Project number: 101083899

Project Acronym: SHARP-sCO_2

D6.2 – "Report on dissemination and communication activities including stakeholders' vision document and interaction with EU Initiatives and sisters projects"

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Project contractual details

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Project end date	31-10-2025
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Website	https://www.sharpsco2.eu/

Deliverable details

Number	D6.2
Title	Report on dissemination and communication activities including stakeholders' vision document and interaction with EU Initiatives and sisters' projects
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Reviewer(s)	Silvia Trevisan (KTH)
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DOCUMENT HISTORY

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12-04-2024	1.0	Martina Losito	Draft version
26-04-2024	1.1	Martina Losito	Final version

[1] PU = Public
CO = Confidential, only for members of the consortium (including Commission Services)

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Executive summary

Deliverable D6.2 aims to provide an update on the communication and dissemination efforts outlined in Deliverable D6.1 for the SHARP-sCO2 project. The objective of this document is to highlight the key activities conducted over the past year in terms of dissemination and communication activities. The project's primary focus is to advance concentrated solar power (CSP) technologies with the goal of improving performance and cost reduction through innovations like sCO2 power cycles.

The report outlines various communication channels utilized, including the project website and social media platforms like LinkedIn and Twitter. Plans for future initiatives, such as a YouTube channel and newsletters, are discussed.

Additionally, stakeholder interaction and participation in events are highlighted, showcasing the project's commitment to knowledge sharing and community engagement.

Overall, Deliverable D6.2 emphasizes the SHARP-sCO2 project's commitment to implementing robust communication and dissemination strategies. These efforts are deemed essential not only for achieving the project's objectives but also for driving forward the advancement of concentrated solar power technology. Effective communication and dissemination play a pivotal role in ensuring that the project's innovations and progress reach relevant stakeholders, fostering collaboration, knowledge sharing, and ultimately contributing to the overall success of the endeavor to enhance CSP technologies.

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Abbreviations

CSP = Concentrated Solar Power

LCOE = Levelized Cost of Energy

RIA = Research and Innovation Action

KPIs = Key Performance Indicators

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1 INTRODUCTION

The SHARP-sCO2 project is aimed at laying the groundwork for the development of a new generation of highly efficient and flexible concentrated solar power plants. These plants will operate using sCO2 power cycles and will exploit air as operating fluids within the solar loop. The project's focus lies in investigating four critical innovations: an air-based solar receiver, a medium voltage electric heater, packed bed thermal energy storage, and an air to sCO2 heat exchanger. These innovations are being tested at the lab scale (Technology Readiness Level 5 - on-sun testing in the case of the solar receiver) to not only enhance the performance but also to further reduce the Levelized Cost of Energy (LCOE) of CSP plants in the near term.

Considering the high technological sophistication of the project, the dissemination plan has been designed to target both technical audiences (including operators in the CSP sector, Research and Development Institutes, Universities, and Scientific communities) as well as the general public. As a Research and Innovation Action (RIA), the project has developed a specific communication and dissemination plan to ensure that the entire consortium adopts a clear strategy in promoting SHARP-sCO2 to potential stakeholders and various target groups.

As part of this effort, Deliverable D6.2 "Report on dissemination and communication activities including stakeholders' vision document and interaction with EU Initiatives and sisters' projects" aims to provide an update on the communication and dissemination activities carried out over the past 18 months. Additionally, it will outline the forthcoming activities to be conducted in the upcoming months.

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2 COMMUNICATION CHANNELS

The upcoming chapter will comprehensively examine the project's communication channels utilized over the past year, providing valuable insights into their effectiveness and performance. This review will include an analysis of their utilization and initial evaluations, drawing upon the Key Performance Indicators (KPIs) outlined in Chapter 2.4 of Deliverable 6.1.

Additionally, it will delve into any adjustments made to these channels and highlight strategies employed to optimize communication efforts moving forward.

2.1 Website

The website (available at https://www.sharpsco2.eu/Home.html) has recently undergone updates, particularly regarding its internal sections. One notable change is the relocation of the "Contacts" section from the website's banner to the footer of the page. Moreover, a dedicated button enabling direct contact with the project management via email has been integrated into the footer for enhanced accessibility. While these modifications have been implemented, the layout of the remaining sections of the website remains unchanged. Below is the updated website banner provided for reference.

