COMHPTES

Flexible Compact Modular Heat Pump and PCM based Thermal Energy Storage System for Heat and Cold Industrial Applications

D6.1 Dissemination and Communication Plan

Date: 28/02/2025

Author: KTH Royal Institute of Technology

This project has received funding from the CETPartnership, the European Union, the Swedish Energy Agency, Scottish Enterprise, and the CDTI. The content of publication is the sole responsibility of the author(s). The funding groups and organizations cannot be held responsible for any use that may be made of the information it contains.

This research was funded by CETPartnership, the Clean Energy Transition Partnership under the 2023 joint call for research proposals, co-funded by the European Commission (GA N°101069750) and with the funding organizations detailed on https://cetpartnership.eu/funding-agencies-and-call-modules. The project has received support from the Swedish Energy Agency, Scottish Enterprise, and the CDTI.

Project Details

Project Title	Flexible Compact Modular Heat Pump and PCM based Thermal Energy Storage System for Heat and Cold Industrial Applications
Project Acronym	COMHPTES
Project ID	CETP-FP-2023-00496
Project Start Date	01/12/2024
Project End Date	30/11/2027
Duration	36 Months
Website	https://www.energy.kth.se/heat-and-power-technology/current-projects/comhptes-flexible-compact-modular-heat-pump-and-pcm-based-thermal-energy-storage-system-for-heat-and-cold-industrial-applications-1.1375587

Deliverable Details

Number	D6.1
Title	Dissemination and Communication Plan
Type	Report
Work Package	WP6 - Reporting, Knowledge Community and Exploitation
Dissemination Level	Public
Due Date	28/02/2025
Submission Date	28/02/2025
Responsible Partner	KTH
Contributing Author(s)	Emily Fricke (KTH)
Reviewer(s)	Silvia Trevisan (KTH)
Final Review and Quality Approval	28/02/2025

Document History

Version	Date	Changes	Author(s)
V1	26/02/2025	First full draft for review	KTH
V1.1	28/02/2025	Revised final version	KTH

Executive summary

This report outlines the overall strategy for information dissemination and communication for the COMHPTES project, setting forward actions to be taken and responsibilities of the various project partners. This plan is developed as part of Work Package (WP) 6 - 'Reporting, Knowledge Community and Exploitation,' which has the larger aim of maximizing the project impact by identifying key project results and tailoring dissemination, exploitation, and IPR protection strategies to reach the target groups. This report will serve as a guideline for how to meet the goals of WP6. Dissemination and communication actions will be performed by all project partners, under the supervision of KTH as leaders of WP6, following the strategies presented in this report. These methods are in line with the communication guidelines set forth by the CETP.

This report also establishes a Visual Identity in the form of a logo, deliverable template, and presentation template to create a familiar and consistent image for both intra-consortium and external communication.

Contents

List of Figures

List of Tables

1. Purpose and Audience of the Document

The Dissemination and Communication Plan outlines dissemination and communication (D&C) goals and details the steps which shall be taken to meet these goals with the overarching aim of increasing the impact of the project. The methods and activities taken by the project partners by which the project objectives, scope, updates, and outcomes shall be communicated to target audiences and relevant external stakeholders are presented. These activities fall under the scope of WP6 - 'Reporting, Knowledge Community and Exploitation.' The plan also provides information on the overall timeline and the various partner roles and responsibilities to enable smooth coordination between the project partners and enhance the impact of the COMHPTES project.

Under KTH's and MGS' leadership, a D&C campaign will be coordinated among all COMHPTES partners, to drive project results exploitation thanks to KTH's "Innovation-to-Market" attitude and its expertise/network in EU-funded projects. The main priority in the first stage is to identify and engage key stakeholders by providing relevant information and raising awareness of innovative HP cycles and components proposed by COMHPTES. Main results must be identified and correlated with the problems they solve, the end-users they are aimed at, and the partners leading their exploitation. Gathered insights and derived outcomes must be communicated to all interested groups through different channels and tools that maximize dissemination. The exchange of information is crucial to understand needs of stakeholders and end users, and to define an exploitation strategy and replicate project results.

2. Target Audiences

Considering the low TRL of the project and the relevant number of worldwide stakeholders (RTOs and industry) interested in the decarbonization of the industrial sector, COMHPTES will have a scientific-oriented promotional approach, with a key focus on scientific publications and student and PhD engagement/education.

