



**HarvREST**  
Greener Farming with RES

D1.4

# RRI First report

20 / 12 / 2024



Funded by  
the European Union

[www.harvrest.eu](http://www.harvrest.eu)

## PROJECT INFORMATION

---

ACRONYM	HarvRESt
PROJECT NAME	Harnessing the vast potential of RES for sustainable farming
PROGRAMME	Horizon Europe
TOPIC	HORIZON-CL6-2023-CLIMATE-01-7
TYPE OF ACTION	HORIZON Research and Innovation Actions
PROJECT NUMBER	101136904
START DAY	1 January 2024
DURATION	36 months

## DOCUMENT INFORMATION

TITLE	D.1.4 RRI First report
WORK PACKAGE	WP1
TASK	T1.4
LEAD PARTNER	CIRCE
CONTRIBUTORS	All partners
DATE	20/12/2024
DISSEMINATION LEVEL	Public

---

## DOCUMENT HISTORY

VERSION	DATE	CHANGES	RESPONSIBLE PARTNER
0.1	22/11/2024	First draft version	CIRCE
0.2	06/12/2024	Revisions to V0.1	All partners
1.0	20/12/2024	Final version submitted to EC	CIRCE

## DISCLAIMER OF WARRANTIES

This document has been prepared by HarvRESt project partners as an account of work carried out within the framework of the GA contract N° 101136904.

Neither Project Coordinator, nor any signatory party of HarvRESt Project Consortium Agreement, nor any person acting on behalf of any of them:

- makes any warranty or representation whatsoever, express or implied,
  - with respect to the use of any information, apparatus, method, process, or similar item disclosed in this document, including merchantability and fitness for a particular purpose, or
  - that such use does not infringe on or interfere with privately owned rights, including any party's intellectual property, or
  - that this document is suitable to any particular user's circumstance; or
- assumes responsibility for any damages or other liability whatsoever (including any consequential damages, even if Project Coordinator or any representative of a signatory party of the HarvRESt Project Consortium Agreement has been advised of the possibility of such damages) resulting from your selection or use of this document or any information, apparatus, method, process, or similar item disclosed in this document.

The project is funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union. Neither the European Union nor the granting authority can be held responsible for them.

This project has used a standard methodology already developed in the REDOL project (Grant Agreement number: 101082169). *Ad hoc* modifications were added to comply with the conditions of the Grant Agreement for HarvRESt project (Grant Agreement number: 101091668).

## TABLE OF CONTENTS

1.	EXECUTIVE SUMMARY .....	8
2.	INTRODUCTION .....	9
2.1	HarvRESt project.....	9
2.2	RRI scope.....	9
3.	RRI IN HARVRESt .....	11
3.1	The 6 policy agendas .....	11
3.1.1	Ethics.....	11
3.1.2	Gender equality .....	12
3.1.3	Governance .....	12
3.1.4	Open access.....	12
3.1.5	Public engagement .....	12
3.1.6	Science education.....	13
3.2	Events and actions.....	13
3.3	RRI indicators in HarvRESt.....	14
3.4	Golden rules for achieving RRI .....	14
3.5	Some sources of information .....	15
4.	CONCLUSIONS .....	16
5.	REFERENCES .....	17
6.	ANNEXES .....	18
6.1	Annexe 1: Project Gender Equality Plan .....	18
6.1.1	Objectives.....	18
6.1.2	Gender Balance .....	18
6.1.3	Monitoring and evaluation.....	18
6.1.4	Resources and support .....	18
6.1.5	Communication and Dissemination.....	18
6.1.6	Conclusion .....	18

6.1.7 Resources ..... 19

## ABBREVIATIONS

AI	Artificial Intelligence
EC	European Commission
EU	European Union
FAIR	Findability, Accessibility, Interoperability, and Reuse
GA	Grant Agreement
KoM	Kick off Meeting
KPI	Key Project Indicator
MORRI	Monitoring the Evolution and Benefits of Responsible Research and Innovation
OA	Open Access
R&I	Research and Innovation
RES	Renewable Energy System
RRI	Responsible Research and Innovation
WP	Work Package

## 1. EXECUTIVE SUMMARY

The present document introduces the approach followed to incorporate Responsible Research and Innovation (RRI) into HarvRESt as a central focus. RRI involves engaging society in research and innovation processes and includes six policy agendas: Ethics, Gender Equality, Governance, Open Access, Public Engagement, and Science Education. HarvRESt addresses these agendas in various ways, promoting ethical research, ensuring gender balance, establishing effective governance, prioritizing open access publications, engaging stakeholders, and enhancing science education.

