounting: Stakeholders demonstrated interest in understanding how certification systems, avoided emissions, and greenhouse gas calculations influence biomethane value and market opportunities.

Properties of degassed biomass and nutrient calculations: The Danish workshop identified knowledge gaps related to how degassed biomass affects nutrient balances and greenhouse gas emission calculations, particularly as new scientific evidence continues to emerge.

Interpretation and use of decision-support tools: Discussions in Denmark highlighted the need for additional capacity building to help users understand modelling assumptions, data quality requirements, and the interpretation of outputs from planning and decision-support tools.

The workshops therefore generated insights for the further development and use of HarvREST tools and outputs. The Danish workshop showed that stakeholders value modelling and decision-support tools, but that these tools need to remain understandable, flexible and relevant for different user groups. Similarly, the discussions on business models, financing, biomethane certification and avoided greenhouse gas emissions indicate that future HarvREST activities should continue to translate economic and financial concepts into farm-level scenarios that stakeholders can assess and compare. Capacity building therefore has a clear role in supporting the uptake of project outputs, not only by explaining them, but by helping stakeholders interpret and apply them in decision-making contexts.

Table 9. Cross-cutting lessons and capacity needs emerging from the workshops

Cross-cutting theme	What the workshops showed	Implication for HarvREST
Practice-oriented learning supports engagement	Participants engaged more clearly when training was linked to real data, practical examples, demonstrations, site-specific cases or concrete farming challenges. This was particularly visible in the Danish and Spain ACSA workshops.	Future capacity building actions should keep prioritizing applied examples, farm-level scenarios, demonstrations and direct exchange with technical experts and practitioners.
Regulatory and permitting uncertainty remains a barrier	Participants expressed uncertainty regarding permitting procedures, administrative requirements, regulatory frameworks, public incentives and support schemes governing RES deployment in agriculture.	Policy-related training should remain part of future capacity building and should be made more locally specific, with clearer guidance on procedures, eligibility and institutional responsibilities.
Financial viability needs clearer translation	Questions remain around investment costs, operational costs, financing mechanisms, biomethane value, certification and the commercial viability of RES solutions.	Business-related training should connect financial mechanisms with concrete farm-level scenarios and technology-specific cost assumptions.
Decision-support tools require user-centred design	Stakeholders value modelling and data-driven tools, but need outputs that are understandable, flexible and relevant for different user groups.	Tool development should continue to balance technical robustness with usability, transparency of assumptions and practical advisory value.
Environmental sustainability requires nuanced communication	Stakeholders recognised the benefits of RES but also raised questions around digestate management, nutrient recovery, emissions, biodiversity, land use and environmental trade-offs.	Environmental training should provide clear explanations of benefits, risks, monitoring approaches and mitigation measures, avoiding generic claims about sustainability.
Multi-actor formats support peer exchange	Workshops brought together farmers, advisors, researchers, energy actors, public authorities, students, investors and industry	Future engagement should maintain mixed stakeholder formats while carefully managing differences in technical level, expectations and learning needs.

	representatives, enabling peer learning and cross-sector discussion.	
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5. CONCLUSIONS

Across five Use Cases, **six training workshops** were facilitated with the purpose of addressing knowledge, skills, and perception-related barriers identified across different agricultural and territorial contexts. The training workshops were implemented using the common capacity building material as a shared basis, while adapting the focus, format and level of technical detail to each local context. In total, the capacity building workshops have reached a total of **309 participants**, and brought together representatives from multiple stakeholder groups, including the agricultural sector, industry and technology providers, research and academia, public authorities and policymakers, investment and finance, advisory and support organisations, and civil society and local communities - precisely those actors whose knowledge and confidence are most critical to accelerating RES uptake in agriculture. The diversity of participants not only reflected the programme's broad appeal but also enabled direct peer-to-peer exchanges that deepened participants' understanding and laid foundations for future collaboration.

Due to the different technological focus of each Use Case, the workshops addressed different aspects of RES uptake, including biogas planning, digestate management, environmental sustainability, farm-level innovation, policy conditions, and business feasibility. Besides that, the format of the workshops also varied across Use Cases. These ranged from live demonstrations of the HarvRESt biogas decision-support tool using real farm data in Denmark, to on-site engagement at an agricultural technology demonstration fair in Norway, to in-depth discussion of digestate management and biomethane certification in Spain. Although each Use Case organised one main training workshop, the activities generated useful insights into the types of knowledge, skills and support needed to enable more informed decision-making on RES integration at farm level.