Activities will target a wide range of stakeholders, spanning from potential end-users/adopters (energy utilities, system integrators, etc.), policy makers, the research community gravitating around the specific scientific and technical fields tackled by the project, and, last but not least, civil society as a whole. Table 1 summarizes the stakeholder groups, key information to communicate, and the expected impact. The presence of KTH as a worldwide leader in the scientific community in HP, TES, and system optimization; and of innovative industrial SME players i.e. B2Z, SYNC, ABS, and MGS, will guarantee project visibility in the sector as well as promotion in the EU. The coordination of technology transfer and D&C activities will ensure the development of new markets and business, contribute to broader scientific knowledge, as well as foster interaction with EU sister projects and key stakeholders.

Table 1: Target audiences, messages to relay, and expected impact

Stakeholder Group	Description/key messages	Expected Impact
Potential end-users/adopters (e.g., energy utilities, system integrators)	Potential end-users would directly benefit from implementation of the system demonstrated by COMHPTES. The key information to communicate is system integration options, overall system performance enhancements, as well as the environmental and economic benefits of the proposed system relative to current technologies in use.	Encouraging potential adoption by end-users, leading to enhanced industrial decarbonization as a whole, as well as successful, cost-effective, and efficient operation of implemented systems.
Policy makers	Policy makers and regulatory bodies can help identify the policies limiting adoption and use of the proposed technologies, as well as advance policies and programs that would enable implementation and future development of the COMHPTES system.	Facilitate knowledge of technologies available for industrial decarbonization and generate support for related future research and development efforts.
Researchers, technical	Those involved in relevant fields of study and research would benefit	Foster learning and knowledge for the broader scientific

expert, and the scientific community	from learning about the present efforts. This group would benefit from knowing detailed information about the efforts undertaken on a technical level.	community on the innovative system proposed, and on the advancements and observations related to various facets of the project (e.g., specific components), with the overarching impact of contributing to progress in the field of industrial decarbonization.
General public	Anyone who may or may not have experience in the fields related to this project, but could learn broadly about the project motivation, objectives, and potential impact.	Providing knowledge to the general public about research efforts and new opportunities for adoption of more sustainable technologies is vital for creating interest in and openness to implement such technologies.

3. General Rules

In addition to following relevant government guidelines and policies, the project must adhere to the requirements set forth by the CETPartnership.

3.1 GDPR Considerations

The General Data Protection Regulation (GDPR) is a common regulation for all European countries in terms of data privacy and protection. For COMHPTES, GDPR concerns are expected to be relevant to three categories:

1) Data used in the course of the course of project's execution;
2) Data collected from communications between project partners and other third-party entities; and
3) Data collected from D&C activities (e.g. contact details of event registrants).

3.2 Language

The language of this project is English, which should be used for all project deliverables and reports. For reference, the European Commission's English Style Guide may be consulted (https://commission.europa.eu/system/files/2023-11/styleguide_english_dgt_en.pdf).
Depending upon the target audience, it may be appropriate to translate project results into other languages. For activities occurring on a national or sub-national level, communication can occur in the language of the relevant country. For example, a fact sheet may be issued in the relevant national language as well as in English.

3.3 Funding Statement, CETPartnership Logo, and EU Emblem

D&C activities must adhere to CETPartnership requirements, which are outlined in the Communication Guidelines (Communication guide for projects.pdf, available on the Digital Information System for Communication and Collaboration or DISCCO platform to project partners). For all written materials (e.g., papers published in scientific journals, reports, or policy briefs), the following statement must be included: "This research was funded by CETPartnership, the Clean Energy Transition Partnership under the 2023 joint call for research proposals, co-funded by the European Commission (GA N°101069750) and with the funding organizations detailed on https://cetpartnership.eu/funding-agencies-and-call-modules. The project has received support from the Swedish Energy Agency, Scottish Enterprise, and the CDTI."

In all visual materials (e.g., PowerPoint presentations, posters, social media visuals, videos, or the project's website), the CETPartnership logo and the EU emblem must be included, along with the logos of relevant funding organizations. The EU emblem must be displayed clearly and prominently, and should not be modified or merged with other graphic elements or text. The EU emblem and CETPartnership logo, as well as further rules for display of the EU emblem, can be found on DISCCO.

Figure 1: EU emblem, CETP logo, Swedish Energy Agency logo, Scottish Enterprise logo, and CDTI logo

Additional national requirements should also be followed (e.g., if other specific details for the national funding agency, such as acronyms or project ID number, are required for the partner leading the deliverable/publication).

D&C activities must use accurate information. They must also include the following disclaimer:

This project has received funding from the CETPartnership, the European Union, the Swedish Energy Agency, Scottish Enterprise, and the CDTI. The content of publication is the sole responsibility of the author(s). The funding groups and organizations cannot be held responsible for any use that may be made of the information it contains.