The project plans to host physical events to present the project, discuss progress, review achievements, and engage with stakeholders. These events offer opportunities for disseminating project awareness and forming solid relationships. Key performance indicators (KPIs) have been identified to measure the success of RRI integration, including the number of internal sessions related to ethics, gender balance, open access publications, stakeholder engagement initiatives, and presentations at educational institutions. The integration of RRI into the project ensures that ethical, gender-balanced, transparent, and socially responsible practices are at the forefront of this transformation.

This document will be updated in December 2026 with the creation of D1.9 RRI Progress Report.



## 2. INTRODUCTION

### 2.1 HarvRESt project

Competitive conflicts for land use between the energy and food sectors have appeared, which could be mitigated by the vertical integration of Renewable Energy Sources (RES) in farms through new circular business models. By this approach, farms will become climate neutral, optimising their production and reducing their impact on natural resources and biodiversity, on top of providing energy services to communities and diversifying their economic income.

HarvRESt will try to solve this problem improving the existing knowledge of the use of RES in the agro food sector. For that an Agricultural Virtual Power Plant will be developed able to run different scenarios and farm configurations to determine the best operation procedures for a given RES solution. This data will be then provided to a decision support system able to weight trade-offs and key indicators to provide ad-hoc recommendations to farmers and policy makers, thus enabling the consecution of improved production rates on renewable energy, food & feed within agro communities.

For the successful execution of HarvRESt and implementation of recommendations, a multi-actor approach fostering co-creation sessions together with the provision of training materials for farmers empowerment will be implemented. The full approach of HarvRESt will be supported and executed at 5 use cases representing different topologies of farms, a diversity of stakeholders and organizational structures, distinct geographical conditions and a wide variety of RES technologies.

### 2.2 RRI scope

This document is the first version of the Responsible Research and Innovation (RRI) report prepared under the Project HarvRESt EC-GA contract no 101136904. This open deliverable, shortened as D1.4, has been developed under the activities of the task 1.4 “Innovation management and Responsible Research and Innovation”.

The intended audience of the present document is each individual participant of the Project Consortium and, being a public deliverable, this one will be accessible from the project’s website.

As per the RRI Toolkit (<https://rri-tools.eu/about-rri>) [1], Responsible Research and Innovation is:

- a) Involving society in science and innovation ‘very upstream’ in the processes of Research and Innovation (R&I) to align its outcomes with the values of society.
- b) A wide umbrella connecting different aspects of the relationship between R&I and society: public engagement, open access, gender equality, science education, ethics, and governance.
- c) A cross-cutting issue in Horizon 2020, the EU Programme for Research and Innovation 2014-2020.

The present document introduces the approach followed to integrate the RRI in HarvRESt as well as the first progress during the first year of operation. In this line, the RRI’s 6 policy agendas (a) Ethics, b) Gender Equality, c) Governance, d) Open Access, e) Public Engagement, and f) Science Education) have been taken into consideration.

In general terms, the role of the coordinator is to provide the consortium with an overview of the innovations planned within the project, so all the partners have a common idea and approach of them. In this sense, information on the project innovation will be provided from different points of view including technical, regulatory, social and organizational aspects. Moreover, the Innovation board will govern throughout the

project execution the innovation management process, working in strict cooperation with the WP Leaders, supporting HarvRESt partners in every step of the methodology development.

Besides that, the Exploitation and Innovation Manager will support the project in adjusting its objectives and requirements, in order to better identify exploitable results, the potential for patents applications and maximize the replication potentials.

During this task, cross cutting issues will be considered to ensure the interoperable, interdisciplinary and international approach of the HarvRESt project. In this sense, all the partners will be initiated in RRI practices, ensuring that the project considers important aspects such as public engagement, open access, gender, ethics, education, governance and science education, promoting institutional change among partners to adopt RRI approach.

To ensure that the RRI is being correctly addressed during the whole execution of HarvRESt, Monitoring the Evolution and Benefits of Responsible Research and Innovation (MoRRI) indicators are considered to monitor the project development and reported through progress reports.