Some of the core patterns that emerged across different Use Cases in terms of the workshops itself and ways of transferring knowledge, was that, e.g. in the case of the Danish and the Spain-ACSA Use Case, stakeholders tend to be more engaged when training is linked to real data, real facilities demonstrations, site-specific examples and concrete farming challenges. The workshops also revealed that certain knowledge gaps exist even amongst technically adept participants, e.g. in terms of permits, certifications, and investment costs. The Danish Use Case workshop also revealed that stakeholders value modelling and data-driven tools, but need outputs that are understandable, flexible, and relevant for different user groups.

The capacity building activities carried out under Task 3.4 confirmed that RES uptake at farm level depends not only on technology availability, but also on stakeholders' ability to understand, assess and apply technical, economic, environmental and regulatory information in their own context. By combining common training modules with locally adapted workshops, HarvRESt has provided a practical basis for strengthening RES-related knowledge and supporting more informed decision-making across the Use Cases. The lessons emerging from the workshops will also support the wider project work on stakeholder engagement, decision-support tools, business models and policy pathways.

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7.2 Annex 2. Training workshop Agendas



INTRODUCCIÓ:
 Aquest taller es presenta com un punt de trobada clau per explorar les oportunitats que ofereix la producció de biofermentors a partir de residus ramaders mitjançant plantes de biogàs en granja. Durant la jornada es presentarà el projecte HarvREST, amb especial atenció als aspectes tècnics, econòmics i ambientals de la instal·lació de plantes de biogàs a Catalunya. Els participants també tindran l'oportunitat de participar en tallers de reforçament de capacitats orientat a aprofundir en aquest tipus d'instal·lacions.

Us esperem!

AGENDA

10:00 – 10:15 BENVINGUDA I REGISTRE DE PARTICIPANTS
10:15 – 10:30 INTRODUCCIÓ AL TALLER
 Benvenuto institucional / presentació de l'objectiu i l'estructura de la jornada.
10:30 – 11:15 PROJECTE HARVREST: INTEGRACIÓ DE PLANTES DE BIOGÀS I GESTIÓ SOSTENIBLE DEL DIGESTAT
 • Presentació del projecte HarvREST.
 • Aspectes clau per a la implantació de plantes de biogàs en el context català.
 • Integració d'energia i biofermentors.
 • Què cal esperar com a beneficiari: aplicació en camp, benefici i limitacions.

11:15 – 11:45 PAUSA CAFFÈ
11:45 – 14:00 TALLERS DE ENFORTIMENT DE CAPACITATS
 • Detalls tècnics de les plantes de biogàs en granja.
 • Marc normatiu i perspectives del biogàs a Catalunya.
 • Anàlisi econòmica: incentius, costos d'operació i viabilitat.
 • Aspectes ambientals i beneficiis en termes de sostenibilitat.
 • Bona pràctica amb els participants.

14:00 – 15:00 DINAR
15:00 TANCAMENT I COMIAT DE LA JORNADA

*Més informació: www.harvrest.eu

HarvREST-projektet fokuserer på en udvidet anvendelse af vedvarende energikilder i landbrugssektoren. Potentialer og flaskehalse for en øget selvforsyningsgrad og effekter på CO₂-udledning er centrale emner.

Som en del af projektet skal der udvikles et beslutningsstøtte-værktøj med fokus på biogas. Dette skal lette adgangen til nødvendige data og analyser, bistå aktører i beslutningsfasen for konkrete projekter og være motoren bag mere overordnede kortlægninger og scenarie-betragtninger. Værktøjet under udvikling vil blive præsenteret på dagen.

Herudover byder dagen på en række spændende præsentationer om energi- og klimaplanlægning i landbruget set både fra landmandens, myndighedernes og rådgiverens ståsted. Hvad angår bioforgasning ses der værdien af afgasset biomasse, potentialer ved produktion af biokul, og der dykkes ned i mulige indvirkninger fra udmøntningen af "Grøn Trepert" hhv. den nye kvælstofregulering.