FIGURE 1 - WEBSITE BANNER

In the "Public Documents" section, updates have been made in the "Promotional Material" category. Three essential files have been published, comprising the project's leaflet, roll-up, and poster, all available for free download to visitors. These materials serve as informative resources to enhance understanding and awareness of the project's objectives and innovations. These documents are available at the following link: https://www.sharpsco2.eu/PUBLIC-DOCUMENTS.html

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FIGURE 2 - PUBLIC DOCUMENTS SECTION

The "News and Events" section has seen irregular updates, with only two posts currently available. This infrequency in updating content could potentially affect visitor engagement on the website. However, there are plans underway to address this issue by ensuring more frequent updates in the future. This proactive approach aims to offer visitors timely and relevant content, enhancing their overall experience and encouraging continued interaction with the website.

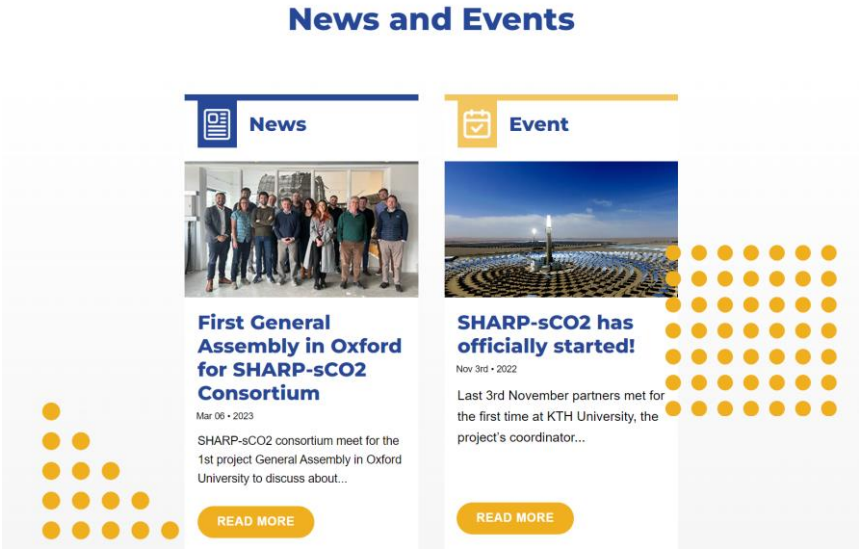

FIGURE 3 - NEWS AND EVENTS SECTION

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2.2 Social Media Channel

As outlined in Deliverable D6.1, the project has actively leveraged its social media channels over the past year as the primary means of disseminating major updates and sharing participation in events with stakeholders. The subsequent sections provide detailed insights into the recent developments concerning the utilization of SHARP-sCO2 project's social media channels, alongside pertinent data concerning stakeholder engagement across each platform.

2.2.1 LinkedIn

SHARP-sCO2 LinkedIn page (available at https://www.linkedin.com/company/sharp-sco2-project/) has been established with the aim of informing and engaging various stakeholders, including businesses, policymakers, and industrial managers. Over the past year, the page has shared a total of 9 posts, which were both published and reshared, providing stakeholders with regular updates on the project's progress. These posts also offered concise summaries of the events in which SHARP-sCO2 actively participated. The content shared on the LinkedIn page elicited a total of 224 reactions from the audience.

Presently, the project's LinkedIn page boasts 138 followers, with the page being viewed a total of 741 times over the past year.