3.4 Monitoring of the Activities: D&C Tracker

Within the WP6 folder in the Teams shared folder for COMHPTES, KTH will create a spreadsheet entitled Dissemination and Communication Tracker to track the D&C activities of all project partners. Information is included about online activities, events, and scientific publications. Every project partner is responsible for ensuring activities they lead are up to date in the tracker. Figure 2 shows a preliminary version of the tracker.

Date (DD/MM/YYYY	Activity	Link	Description	Key Performance Indicators	Target Groups Reached	Responsible Partne	Follow-up Actions
	e.g., LinkedIn post, event, newsletter, conference, journal publication				e.g., academia, industry, policymakers, general public		e.g., sharing of sharing links for papers, etc.

Figure 2: Preliminary version of D&C Tracker

3.5 Strategy Implementation

KTH is the leader of WP6 and, as such, is responsible for leading and coordinating the D&C efforts, with the cooperation and support of the project partners. Although KTH will lead efforts and the production of D&C materials, project partners are expected to also engage in D&C activities, making use of their networks and communication channels to enhance the impact of the project.

4. Communication Strategy

Communication activities will promote the project to various audiences, and will also be coordinated with the activities organized by the CETPartnership Knowledge Community in collaboration with other projects. As for what concerns COMHPTES, the communication activities of the project and its partners will aim at

i) Creating a project public visual identity;
ii) Providing projects information and updates;
iii) Sustaining the diffusion of results to the general public; and
iv) Translating the scientific/technical results into comprehensible messages for public outreach.

The activities will be performed using the tools described in the following sections.

4.1 Visual Identity and Public Image

The development of a common visual identity for the project enables easier identification by the public and ensures visibility and recognition. This includes adoption of a project logo and common graphics for any project template (e.g., presentations, reports) and any public materials (e.g., brochures). The COMHPTES logo and colours implemented in the templates are included in Figure 3.

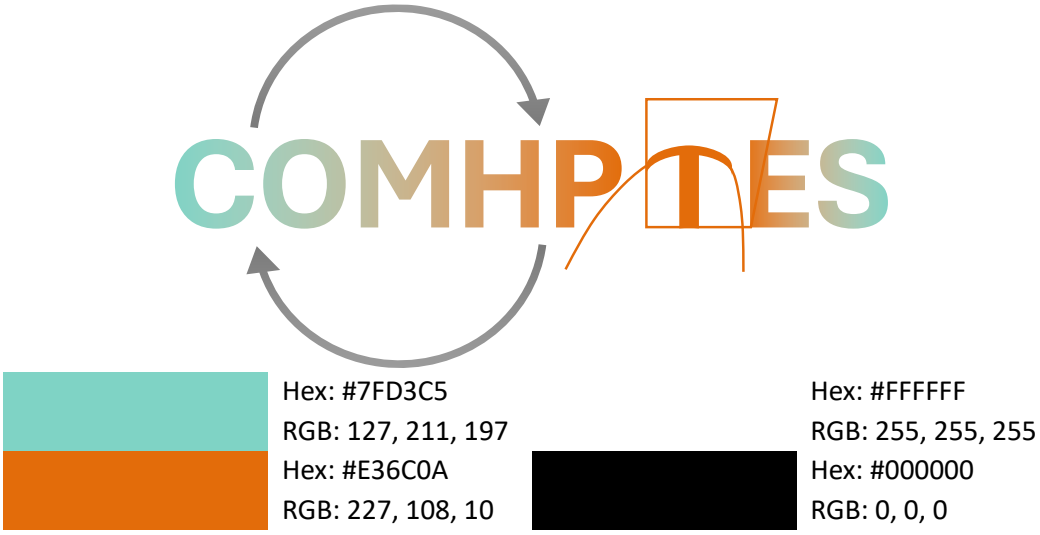

Figure 3: COMHPTES logo and template colours

Word and PowerPoint templates have been created for use in deliverables and dissemination presentations of the COMHPTES project. These templates (as well as the project logo) are located in the shared Team folder. Figure 4 shows these templates.

Figure 4: Preview of Word and PowerPoint templates

4.2 Written Identity

The project written identity (including a main tagline and short description) are included, and can be used to communicate the scope and objective of the project (e.g., on social media, at conferences or events), with potential tailoring based upon the target audience. The project tagline corresponds to the project title: "COMHPTES: Flexible Compact Modular Heat Pump and PCM based Thermal Energy Storage System for Heat and Cold Industrial Applications."