Dagen sluttet af med et besøg på Gråsten Landbrugsskoles biogasanlæg og anlægget til CO₂-fangst.

Program

10.00	Velkomst ved Kirsten B. Nielsen, Gråsten Landbrugsskole.
10.20	Præsentation af HarvREST projektet, Holger Nehmdahl, Conterra
10.30	Præsentation af værktøjet udviklet i HarvREST projektet, Holger Nehmdahl
11.05	Værdien af afgasset biomasse, Lars Villadsgaard Toft, SEGES
11.35	Frokost
12.30	Energiplanlægning for landbrugsbedrifter, Karl Jørgen Nielsen, Planenergi
12.50	Kommunens planlægning af vedvarende energi, mark Booker Nielsen, Ringkøbing Skjern Kommune
13.10	Værdien af fosfor i biokul fra afgasset biomasse, Nicolaj Ludvigsen, CIP
13.30	Økonomien i vedvarende energi for landmanden, Kurt Skaarup Mortensen, Spiras
13.50	Grøn Trepert/N-regulering. Hvad betyder det for landmanden som leverandør/aftager (biogas/afgasset biomasse), Niels Gylsen Buch, Vestlysk
14.10	Kaffe
14.40	Biogasanlægget på Gråsten Landbrugsskole inkl. CO ₂ fangst, Frank Wennerberg, Green Farm
15.00	Gåtur til biogasanlægget
15.10	Besigtigelse af Gråsten Landbrugsskoles biogasanlæg og anlæg til CO ₂ fangst. Green Farm
15.30	Tak for i dag

- 14:00: Serigstad – Demonstration af FØNIK-vogn i felt.
- 15:00: Mingling og vel hjem.

DAG 2: Onsdag 4. mars – Fremtid, AI og Droner

Fokus: Neste generasjons teknologi.

08:30 – 09:00 | Kaffe og morgenprat (Ved Auditoriet)

09:00 – 10:00 | BOLD 4: AI og Styring (Auditoriet)

- 09:00: Agrilog – "Deep dive" / Q&A.
 - Mulighet for oppfølging fra dag 1, samt demo for nye deltakere.
- 09:20: Rembrain – AI i landbruket.
 - Presentasjon: Hvordan "Reconfigurable AI-powered robots" kan endre måten vi jobber på.
- 09:40: Røysland Gård – Selforsyning og beredskap på gård
 - Presentasjon av ulike løsninger på gård

10:00 – 10:15 | Pause

10:15 – 11:15 | BOLD 5: Droner og Datafangst (Auditoriet/Utstilling)

Presentasjoner og visning av hardware (Ingen flyvning pga. regelverk, men utstyret vises frem).

- 10:15: Skårland Agri Drone – Droner i landbruket: Muligheter og nytteverdi.
- 10:45: Romvesen – Inspeksjon og kartlegging fra luften.

11:15 – 12:00 | "Tech-Titting" & Mingling

- Mini-utstilling inne:
 - Se nærmere på dronene til Skårland og Romvesen.
 - Snakk med Rembrain om AI.
 - Snakk med Røysland gård om beredskap på gård + smarte løsninger

12:00 – 12:45 | Avsluttende Lunsj

- Enkel servering og vel hjem.

Offisielt Program: Fremtidensbonden 2.0 – Test og Lær

Sted: Øksnevad videregående skole. Dato: 3.–4. mars 2026

Arrangør: Nordic Edge i samarbeid med Rogaland fylkeskommune

DAG 1: Tirsdag 3. mars – Drift, Data og Maskiner

Fokus: Digitale styringsverktøy og tunge maskiner i felt.

08:30 – 09:00 | Registrering og kaffe (Ved Auditoriet)

09:00 – 09:15 | Offisiell åpning (Auditoriet)

- Velkommen til "Test og Lær" v/ Nordic Edge og Rogaland fylkeskommune.
- Kort intro: Hvorfor samler vi teknologi og landbruk på denne måten?

09:15 – 10:30 | BOLD 1: Den digitale gården (Auditoriet)

- Korte demoer av styringssystemer på storskjerm.
- 09:15: Agdir – Live demo av plattform for driftsplanlegging.
- 09:40: Agrilog – Digital dokumentasjon og styring (Del 1).
- 10:05: Faunus Hub – Presentasjon av løsning.

