



**H2020-LC-SC3-EE-2019**

**HEAT PUMPS SKILLS FOR NZEB  
CONSTRUCTION (HP4ALL)**

**D6.2 – ROADMAP FOR HP4ALL APPROACH  
REPLICATION IN EUROPE**

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## Executive summary

Against the backdrop of the hardships and global energy market disruption caused by Russia's invasion of Ukraine and in order to curb the climate crisis, the EC presented on the 18<sup>th</sup> May 2022 the REPowerEU (RPEU) Plan Communication, a comprehensive package of measures to address massive *energy savings*, wide diversification of *energy supplies*, and accelerated roll-out of *renewable energy* in households, industry and power generation, particularly HPs<sup>1</sup>.

The ambitious objectives set forth by the RPEU Plan mean that by 2030 that the number of HP related workers in the EU (manufacturing, installation, maintenance) be increased by 50%, and that out of the existing workers, at least 50% will also need to be reskilled to work with HP technologies (electric, hybrid, thermal). This is an enormous challenge as HP installation requires twice as much time as boilers, according to the European Heating Industry (EHI).

For this reason, the RPEU initiative deserves particular attention to establish a *Large-scale Skills Partnership* to maintain and regain technological and industrial leadership in key areas and to support the workforce.

In this context, the HP4All project aims to enable the framework and guidance for a massive capacity and skills development within the Heat Pump (HP) sector following a holistic, approach involving both the supply side (manufacturers, SMEs, installers etc) and demand side (building owners, public sector etc.).

To this end, HP4All has developed a set of tools and resources to be adapted and replicated EU-wide -the so called **HP4ALL package**:-

- A **HP Competency Framework** to facilitate Mutual Recognition of HP Skills

- A user-oriented **HP Knowledge Hub** (e.g., technical information, case studies, procurement guidance etc.) to help out stakeholders' decision making throughout the whole value chain, in particular in its lower end (designers, installers, consumers)

- An **HP Benchmarking Tool** to optimize the HP acquisition decision making process

- **Awareness Campaign materials** to assist in the EU-wide roll out of heat pumps and the replication of the HP4ALL project success.

With a view to ensuring its widest adoption at EU scale the HP4All package has been validated, in three countries/regions with varying stakeholders and scenarios: **Upper Austria, Andalusia, and Ireland**. The HP4ALL package so developed and tested will be in turn replicated EU-wide through a specific **Replication Plan** (Deliverable 6.1).

The present **Roadmap** includes a proposed set of promotional activities to optimise the deployment of the HP4ALL Replication Plan in close collaboration with key EU stakeholders.

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<sup>1</sup> Doubling of the rate of deployment of heat pumps over the next 5 years resulting in a cumulative ten million units

## Acronyms and abbreviations

<b>CET</b>	Central European Time
<b>CINEA</b>	European Climate, Infrastructure and Environment Executive Agency
<b>D&amp;C</b>	Dissemination and Communication
<b>DG ENERGY</b>	European Commission Directorate General for Energy
<b>EC</b>	European Commission
<b>ECCP</b>	European Cluster Collaboration Platform
<b>EE</b>	Energy Efficiency
<b>EHI</b>	European Heating Industry
<b>EED</b>	Energy Efficiency Directive
<b>EPBD</b>	Energy Performance of Buildings Directive
<b>EHPA</b>	European Heat Pump Association
<b>ERP</b>	Eco-Design Directive
<b>ESIF</b>	European Structural and Investment Funds
<b>ESF</b>	European Social Fund
<b>EU</b>	European Union
<b>GWP</b>	Global Warming Potential
<b>HP</b>	Heat Pump
<b>MEPS</b>	Minimum Energy Performance Standards
<b>MFF</b>	Multiannual Financial Framework
<b>MRA</b>	Mutual Recognition Agreements
<b>MS</b>	Member States
<b>NGO</b>	Non-Governmental Organisation
<b>OSS</b>	One-Stop-Shop
<b>RED</b>	Renewable Energy Directive
<b>RES</b>	Renewable Energy Sources
<b>RPEU</b>	REPowerEU Initiative
<b>RW</b>	Renovation Wave
<b>WP</b>	Work Package

# 1 The HP4ALL project, an enabler for HP skills enhancement

The HP4All consortium has been interacting with the entire HP value chain, both the supply side (manufacturers, engineers, designers, installers) and the demand one (building owners and end users from all sectors -residential, industry and tertiary).