This document will be updated in December 2026 with the creation of D1.9 RRI Progress Report.

### 3. RRI in HarvRESt

Aiming to reduce the distance between science and society, latest trends leading to a European-wide approach in Horizon Europe resulted in what is called RRI which seeks to bring issues related to research and innovation into the open, to anticipate their consequences, and to involve society in discussing how science and technology can help create the kind of world and society we want for generations to come.

RRI entails engaging all actors (from individual researchers and innovators to institutions and governments) through inclusive, participatory methodologies in all stages of R&I processes and in all levels of R&I governance (from agenda setting, to design, implementation, and evaluation).

#### 3.1 The 6 policy agendas

The EC provided six policies agendas to provide more concrete normative orientations, as shown below in Figure 1. These thematic elements are: a) Ethics, b) Gender Equality, c) Governance, d) Open Access, e) Public Engagement, and f) Science Education.

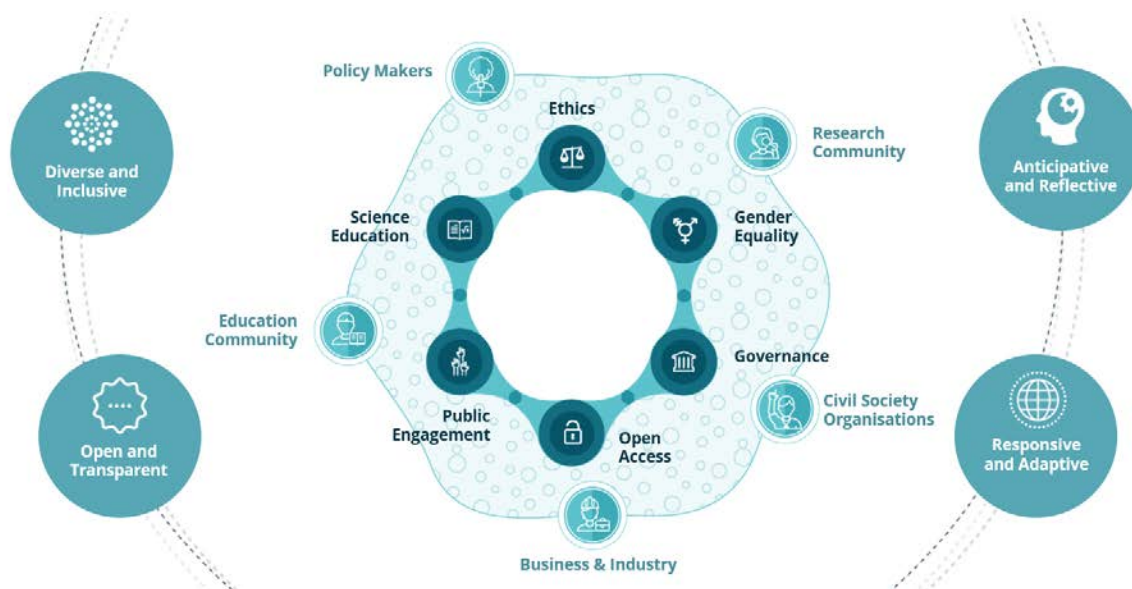


Figure 1. A normative framework for RRI: the six policy agendas

HarvRESt will consider these aspects within the RRI progress, having special focus on those policies where the thematic and idiosyncrasy of the project are more relevant.

#### 3.1.1 Ethics

Research integrity must be guided by standards, guidelines and protocols, while remaining open to external scrutiny. The core ethical endeavour is to achieve its integration across the entire R&I process in all project's phases.

At the current stage, HarvRESt focuses on the avoidance of unacceptable research. HarvRESt does not deal with work in ethical-compromised areas, such as the investigation of human embryos, humans, or animals. All the personal data used within the frame of the project will adhere to EU regulations regarding General Data Protection Regulation, to ensure that the data is protected accordingly.

Nevertheless, HarvRESt is committed to the highest ethical standards and research integrity when IA is used, abiding by EU, international, and national laws. AI within HarvRESt is used for renewable energy generation forecasts and the project prioritizes transparency, reliability, and accountability, ensuring no ethical breaches. The impact of AI-based systems developed in HarvRESt will be minimized because the involved partners will ensure that the different ethical aspects (human autonomy, privacy, data protection, cybersecurity, transparency, accountability, and lack of data bias) are considered and ensured in advance.