10:30 – 11:15 | Pause & "Feedback-sløyfe" (Mingling)

- 1-til-1 dialog: Selskapene står ved bord utenfor auditoriet. Bøndene oppfordres til å gi direkte tilbakemelding og stille spørsmål. Kaffe!

11:15 – 11:45 | BOLD 2: Fra data til jord (Auditoriet)

- 11:00: SoilMate – "Verdien av presisjon".
 - Intro til sensorikk og playing (Teorien før vi går ut).

11:45 – 12:15 | Lunsj (Varm mat i Kantine)

12:15 – 12:30 | Forflytning til demo-feltet

- Husk varme klær!

12:30 – 15:00 | BOLD 3: Maskiner i drift (Utendørs)

Praktisk demonstrasjon i felt.

- 12:30: SoilMate – Demo LIVE sensor - Visning av sensorer på traktor/plog. Justering av vendepløgg og teigpløgg basert på data
- 13:15: TKS Agri – Demonstrasjon av utstyr/løsninger.



HarvREST
Greener Farming with RES

Formación
Descarbonizando la agricultura con HarvREST:

Lunes 25 de Mayo de 2026, 9:30 – 11:00

1. Contexto energético del sector agrícola
2. Energías renovables en agricultura
3. Autoconsumo energético
4. Hibridación de sistemas
5. Agro Virtual Power Plant (AVPP)
6. Cierre

www.harvrest.eu
[in linkedin.com/harvREST](https://www.linkedin.com/harvREST)
[X https://twitter.com/harvREST_eu](https://twitter.com/harvREST_eu)



HarvREST
Greener Farming with RES

HarvREST Warm-up and Capacity building on RES applied to agricultural sector

Friday 06/03/2026

Warm-up activity (second round)

1. Presentation of the HarvREST Project and partners: Engreen, Tecnoalimenti and Confagricoltura.

Capacity building workshop

1. Environmental impact
2. Role of policies in the adoption of RES technologies
3. Technical aspects of integration of RES in agricultural sector
4. HarvREST and the financial context of RES in agricultural sector
5. Capacity building workshop on RES applied to agricultural sector.
6. Mentimeter real time questions to participants.

[linkedin.com/harvREST](https://www.linkedin.com/harvREST)
https://twitter.com/HarvREST_eu



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HarvREST
Greener Farming with RES

HarvREST Capacity building on RES applied to agricultural sector

Friday 19/05/2026

1. Presentation of the HarvREST Project and partners: Engreen, Tecnoalimenti and Confagricoltura.
2. Environmental impact
3. Role of policies in the adoption of RES technologies
4. Technical aspects of integration of RES in agricultural sector
5. HarvREST and the financial context of RES in agricultural sector
6. Capacity building workshop on RES applied to agricultural sector.

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7.3 Annex 3. Training workshop attendance

Use Case	Number of participants	Stakeholders represented
Italy	13	Energy communities, energy industry representatives, industrial clusters and associations
Denmark	39	Biogas consultants, biogas operators, agricultural Lecturers, agricultural students, agricultural advisors, local authorities, energy planners, RES investors
Spain VdV-VRT	28	Farmers, researchers, and industry stakeholders
Spain ACSA	29	Public administration, researchers, livestock and agricultural sectors, waste management, the agri-food industry and energy industry
Norway	200	Agricultural pupils, farmers, municipality representatives, local citizens, stakeholders from agro-industries
		Total: 309

7.4 Annex 4. Capacity building materials

2. Developing the HarvREST Capacity-Building materials

Training Needs Assessment

The integration of RES in European agriculture is central to meeting EU decarbonisation goals and enhancing the resilience of rural economies. However, despite technological availability and supportive policy frameworks, uptake at the farm level remains fragmented. A growing body of literature suggests that insufficient training and capacity-building structures constitute a critical bottleneck for adoption (Pielaku et al., 2023; Wang et al., 2023).

Training needs in this context span technical, financial, and organisational & juridical domains. Farmers are increasingly expected to engage with complex energy systems (e.g., solar PV, anaerobic digestion, agr PV), often requiring "a multidisciplinary skillset encompassing engineering knowledge, regulatory literacy, and long-term strategic planning" (Michalakis et al., 2024). However, existing training opportunities are frequently generalist and not tailored to the diverse needs of farm typologies across Europe (Paris et al., 2024).