HP4All aims to facilitate an increased market demand (procurement and contracting services), a large-scale rollout and a further advancement and uptake of heat pumps technologies and systems for residential and non-residential applications, with the subsequent market boosting of related skilled workforce demand and provision by:

- Providing HP related tailored, sound, key information to all relevant stakeholders and users, thereby facilitating their decision-making process.
- Paving the way for a more robust level of skills in the HP value chain, ensuring high quality and reliability from the supply side

To this end, HP4ALL has developed a set of tools and resources -the so called **HP4ALL package**-:

- An **HP Competency Framework** to facilitate Mutual Recognition of HP Skills. It will allow manufacturers, designers, and installers to benchmark their knowledge and skills to determine if they are meeting the needs of the market. Such a framework will also facilitate mutual recognition across the EU.
- A user-oriented **HP Knowledge Hub** to provide guidance, support, and tools (e.g., technical information, case studies, procurement guidance) to increase the demand for HP skills and knowledge.
- An **HP Benchmarking Tool** enabling end users to consider options and performance of HP technologies within different building and application types.
- **Tested Awareness Campaign & Training materials**, tools, and methods to assist in the EU-wide roll out of heat pumps and the replication of the HP4ALL project success.
- **Policy Recommendations** that are aimed at all levels of governments from local governments to EU level. These recommendations are for legislative and administrative adjustments to foster labour market consolidation schemes, incentives (based on success stories) and ambitious private and officially supported dissemination & communication packages.

With a view to ensuring its widest adoption at EU scale, the HP4All package has been disseminated, tested, validated, and fine-tuned by means of **three implementation plans** with different and complementary approaches in three partner regions with varying stakeholders and scenarios, these regions include **Upper Austria, Andalusia, and Ireland**. The ultimate goal is for the HP4All package to be tailored to different market conditions throughout the EU, raising awareness of and assuring commitment to the abovementioned objectives.

The impact of HP4All will be maximized through the involvement of the **Observer Countries** Croatia (HR), Portugal (PT), and Romania (RO), following closely the development and validation of the HP4All package, and acting as early adopters thereof even before the project ends.

The implementation plans have been informed by **extensive stakeholder engagement** to spot and map current and future barriers to HP market exploitation and skills development.

**Leading experts** in the HP and Energy sector have provided feedback for and participated in the preparation and deployment of these implementation plans through a set of consultations, workshops, and events.

HP4All long-term EU-wide outreach will be guaranteed by a dedicated **Replication Plan**, and its corresponding promotion and awareness raising campaign **Roadmap**, which is the subject of the present document.

## 2 HP4ALL Replication Plan marketing roadmap

### 2.1 Introduction

The HP4All Replication Plan Roadmap aims to set up both a consistent portfolio of Dissemination & Communication (D&C) measures (information, education, motivation) to *raise awareness* of the HP4All package in other regions.

By showcasing the potential, *capacity building* actions, and recommended implementation pathways and tools<sup>2</sup> of the HP4ALL package to a range of region actors and stakeholders along the whole HP value chain, with a view to engage and recruit them to undertake the HP4ALL package in the medium to long term deployment and adoption EU wide.

It is based on the experience gained during the project implementation, particularly during the pilot activities and the boosting of heat pump (HP) demand in the 3 pilot regions, a set of case studies and success stories.

As provided for in the Grant Agreement, two main events constitute the core of the HP4All Replication Plan Roadmap:

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<sup>2</sup> described in other HP4ALL outputs such as the Replication Plan, as well as in the Policy recommendations guidelines

- A *train-the-trainers workshop* targeting cluster managers, energy agencies and other relevant actors. It will be promoted across all EU clusters from the construction and energy sector (including those that are part of the pool of Observers).
- A *policy makers workshop*, wherein the handbook for policy and legislation recommendations developed and the competency frameworks developed in will be presented.

In addition to these ones, some *other dedicated events* have been conceived, and a parallel *digital marketing campaign* will be put in place.

## 2.2 Policymakers online workshop

### Background

This invitation-only event is aimed at selected European (European Climate, Infrastructure and Environment Executive Agency (CINEA) European Commission Directorate General for Energy (DG Energy), others), national and regional level policymakers and interested parties (e.g., European Heat Pump Association (EHPA) National Associations Representatives).