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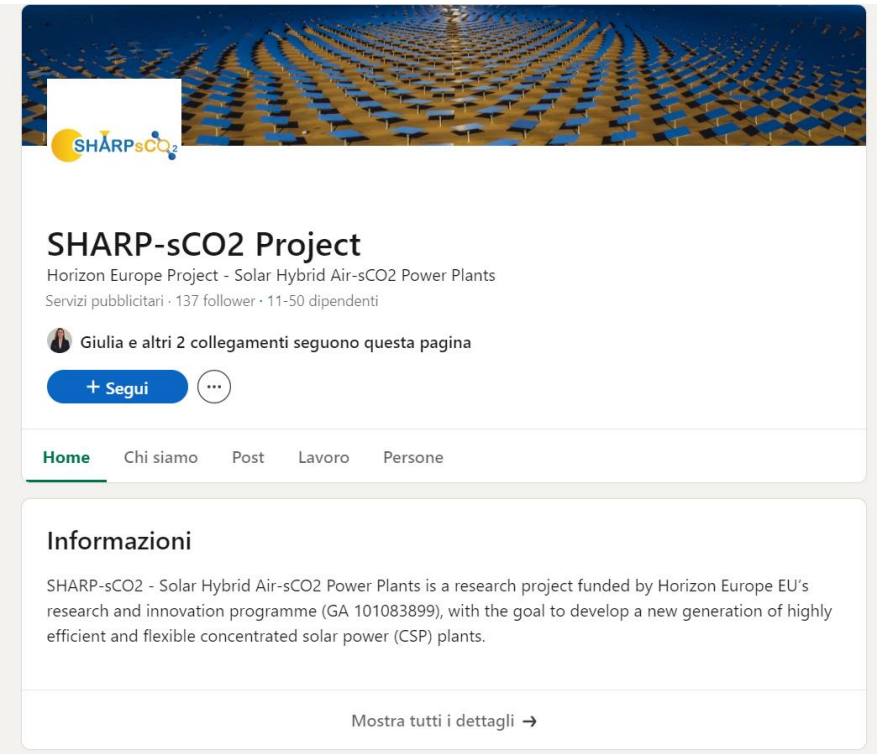

FIGURE 4 - PROJECT LINKEDIN PAGE

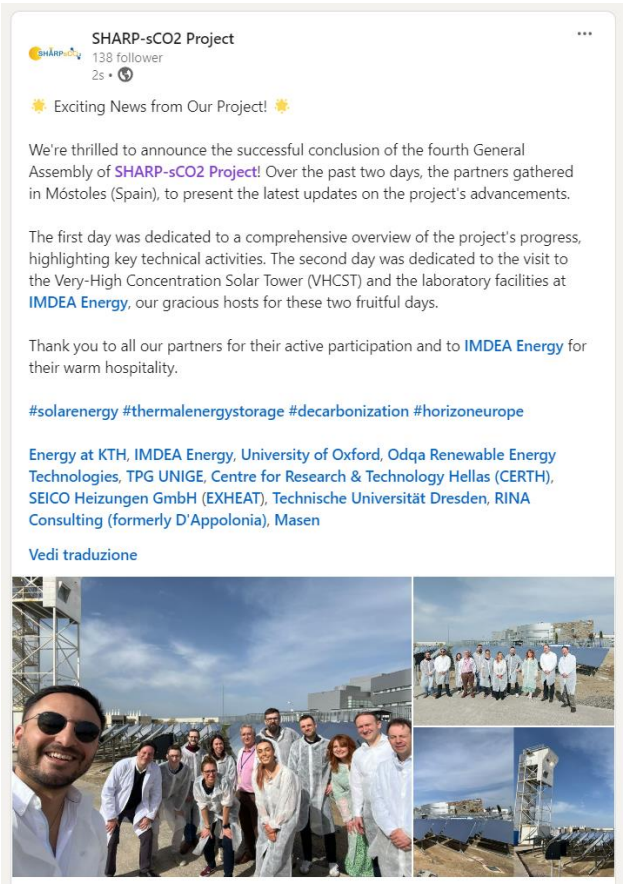

FIGURE 5 - LATEST LINKEDIN POST

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2.2.2 Twitter

The SHARP-sCO2 Twitter account, "**SHARP-sCO2 Project**", was established to foster online discussions and debates related to the project. In the past year, the account has shared 4 posts aimed at providing stakeholders with project updates.

Moving forward, the profile will be revitalized, to fully utilize Twitter potential as a platform for engaging with project stakeholders. It is anticipated that in the coming months, efforts will be made to increase activity on the profile and enhance interaction with stakeholders.

FIGURE 6 - PROJECT'S TWITTER PROFILE

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FIGURE 7 - LATEST TWITTER POST

2.2.3 Project Video/YouTube

Recognizing its effectiveness in disseminating project information, a YouTube channel will be launched in the next months and a project video will be created. This video will serve as a valuable tool for showcasing the project's objectives, achievements, and innovations to a wider audience.

2.2.4 Newsletter

To ensure maximum visibility and accessibility, the newsletter will be delivered to stakeholders via email and a dedicated "Newsletter" section will be created on the project's website homepage, to allow interested visitors to download the document. The abstract will be also available online. A newsletter subscription form is already present on the project's website homepage.