The following brief description can also be used:

COMHPTES aims to develop innovative heat pump (HP) and thermal energy storage (TES) cost-effective compact technologies, and to demonstrate them up to TRL 5 in a fully integrated, flexible and modular system able to supply heat and cold energy on demand for industrial applications, including interfaces with affordable renewable energy systems (RES), waste heat recovery and district networks. The COMHPTES system will address industrial end-users with flexible heat loads and temperature requirements in the ranges from 0.5 to 10 MW-t and 5 to 225°C, respectively, which represent approximately half of the total industrial installations and a quarter of the total process heat consumption in the EU. The COMHPTES system will build upon the compactness and modularity of its technologies to best comply with space constraints in industry, and to enable gradual technology adoption, thereby reducing large upfront investments and operational risks.

4.3 Project Website and Social Media

A project website is hosted on KTH's website (COMHPTES — Flexible Compact Modular Heat Pump and PCM based Thermal Energy Storage System for heat and cold industrial applications | KTH). The website will include the following:

- An overview of the project, involved technologies, and the project partners;
- Information on upcoming events;
- Public deliverables, papers, and video materials;
- Contact information (for the KTH project partners) for those interested in learning more about the project.

The website will include a sign-up for a periodic e-newsletter, which will also be uploaded to the project website. It will also allow for the integration of other social media (e.g., a link to the project's LinkedIn page). A social media profile on LinkedIn was created to allow for world-wide visibility of the project and facilitate synergies with other initiatives, both in R&D and business (@COMHPTES). A quantifiable indicator for evaluating the reach of the project is number of visits to these sites (with <1000 = poor; 1000-2,500 = good; >2,500 = excellent). KTH will be the main partner responsible for managing the website, with the contributions of other partners (e.g., in the form of photographs or updates to be incorporated into newsletters). Posts to social media will be used to direct interested parties to the website for further information. They will include the hashtag #COMHPTES to build a public image for the project, as promotions may occur on partner accounts.

4.4 Promotional Materials and Actions

Promotional materials will be developed for the project. These include a project factsheet oriented to raise awareness and provide visibility to the project. A project poster will also be made for use at events and exhibitions. Special promotional material will be distributed/presented by the project partners where relevant. Video interviews will be created with the project partners to be shared on the project's and the partners' LinkedIn pages. Opportunities to increase awareness of the project via media presentations will also be sought. Periodic e-newsletters will also be created to share project updates and other relevant information. Table 2 summarizes these promotional materials and actions.

Table 2: Summary of promotional materials/actions

Promotional Material/Action	Description	KPIs
Factsheet	The factsheet is a publishable summary including selected general data (e.g., objectives, challenges addressed, results and expected impact) and updates. With the exception of the first factsheet (due 10 March 2025), they will be submitted as the first chapter of the annual project progress report.	4 factsheets (1/year) Distribution: <200 copies = poor; 200-500 = good; >800 = excellent
Poster	A general project poster along with banners/roll-ups will be developed for events and exhibitions.	1 poster
Video Interviews	Video interviews with the industrial partners within COMHPTES will be created, which will present the project's objectives, its outcomes, etc.. They will be shared via LinkedIn at the project's and partners' pages.	5 videos (1/partner)

Media Presentations	The opportunity to present the project on generalist and/or specialized media, such as local or national press, magazines, radio or TV programs will be sought.	At least 3 (1/year)
E-newsletter	An annual e-newsletter will be created to share project updates with relevant audiences. The newsletter will be sent to relevant stakeholders beyond the project community through electronic means. It will also be included on the project website.	3 newsletters (1/year)

5. Dissemination Strategy

Dissemination activities will be undertaken starting from the beginning of the project targeting all relevant stakeholders. Under the leadership of KTH, all partners are expected to proactively contribute to dissemination, stakeholders' engagement and activities. The dissemination and stakeholders' engagement strategy consists of two main phases: Phase I and Phase II.

Phase I will focus on raising interest among stakeholders and will take place during the technology development phase pre-validation campaign (M1-M24). The aim throughout this phase is to create project visibility, spreading awareness about innovative and flexible high temperature HP and TES based energy systems, their commercial applications and COMHPTES-specific innovations and objectives. This will be accomplished via interest raising activities making use of the common visual identity via the project webpage and distribution of public dissemination materials. In this phase, stakeholders are engaged to collect insights/feedback on COMHPTES. The main target groups are RTOs, end-users, other OEMs with similar technologies, and sister projects.