### 3.1.2 *Gender equality*

Gender equality is a matter of common concern, being crucial to invest in equal opportunities for men and women in R&I promotes teams that perform better and attract top-level players. One of the three main objectives of Horizon Europe's gender equality strategy is to foster gender balance in R&I teams, closing the gap in women's participation. Ensuring gender balance in R&I teams is vital to producing high quality outcomes that benefit everybody.

Gender data for the project will be gathered on several occasions, following the different project's reporting periods. For the purpose of this deliverable and aiming to count with a first version of the data, gender information included in the contact list is being taken into account leading to the following figures. Women representativity in HarvRESt is 37,9%. In a project which mainly involves engineers this ratio seems to be very high. In any case, this value will be updated at the end of the project, where all partners have to provide data about gender participation.

Each partner is responsible to have each own Gender Equality Plan (GEP) as requested by the EC. In any case, a very briefly Project GEP is showed in Annexe 1: Project Gender Equality Plan.

### 3.1.3 *Governance*

The governance bodies of the project such as Project Coordinator, Steering Committee, General Assembly, Work Package Leaders, Task Leaders and Circular Community have been defined in the KoM of the project. All together will work for the correct execution of the project and also for the implementation of the RRI.

### 3.1.4 *Open access*

Researchers have a core interest in publishing articles in academic journals. Articles represent a crucial source of information and data, and they remain the primary route through which research findings are communicated.

For the purpose of this deliverable, it is worth mentioning that the policy of Open Access has been deeply taken into account within the deliverable Data Management Plan (first draft) (D1.2) [2] resulting in the preparation of several guidelines to ensure the adherence to the FAIR Principles (Findability, Accessibility, Interoperability, and Reuse of digital assets). In any case, the number of OA publications will be taken into account as a KPI as well as the importance of providing results to the project via open publishable research. At this moment, no scientific publications have been released within HarvRESt project.

### 3.1.5 *Public engagement*

To integrate the Public Engagement in RRI related activities, it is important to set up a participatory research agenda including multiple advantages such as identifying stakeholders' unmet needs and what matters to end users, or helping researchers include new perspectives in research, prepare stakeholders for the research

process, structure the process for broader collaboration between stakeholder groups, and enable and empower stakeholders to develop their own voice.

### 3.1.6 Science education

The integration of RRI principles in teaching and learning activities supports multidisciplinary and stronger student engagement as well as student acquisition of critical thinking and collaborative learning skills.

The line between science education and public engagement is actually quite blurry due to the mutual learning processes that take place during public engagement activities, being the main difference the integration in the higher education institution.

## 3.2 Events and actions

Within HarvRESt, a plan for integrating the RRI into the project was prepared since the early stages. This plan considers among others organizing various promotional and educational activities taking advantage from the project meetings.

Besides extraordinary meetings that may occur during the development of the project, HarvRESt consortia plans to physically meet to discuss and move step forwards within the evolution of the project. Up to 7 physical events (including General Assemblies and Steering Committee meetings) have been planned (Figure 2). The meetings, specially focused on the monitoring of project progress, achievements review, decision-making and conflict resolution, as well as technical discussions are hosted by local organizations which are part of the project. Two exploitation seminars are also scheduled, one before month 18 and the second before month 30, focusing on sharing key results and identifying opportunities for commercial exploitation. The role of CIRCE in each meeting is to provide the consortium with an overview of the innovations planned within the project, so all the partners have a common idea and approach of them. In this sense, information on the project innovation will be provided from different points of view including technical, regulatory, social and organizational aspects. Moreover, the Exploitation and Innovation Manager will help partners in these issues, working in strict cooperation with the WP Leaders.

	Year 1												Year 2												Year 3													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36		
Kick-off General Assembly	X																																					
General Assembly													X													X												X
Steering Committee						X							X				X									X				X								X
Project Workshops and Final Conference	X												X												X													X

Figure 2. HarvRESt's expected meetings calendar

Besides, each pilot site will host local warm-up events, where project will be presented and engage with local stakeholders. As part of the co-creation and policy development tasks, stakeholders workshops will also be organized to develop business models and discuss policy recommendations for the agricultural integration of renewable energy sources. Finally, The project also aims to attend over eight scientific conferences throughout its timeline.