Moving forward, we will be enhancing the frequency of newsletter distribution. Starting from April, we will transition from a semi-annual schedule to a quarterly one. This adjustment aims to ensure that stakeholders are regularly updated on project developments and activities.

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The first newsletter will focus on providing an overview of the project as a whole. Additionally, it will delve into detailed discussions on the plant scheme and functional diagrams, illustrating how SHARP-sCO2 components can be integrated into new hybrid advanced CSP plants at different scales.

2.2.5 Scientific Publications

At the beginning of 2024, KTH published a scientific paper titled "Design optimization of an innovative layered radial-flow high-temperature packed bed thermal energy storage" (accessible at the Link), which was featured as an article in the "Journal of Energy Storage" journal. Additionally, KTH has another two articles currently undergoing review titled "Techno-Economic Analysis of Power-to-Heat-to-Power Plants: Mapping Optimal Combinations of Thermal Energy Storage and Power Cycles," and "Innovation trends on high-temperature thermal energy storage to defossilize energy systems" slated for publication in the near future. Moreover, two additional scientific papers have been prepared and submitted for review, one by KTH and the other by TUD. In the coming months, they will be presented with oral speeches at relevant international events.

While the project's communication and dissemination activities have been evaluated as "poor" in terms of paper publications according to the KPIs outlined in the table provided in D6.1, it is anticipated that this assessment will improve as the project progresses and more scientific papers are released. This aligns with the project's commitment to expanding its research output and making substantial contributions to the scientific community.

Furthermore, it is crucial to acknowledge educational activities within the project's framework, given their inclusion in the project KPIs. Currently, there are four PhD students directly engaged in project activities at KTH. In addition, during the upcoming fall, two additional PhD students from other universities will visit KTH to provide support and participate in SHARP-sCO2 activities.

Once the laboratories are fully operational and installed at KTH/TUD, lab visits and student involvement in the labs will be scheduled. These educational initiatives not only contribute to the project's objectives but also foster collaboration and knowledge exchange among academic institutions.

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3 STAKEHOLDERS INTERACTION AND RELATIONS WITH SISTERS PROJECTS

In the forthcoming months, as our project progresses and yields substantial results, it becomes imperative to foster deeper collaboration and knowledge-sharing among sister projects. Therefore, we envision hosting a series of events aimed at facilitating robust interactions between stakeholders. These events serve as pivotal platforms for showcasing the project's achievements, fostering sharing of ideas, and nurturing synergistic partnerships. Engaging stakeholders is paramount not only for disseminating project outcomes but also for soliciting valuable feedback, increasing interest in the project, and ensuring the sustainability of our initiatives.

By leveraging the extensive networks of partners involved in Sharp-sCO2 and other relevant EU-funded projects (such as SOLARSCO2OL, SCO2OP-TES, ASTERIx-CAESar and others), we can maximize the impact of these events and cultivate a vibrant ecosystem of collaboration and innovation.

These events can be organized either as online webinars or as in-person workshops, leveraging on already planned events, such as SOLARPACES 2024 and ASME Turbo Expo 2024, providing a valuable opportunity for learning about new projects, research endeavors, and emerging market opportunities. By aligning our events with such prestigious gatherings, we can amplify our reach and maximize the impact of our engagement efforts, attracting diverse stakeholders from across the globe.

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4 EVENTS

The "D&C Tracking File" has been consistently maintained and updated by the entire consortium. The tracking of D&C activities ensures comprehensive documentation and accessibility of the project's involvement in various events.

Throughout the past year, the project has demonstrated active participation in disseminating its findings and fostering networking opportunities through engagement in 8 events, which were able to reach a total of 3,500 people.The table below offers a concise summary of Sharp-sCO2's contributions to notable sector events, emphasizing the project's proactive engagement in initiatives aimed at sharing knowledge and fostering community involvement.