Phase II will focus on the exploitation-oriented dissemination of results and the promotion of the overall results beyond the project and will take place from the validation campaign to the end of project (M25-M36). This phase will involve presenting results once they are mature enough to clearly show the potential of COMHPTES. Activities include the publication of articles in journals (all academic partners are receiving funding for OA publication); presentations at relevant conferences, workshops, and events; and the organization of further stakeholders' workshops. The goal will be stimulating scale up of the project, engaging additional technology enablers and potential clients. Table 3 summarizes dissemination activities.

Table 3: Summary of dissemination activities

Means/Channel	Description	KPIs
Scientific/technical publications and oral/poster presentations at conferences, symposia, seminars, and workshops	The project's results will be published in full open access international scientific and technical journals, such as in ASME/ELSEVIER journals with Open Access via Green OA approach (Energy, Applied Energy, Advances in Applied Energy), as well as in relevant scientific/technical literature at the national level, mainly in the member states where the partners are established (the UK, Sweden, and Spain). Results will also be presented at relevant conferences such as the IEA Heat Pump Conference, the ASME Energy Sustainability Conference, the EU sCO_2 Conference, the sCO_2 Symposium, and SolarPACES, either through oral or poster presentations. All publications will be collected in a dedicated space within the project's webpage for easy download.	Journal papers: <3 = poor, 3-5 = good, >5 = excellent Conferences/ events:<4 = poor, 4-8 = good, >8 = excellent

Education sessions and E-Learning	KTH will promote COMHPTES in their Mechanical and Energy Engineering courses, while further liaisons with research entities will be developed and promoted, disseminating the project's outcomes and results. Seminars on COMHPTES topics will be organized by KTH, in the framework of local engineering courses. Student visits to the COMHPTES lab rig will be arranged over the course of the whole project.	Seminars: At least 1/year At least 1 PhD or post-doc program supported Total students visiting the lab rig: at least 200
Collaboration with relevant stakeholders and EU communities and projects	The consortium will seek liaison with the most relevant European communities involving potentially interested stakeholders, including the relevant European Technology Platforms (ETPs), and associations such as LDES and EASE, as well as international committees to promote project results at the policy-making level and collect relevant stakeholders' insights. COMHPTES is committed to creating synergies with sister projects and other projects working on similar topics, and also leveraging on-going EU projects where partners are participating, e.g., KTH's connection with EASE, and B2Z's link to LDES. Communication with other CETP-funded projects will be facilitated via the Digital Information System for Communication and Collaboration (DISCCO), through which it is possible to share documents and information and take part in discussions.	As part of the TRI4 working group (and following CETP guidelines): At least one COMHPTES representative will attend 1 onsite meeting (over course of the whole project) and 2 online meetings/year

6. Stakeholder Engagement

Identifying key stakeholders and initiatives is a vital part of maximising the project impact. Various activities will allow for promotion of the project and facilitate stakeholder engagement. COMHPTES has the overarching ambition of promoting new thermal systems and technologies (namely HP, TES, PTC, and integrated systems) for decarbonization of the industrial sector, and specifically industries requiring process heating (from 175 to 225°C) and cooling (at 5°C). It will be beneficial to establish connections with other projects and initiatives addressing these areas for mutual enrichment and advancement of these technologies and for advancing decarbonization as a whole. Engagement at international events and conferences is important for spreading knowledge, both based on the findings of the COMHPTES efforts, but also for learning from other researchers and experts doing related work. Table 4 includes some potential projects, initiatives, and groups with relevant aims, as well as conferences and events.

Table 4: Relevant projects, initiatives, and events

Project/Initiative/Event	Category	Description
LDES	Organization	The Long Duration Energy Storage (LDES) Council aims to advance decarbonization via the adoption of LDES solutions.
EASE	Association	The European Association for Storage of Energy (EASE) promotes the implementation of energy storage to enable the shift to a more secure and sustainable energy system.
IEA Heat Pump Conference	Conference	This conference aims to bring together academia, industry, and policy makers in the field of heat pumping technologies to support decarbonization and technology advancements.
ASME Energy Sustainability Conference	Conference	This conference is designed to highlight research and innovations advancing renewable and sustainable energy.
European sCO_2 Conference	Conference	This conference explores sCO_2 for different applications, such as power cycles, heat pumps, and energy storage.
sCO_2 Power Cycles Symposium	Symposium	This symposium is designed to foster interactions between industry, academia, and government agencies with work related to sCO_2 applications.
SolarPACES	Conference	This conference is dedicated to advancing concentrated solar power technologies and supporting international R&D efforts by bringing academia and industry together.
RTC	Coalition	The Renewable Thermal Collective (RTC) brings together companies, institutions, and governments with the shared aim of implementing renewable heating and cooling.