Recent research reinforces the critical role of training and knowledge transfer in enabling the uptake of RES in European agriculture. A relevant and comprehensive study by Paris et al. (2024) investigated the adoption barriers and learning preferences associated with fossil energy-free technologies across eight EU countries. Drawing on survey data from 430 farmers and insights from 43 expert interviews, the study offers significant evidence that complements the HarvREST project's findings.

Key barriers identified in the study include:

- **Economic constraints**, particularly high upfront investment costs and limited access to RES-specific financial instruments;
- **Information gaps**, where farmers often rely on personal experience or informal networks due to the lack of structured, accessible training;
- **Deficiencies in technical support**, including insufficient advisory services to assist in system implementation and ongoing maintenance.

Crucially, the study found that **over 70% of surveyed non-adopters** expressed a willingness to adopt RES technologies if suitable training were available. This reflects a substantial latent demand for structured capacity-building initiatives.

Patakis et al. (2024) further reinforce that, while interest in circular and innovative energy approaches is relatively high, actual implementation remains low. Beyond financial limitations, farmers face challenges including a lack of qualified training personnel, absence of peer support networks, and the complexity of associated technologies. Importantly, specific time preferences (e.g., short training sessions after midday and during low labour seasons) and literacy considerations (i.e., minimal reliance on text-heavy materials) are crucial to ensure accessibility and uptake (Michalakis et al., 2024). These findings underline the need for structured, context-relevant education that reflects the practical realities of day-to-day farm management.

As highlighted in the HarvREST project's early findings, "many farmers perceive RES as a promising but inaccessible innovation due to unclear information pathways, lack of peer examples, and insufficient local advisory support" (HarvREST, D2.1, 2023). This aligns with the observation by Everest (2021) that training and technical assistance are positively correlated with farmers' willingness to invest in or join renewable energy cooperatives.



Moreover, a review by Sembomelidou et al. (2020) notes that "uptake is constrained by a lack of regionally-adapted, practical knowledge transfer mechanisms." The emphasis on technology push, rather than farmer-centred innovation processes, often neglects experiential learning and local knowledge. In this regard, co-creation approaches and demonstration-based training models are increasingly recognised as effective. Farmers engaged in RES adoption consistently express the need for training that includes:

- practical maintenance and troubleshooting;
- financial planning for RES investment (including subsidies and cooperative models);
- navigation of permitting and administrative requirements (Wang et al., 2023);
- effective communication and collaboration with local stakeholders, cooperatives, and energy advisors to support informed, collective decision-making (HarvREST, D2.1, 2023).

Thematic Training Modules

In response to these identified needs, the **HarvREST project** proposes a **modular training framework** grounded in partners' high expertise, desk research, and regional stakeholder engagement. This structure acknowledges the heterogeneity of farming systems and energy landscapes across Europe and organises training into five interdependent modules:

- The **Technical module**, led by CHCE, addresses operational competencies for RES installation and maintenance, responding to demand for technology-specific, hands-on learning.
- The **Environmental & Sustainability module**, coordinated by BETA, equips farmers with tools to assess the ecological performance and long-term viability of renewable energy systems in agricultural contexts.
- The **Policy module**, developed by CHC, aims to explain regulatory frameworks and provide farmers with guidance on compliance, subsidy schemes, and administrative navigation.
- The **Business module**, led by ENG, focuses on financial planning, cooperative business models, and the economic integration of RES within diverse farming strategies.
- The **Stakeholder Engagement & Market Research module**, coordinated by WR, supports peer-to-peer learning, participatory methods, and territorial analysis of adoption barriers.

Together, these modules reflect HarvREST's systemic understanding of RES uptake as not only a technological transition but a social and organisational one. By embedding training within broader knowledge exchange networks – linking farmers, cooperatives, research institutions, and advisors – the project aims to create conditions for inclusive, scalable, and context-specific innovation in the agricultural energy transition.

The capacity building materials will be prepared by the consortium experts CHCE, BETA, CHC/HEC, ENG, Sulaes, WR during May - July 2025 (M17-M19).

Standard Format

All training content will be prepared and delivered in the form of **PowerPoint slides**, designed for use in both in-person and online lecture-style sessions. The official project [glossary/terminology](#) can be used by the consortium partners to develop their material.