Type of event	Event title	Date	Place	Target	Partner involved	N. of people reached
Conference	SUPEHR2023	6-8 Sept. 2023	Savona	Scientific community	UNIGE	200
Conference	ASME TURBOEXPO	26-30 June 2023	Boston	Scientific community	UNIGE, KTH	2000
Conference	sCO2 EUROPE	14-16 March 2023	Prague	Scientific community	UNIGE	200
Workshop	ETN sCO2 WG	Along the year	Online webinar	Scientific community	UNIGE, KTH	100
Conference	Eurotherm Seminar	24-26 May 2023	Lleida	Scientific community	UNIGE, KTH	100
Conference	SOLARPACES 2023	10-14 Oct. 2023	Sydney	Scientific community	KTH, IMDEA	300
Conference	ISES SOLAR WORD CONGRESS	30th October-4th November 2023	New Dehli	Scientific community	IMDEA	400
Conference	sCO2 SYMPOSIUM	26-29 Feb 2024	San Antonio	Scientific community	KTH	200

FIGURE 8 - LIST OF PAST EVENTS

Considering the table provided in D6.1, which outlines Key Performance Indicators (KPIs) crucial for monitoring and evaluating dissemination and communication activities, the evaluation of conference presentations currently stands at "good." This

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reflects the project's effective engagement with the scientific community and stakeholders through these platforms.

Despite the commendable result achieved, there are plans to further enhance the evaluation as the project progresses. This involves expanding the scope and impact of conference presentations to better disseminate project findings and foster collaborations.

Furthermore, according to the table provided In D6.1, the evaluation regarding the overall number of participants in workshops is currently rated as "excellent." This signifies the project's success in attracting a significant audience to its workshops, thereby facilitating meaningful engagement and knowledge exchange.

Additionally, the project has already scheduled participation in six events for the year 2024, underscoring its ongoing commitment to active engagement and knowledge dissemination. Details of these events are summarized in the table below.

Type of event	Event title	Date	Place	Target	Partner involved	Link
Conference	Enerstock 2024	5-7 June 2024	Lyon	Scientific community	KTH	https://enerstock2024.org/index.html
Fair	EUSEW	11-13 June 2024	Brussels	Scientific community	RINA-C	https://sustainable-energy-week.ec.europa.eu/index_en
Conference	22nd SYMPOSIUM ON THERMOPHYSICAL PROPERTIES	23–28 June 2024	Boulder	Scientific community	TUD	https://thermosymposium.org/
Conference	SOLARPACES 2024	8-11 Oct 2024	Rome	Scientific community	KTH, UNIGE, ODQA, IMDEA	https://www.solarpaces-conference.org/
Conference	sCO2 Europe	9-11 Apr 2025	Delft	Scientific community	KTH, UNIGE	https://www.sco2.eu/
Conference	ASME TURBOEXPO	24-28 June 2024	London	Scientific community	KTH	https://event.asme.org/Turbo-Expo

FIGURE 9 - PLANNED EVENTS

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Conclusions

In conclusion, D6.2 builds upon the objectives outlined in D6.1, focusing on updating the communication and dissemination efforts of the SHARP-sCO2 project. It emphasizes the active involvement of all partners in ensuring the effective exploitation of project results and maximizing the impact of the innovative technologies developed.

Deliverable D6.2 provides an overview of the communication and dissemination activities undertaken by the SHARP-sCO2 project in the past year. The document underscores the project's dedication to enhancing concentrated solar power (CSP) technologies through innovative approaches such as sCO2 power cycles. It highlights the utilization of various communication channels, including the project website, social media platforms like LinkedIn, and future initiatives like a YouTube channel and newsletters. Moreover, the report emphasizes the importance of stakeholder interaction and participation in events, showcasing the project's commitment to knowledge sharing and community engagement.

It is essential to summarize specific Key Performance Indicators (KPIs) mentioned throughout the document and assess the project's performance in relation to them. While certain aspects have been evaluated positively, such as the engagement achieved through workshops, there are areas where improvement is warranted, as indicated by the "poor" evaluations, particularly in terms of paper publications and website updates. To address these shortcomings, the project will focus more attention on enhancing these aspects. For instance, actions will be taken to increase the frequency of website updates and to bolster paper publications by actively encouraging and supporting consortium members in their research dissemination efforts. These targeted efforts aim to drive improvements in the identified areas and ensure that the project's communication and dissemination activities align with its overarching objectives.

Moving forward, the SHARP-sCO2 project remains steadfast in its pursuit of advancing CSP technologies. It acknowledges the significance of effective communication and dissemination strategies in driving the project's objectives forward and ensuring collaboration among relevant stakeholders. By continuing to engage with stakeholders and participate in events, the project aims to contribute to the broader success of CSP technology advancement, ultimately paving the way for more efficient and cost-effective solar power generation.