The main talking points of this workshop will be the *HP4All project Policy & Legislation Recommendations Paper* and the related *EHPA Policy Paper* and proposed *HP Accelerator*, aimed all at providing a practical and feasible package of policy measures at all levels to increase HP skills and the demand thereof EU-wide. Feedback from the workshop will be incorporated into these documents.

### Approach

An Expert panel made up of 10 selected representatives/experts from regional, national and EU administrations in charge of energy, building and employment policies including HP4All Observer Countries, as well as other interested parties (e.g., National / Regional HP Associations) will be selected by HP4ALL.

Experts will receive in advance all relevant documents, whose core contents will be revised during the workshop in order to reinforce, fine-tune or add up to them. This is often referred to as the Delphi method.

It is intended to set up an agile and straightforward panel and discussion to swiftly get to relevant conclusions. Contents will be analysed by blocks over the course of an average, 10/15 minutes per block, with up to 6-9 blocks in total to be discussed (e.g., certification schemes, Mutual Recognition Agreements (MRA). public procurement, financial measures etc.) and addressed consecutively and in turn by all experts in order to systematise and speed up the process.



## Date and venue:

16<sup>th</sup> February - online

## Agenda (all times are Central European Time (CET)):

- 10:00 - 10:05 Welcome and introduction. Aims and scope of the workshop (TUS)
- 10:05 - 10:10 The HP4All project and Package. An overview (TUS)
- 10:10 -10:20 HP4All Policy and Legislation Recommendations. Key messages (CTA)
- 10:20 - 10:30 EHPA Policy paper and HP Accelerator. Main features (EHPA)
- 10:30 - 12:00 Round table and discussion (Moderated by TUS)
- 12:00 - 12:15 Wrap-up and conclusions (CTA)

## 2.3 HP4ALL train-the-trainers event

### Background

This online workshop is aimed at providing EU-wide (including Observer Regions) knowledge transfer to HP value chain industrial clusters (manufacturers, designers, constructors, installers), energy agencies and other relevant stakeholders (e.g., third level institutions: universities, institutes of technology, and colleges of education; public and private foundations; Non-Governmental Organisations (NGOs) etc.) enabled to carry on with the replication of the HP4All approach and package (information, awareness raising, education and training).

It will also provide feedback to inform about and fine tune the HP4ALL Replication Plan and HP4ALL transfer Roadmap.

The event will outline the HP4All package, the methods and approaches used to draw up and implement the three HP4All pilot regions and the lessons learnt from each pilot region. The event will provide orientation and direction on the steps and recommendations to promote the HP4ALL package's adoption (i.e., its marketing-mix and policy support) , based on the experience gained out of the project implementation.

The workshop will be promoted across all EU clusters from the construction and energy sector, including those that are part of the pool of Observer Countries. Collaboration will be sought with relevant EU stakeholders (e.g., the European Cluster Collaboration Platform (ECCP); EHPA Associates)

## Approach

The event will begin with the presentation of the HP4All package and the replication plan for the HP4ALL project. This section will then be followed by a round table (10' per speaker) on tips and lessons learnt from representatives of the three pilot regions, a discussion session and a Q&A session.

## Date and venue:

27th February - online

## Agenda (all times are CET):

- 10:00 - 10:05 Welcome and introduction. Aims and scope of the workshop (TUS)
- 10:05 - 10:20 The HP4All project and Package. An overview (TUS)
- 10:20-10:30. The HP4All Replication Plan and Roadmap. Key aspects (CTA)
- 10:30 - 11:00 Round table and discussion: Lessons learnt and orientation to promote the HP4All package adoption (Moderated by TUS)
- Irish Pilot: Local Authorities and installers (small-medium scale HPs; TUS)
- Austrian Pilot: Regional authorities and Energy Advisors (large-scale HPs; ESV)
- Spanish Pilot: Regional Authorities and HP manufacturing and installing industry (small-medium scale HPs; CTA)
- 11:00 - 11:15 Q&A
- 11:15-11:30 Wrap-up and conclusions (CTA)

## 2.4 Other dedicated events

### Mutual Recognition Agreements: Public webinars and meetings with European Heat Pump Associations

The HP4All task related to Mutual Recognition Agreements, has been expanded upon by EHPA, with the design and implementation of data gathering and input providing tool, in the form of two webinars on the subject, as well as two workshops with National Heat Pump Associations. Additionally, further dissemination and signatures on the topic, will be pursued as part of the project final conference.