Each module should be comprised of **at least 45-50 slides**. The content should be in English, but adaptable for translation or localisation.

4. Implementing Training Workshops

This section outlines practical guidance for the organisation, facilitation, and follow-up of the HarvREST training workshops at the Use Case level. Each UC is responsible for **organising at least one training event adapted to its regional context**, using the centrally developed training modules.

The training materials and the results of the training workshops will feed into D3.3 HarvREST Capacity building material, due by M30 (June 2026).

Logistics

Training sessions may be delivered:

- in full-day, half-day, or quarter day formats
- in person, online, or in hybrid form, depending on local accessibility and preferences.

Language

All training sessions should be **conducted in the local language of the Use Cases** to ensure clear comprehension, active engagement, and effective knowledge transfer among participants. While the core content is centrally developed and coordinated, its delivery must be culturally sensitive and adapted to the linguistic context of each Use Case. Facilitators should be fluent in the local language and equipped to guide discussions in a manner that is both culturally and regionally appropriate. Use Case teams are strongly encouraged to tailor session content by incorporating locally relevant examples, reflecting regional conditions, and addressing stakeholder-specific priorities.

Customisation

Each Use Case is **requested to selectively tailor its training workshops by drawing on the HarvREST capacity-building materials in a way that best aligns with its regional context and stakeholder needs**. Rather than presenting all five modules' content in full, UCs should identify and prioritise the content areas most relevant to their specific agricultural, technological, and socio-economic landscape. This approach allows for a flexible and targeted deployment of the training materials, ensuring that the sessions remain highly applicable and resonate with local participants. Customisation may include adapting examples, case studies, and terminology to reflect local practices, as well as adjusting the depth of technical detail to suit the audience's existing knowledge and experience. At the beginning of the workshop, UCs should clearly indicate to their stakeholders that the full content of the HarvREST capacity building material will be available on the project website. Ultimately, this ensures that each workshop delivers maximum value and practical relevance for its participants.


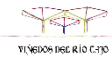



Timing and Design

Each Use Case is expected to develop and share a detailed plan and draft agenda for their respective training workshops no later than five weeks prior to the scheduled implementation date. This advance planning period allows sufficient time for review, feedback, and any necessary adjustments to ensure that the workshop is well-structured, contextually relevant, and logistically feasible. The draft agenda should clearly outline the session flow, allocated time slots, selected content, and delivery formats (in-person, online, or hybrid). Early circulation of this information not only supports effective coordination among consortium partners but also

The project


The HarvREST project aims to enhance the sustainable production of renewable energy at farm-level. This approach not only makes farms climate-neutral but also optimizes production, reduces their impact on natural resources and biodiversity, and provides energy services to communities, thereby diversifying economic income. However, deciding how best to integrate renewable energy sources (RES) on a farm is not without its challenges. The decision is a complex one, with many factors to consider. Due to this, HarvREST seeks to identify, understand, and overcome the existing barriers hindering the widespread adoption of this innovative approach. Current initiatives often overlook the complex interactions and factors within the farming and RES context, resulting in ineffective support for decision-making based on accurate projections, estimations, and forecasts. HarvREST will therefore consolidate and enhance existing knowledge, creating an Agricultural Virtual Power Plant capable of running diverse scenarios and farm configurations. This tool will determine the best operational procedures for a given RES solution, providing valuable data to a decision support system. This system will weigh trade-offs and key indicators, offering tailor-made recommendations to farmers and policymakers.

PARTNER	SHORT NAME	
	CIRCE Research Centre	CIRCE
	BETA Technological Centre	UVic-UCC (BETA)
	NORCE	NORCE
	Tecnoalimenti	TCA
	WHITE	WR
	Suite5 Data Intelligence Solutions Ltd.	Suite5
	EnGreen	EnG
	ConTerra	CT
	Confagricoltura	CONFAGRI
	Fattoria Solidale del Circeo	FSDC

	Viñas del Vero	VdV
	Viñedos del Rio Tajo	VRT
	Sorigué	ACSA
	Grønn Gårdsenergi AS	GGE
	Food & Bio Cluster Denmark	FBCD
	EIT Climate-KIC	CKIC

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