These physical meetings, in this sense, are an excellent opportunity for boosting the awareness among citizens and interested organizations and, closely related to the previous, engage companies and industries for an early adoption of the solutions. In this sense, the coordinator, CIRCE, has already a wide experience organizing meetings side events to promote projects activities but also other partners such as White Research, Climate-KIC or Confagricoltura, among others.

### 3.3 RRI indicators in HarvRESt

The Monitoring and Evolution and Benefits of Research and Innovation (MoRRI) is a series of different RRI indicators that are used for identifying the impacts of responsible practices in research and innovation [3].

In Table 1, besides the explanation of each one of them, the impact of different indicators for the first year of the project is being represented. After the experience of the first event to be carried out, the list may be adapted or expanded.

It worths mentioning that some of the listed KPIs have been inspired by H2020 Prisma Project (GA no: 710059) coordinated by TUDelft in which a practical guideline has been developed to contribute to a new standard for companies aiming at developing a strategy for RRI [4].

**Table 1. HarvRESt's Responsible Research and Innovation preliminary KPIs**

Policy	KPI	Indicators	
		M12	M36
Ethics	Number of internal sessions celebrated having ensured the awareness of the integration of ethical values within the HarvRESt's Innovation	1	
Gender Equality	Percentage of Women involved in the Research activities of the project	36.8%	
	Percentage of Women involved in the project	37,9%	
Governance	Number of internal sessions having the Board Responsibles performed leading actions	2	
Open Access	Number of open access publications	0	
Public Engagement	Number of Stakeholders engagement initiatives organized in the project	5	
Science Education	Number of education institutions where HarvRESt project has been presented	0	

### 3.4 Golden rules for achieving RRI

Summing up the RRI approach to follow under the framework of the project, the partners need to consider how to include these guides on its work. It can be stated that there are 5 golden rules to follow to achieve RRI [5]. These rules should be used within HarvRESt to put in practice the RRI approach.

1. Think about what society wants
2. Involve a wide range of stakeholders and societal actors
3. Consider all possible impacts
4. Be open and transparent
5. Respond and adapt

### 3.5 Some sources of information

This section aims to provide to the partners with sources of information regarding RRI that should be used during the lifetime of the project, to consider this holistic approach when researching.

- RRI tools: [Home Page - RRI Tools \(rri-tools.eu\)](https://rri-tools.eu)
- “A practical Guide to Responsible Research and Innovation: Key lessons from RRI tools” From RRI project.  
[RRI+Tools.+A+practical+guide+to+Responsible+Research+and+Innovation.+Key+Lessons+from+RRI+Tools \(rri-tools.eu\)](https://rri-tools.eu/RRI+Tools.+A+practical+guide+to+Responsible+Research+and+Innovation.+Key+Lessons+from+RRI+Tools+(rri-tools.eu))
- Self-reflecting tool: [Self-Reflection Tool - RRI Tools \(rri-tools.eu\)](https://rri-tools.eu)
- Putting Responsible Research and Innovation into Practice: [Putting Responsible Research and Innovation into Practice: A Multi-Stakeholder Approach | SpringerLink](https://www.springerlink.com)
- Enacting RRI in Europe course: [RRI - Aalborg University \(aau.dk\)](https://www.aau.dk)

## 4. CONCLUSIONS

The HarvRESt project aims to integrate renewable energy sources (RES) into farming systems, addressing climate challenges by creating sustainable, circular business models for farms. This EU-funded initiative will use an Agricultural Virtual Power Plant to simulate various renewable energy scenarios, supporting optimized operations and decision-making. By engaging multiple stakeholders through co-creation and training, HarvRESt seeks to empower farmers, increase renewable energy production, and reduce environmental impacts. The project will pilot these solutions across diverse European farms, promoting climate-neutral agriculture and energy independence for rural communities.

The incorporation of Responsible Research and Innovation (RRI) across the project ensures that ethical standards, gender equality, transparent governance, open access, public engagement, and science education are integrated into every facet of HarvRESt. The commitment to these RRI principles demonstrates the project's dedication to societal values and responsible practices.

Through a series of planned physical events, HarvRESt seeks to engage stakeholders, raise awareness, and foster industry partnerships. These gatherings will serve not only as venues for progress assessment but also as opportunities for community involvement and education.