The first public event was held under the umbrella of the EHPA annual forum and titled "Ambition requires action: Mutual recognition agreements and the upskilling transformation". This event gathered 31 participants ([recording here](#)) and was centred on the REPowerEU, EHPA Heat Pump Accelerator and sectorial growth.

The second public event was held under the umbrella of the European Year of Skills and titled “Heat Pump skills and competencies: Preparing for mass deployment”. This event gathered 91 participants ([recording here](#)) and was centred on the EU wide policies in the training sector, the growth of the sector from a Polish and Norwegian perspective as well as other project examples.

Two closed door meetings were held as part of EHPA’s National Heat Pump Association committee. Feedback on the agreements lead to a decision of an in-depth involvement of Associations in further work in the field as well as any other relevant project calls on the subject. One meeting was held on the 25<sup>th</sup> of November 2022 and the 2<sup>nd</sup> one on the 30<sup>th</sup> of January 2023. These concluded in the signing of the first Heat Pump Skills Recognition Agreements.

### **Institute of Refrigeration Ireland National Conference 2023**

HP4All have been approached to speak at this year’s IRI National Conference described as E-Heat: Decarbonisation and Net Zero: The role of Heat Pumps and Refrigeration Heat Recovery Latest developments, current regulations, and best practice. This event is preliminarily set for Wednesday 19<sup>th</sup> April. There is no link at the time of writing for the official 2023 event, instead please see the link to 2022 (<https://iri.ie/events/irac-irelands-refrigeration-air-conditioning-exhibition>).

### **INTERKLIMA 2023**

The Observer region leaders of Croatia, the University of Zagreb have invited the HP4All project to submit a proposal for 2023s INTERKLIMA conference in Croatia (<https://interklima.fsb.hr>). The presented papers will be selected and reviewed for publishing in partner journals: Transactions of Famena (WoS, SCI Exp.), JSDEWES (WoS, SCOPUS), Tehnical gazette (WoS, SCI Exp.) and REHVA Journal. The INTERKLIMA 2023 Conference will be held in Zadar, Croatia, on 20 - 21 April 2023.

Dating back to 1969, INTER-KLIMA is the oldest conference of its kind in this part of Europe, being traditionally devoted to research in the field of technical thermodynamics and to the efficiency improvements in thermal energy systems, primarily in buildings and industry. The Conference will be held along with Klima-forum, thus creating the largest event in the field of cooling, ventilation and air-conditioning in Croatia.



The outlined topics of INTER-KLIMA 2023 Conference are:

- zero emission buildings
- smart readiness of buildings
- advances in EU regulation (Energy Performance of Buildings Directive (EPBD), Energy Efficiency Directive (EED), Renewable Energy Sources (RES), Fluorinated -Gas, Eco-design Directive (ErP directive)).
- low Global Warming Potential (GWP) refrigerants
- renewable district heating & cooling
- seasonal thermal energy storage systems
- lifecycle GWP of buildings
- renovation passports.

### **EU Sustainable Energy Week (EUSEW) 2023**

EHPA, EuropeON, AVere and TUS are submitting a proposal for policy sessions for this year EUSEW conference, the topic will revolve around skills for electrification. The event will be represented by an expert panel where the HP4All project will be presenting the identified best practices on heat pump skills, the Mutual Recognition Agreement, and replication plan from the project.

## **2.5 Digital marketing**

The third phase of the Dissemination and Communication Plan consists of supporting the replication and exploitation actions of HP4All. With the project coming to an end, it will be essential to link the exploitation and dissemination activities to guarantee the future replication of results. The final event will be celebrated openly in this period and all the knowledge and materials gathered in the project life will be made available online.

HP4All partners are committed to continue disseminating the project results and goals at least two years after the project ends, so a wider impact can be reached. Thus, the website and corporate channels will continue to be the main repository of documentation and the access to the key innovations developed. As stated on the Grant Agreement Article 29 “Unless it goes against their legitimate interests, each beneficiary must — as soon as possible — ‘disseminate’ its results by disclosing them to the public by appropriate means (other than those resulting from protecting or exploiting the results), including in scientific publications (in any medium).”

In compliance with this article, our partners have actively contributed to disseminating the HP4All project from the very beginning by different means: social media posts, attendance at conferences and shows, emailing campaigns, newsletters, press releases, etc. and will continue after the lifetime of the project.