As the project progresses, the HarvRESt consortium will continue to monitor and adapt its approach to ensure that Responsible Research and Innovation remains at its core. The commitment to the five golden rules – thinking about society's needs, involving diverse stakeholders, considering all impacts, being open and transparent, and responding and adapting – will guide the project's path towards success.



## 5. REFERENCES

- [1] **RRI Toolkit** (November of 2024). <https://rri-tools.eu/about-rri>
- [2] **Data Management Plan** (first draft) (D1.2). HarvRESt project. (June of 2024).
- [3] **European Commission, 2018**. Monitoring the evolution and benefits of responsible Research and Innovation. Summarising insights from the MoRRI project. <https://op.europa.eu/en/publication-detail/-/publication/fdd7dd10-c071-11e8-9893-01aa75ed71a1>
- [4] **Project H2020 Prisma** (November of 2024). <https://www.rri-prisma.eu/>
- [5] **RRI tools**. A Practical Guide to Responsible Research and Innovations: Key Lessons from RRI tools (November of 2024). <https://rri-tools.eu/documents/10184/16301/RRI+Tools.+A+practical+guide+to+Responsible+Research+and+Innovation.+Key+Lessons+from+RRI+Tools>

## 6. ANNEXES

### 6.1 Annexe 1: Project Gender Equality Plan

This brief Project Gender Equality Plan (PGEP) outlines partners commitment to promoting gender equality within HarvREST, aligning with European Union objectives for inclusivity and equal representation. The goal is to ensure gender balance, prevent discrimination, and foster a diverse, respectful working environment. By implementing this PGEP, partners aims to set a precedent for gender equity and establish best practices that can be adapted for similar projects in the future.

#### 6.1.1 *Objectives*

This PGEP aims to promote gender equality and diversity within HarvREST by implementing inclusive practices and policies. It strives to encourage a balanced representation of genders in leadership, dissemination events, etc., ensuring equitable access to opportunities and influence. Furthermore, the plan seeks to foster a work environment that is inclusive, respects diversity, and actively combats any form of discrimination, creating a supportive and respectful atmosphere for all Consortium members.

#### 6.1.2 *Gender Balance*

The PEGP prioritizes gender balance in all aspect of HarvREST project to ensure equitable representation of all genders. To achieve this, the project will establish procedures that includes at least 40% representation of each gender within the project, organized events (if possible), etc. Additionally, the plan includes measures to actively monitor and adjust gender representation at all levels, promoting sustained gender balance throughout the project's duration.

#### 6.1.3 *Monitoring and evaluation*

The PGEP includes an approach to monitoring and evaluation, with the goal of tracking and assessing progress on gender equality initiatives. To support this, specific gender equality indicators has been defined in the RRI report and will be regularly evaluated, ensuring that it is effectively advancing the project's equality objectives.

#### 6.1.4 *Resources and support*

Partner can use the allocated budget in WP1 for implementing the PGEP. Each parnter will decide if a Gender Equality Officer is needed to oversee the implementation and monitoring of the plan, providing consistent leadership and accountability.

#### 6.1.5 *Communication and Dissemination*

The PGEP will be actively communicated and disseminated to ensure broad awareness and engagement. The objectives and achievements of the PGEP will be promoted through both internal and external communication channels, highlighting progress and fostering a culture of inclusivity. Stakeholders and partners will be engaged to share best practices on gender equality, building a network of support and shared learning.

#### 6.1.6 *Conclusion*

HarvREST is dedicated to fostering an inclusive and diverse environment where gender equality is a core principle. Partners believes these measures will yield long-term benefits for the project and contribute positively to our wider community.










### 6.1.7 *Resources*

European Commission, Directorate-General for Research and Innovation, (2021) *Horizon Europe guidance on gender equality plans*. Publications Office of the European Union. <https://data.europa.eu/doi/10.2777/876509>



## 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 CT)
	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-SORIGUÉ
	Grønn Gårdsenergi AS	GGE
	Food & Bio Cluster Denmark	FBCD
	EIT Climate-KIC	CKIC

## Contact us

[www.harvrest.eu](http://www.harvrest.eu)

 <https://linkedin.com/harvRESt>

 [https://twitter.com/HarvRESt\\_eu](https://twitter.com/HarvRESt_eu)