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SHARPSCQ



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¹ PU = Public

CO = Confidential, only for members of the consortium (including Commission Services)







Executive summary

The "Dissemination and Stakeholders' engagement Plan and D&C material" focuses on the identification of communication and dissemination objectives, the definition of key-messages, the identification of target groups and audiences and the choice of the most appropriate channels.

All partners will be actively involved in the communication and dissemination activities of SHARPsCO₂ in order to assure the proper exploitation of the project's results and maximize the impact of the innovative technologies that will be develop in the framework of this project.

SHARP-sCO₂ project's consortium will adopt a content marketing approach which provide the creation of an editorial plan, regularly up-to-dated by all project's partners with new content ideas and customized according to the various target audiences.

SHARP-sCO₂ editorial plan will describe the contents, the target audience, the channel and the date of publication of the news on the website as well as the social network posts.

Furthermore, the effectiveness of the project's communication activities will be tested every six months in order to track the proper key performance indicators. Finally, preliminary key exploitable results will be presented in order to guide and promote the project outcomes on the market based on these pre-identified KERs. It may be worth to highlight that these identified KERs will be particularly addressed in D6.4.









Abbreviations

CBA: Cost Benefit Analysis DMP: Data Management Plan LCOE: Levelised cost of electricity RTO: Research and Technology Organization





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1 INTRODUCTION

The overall scope of the SHARP-sCO₂ project is to put the basis to develop a new generation of highly efficient and flexible concentrated solar power (CSP plants), working on sCO₂ power cycles and exploiting air as operating fluids on the solar loop.

The project investigates four main critical innovations via novel enabling technologies (air based solar receiver, medium voltage electric heater, packed bed thermal energy storage, and air to sCO2 heat exchanger) tested at lab scale (TRL5 - on-sun testing in the case of solar receiver) to enhance the performance and further reduce CSP plants LCOE in the near term and to favour:

- the promotion of air as a suitable heat transfer fluid (HTF) for massive implementation of CSP, leveraging upon its availability and cost (free), safety, stability and capacity to allow more dynamic and flexible integrated plants.
- 2. the promotion of sCO2 driven power cycles to replace steam Rankine ones;
- 3. the hybridization of CSP cycles with Photovoltaics (PCV)
- 4. the promotion of packed bed solid media thermal energy storage systems (TES) exploiting low-cost and more sustainable materials.

Considering the high technological level of the project, the dissemination plan will be targeted both at technical audience (operators of the CSP sectors, Research and Development Institutes, Universities, Scientific communities etc.) and the general public.

As a Research and Innovation Action (RIA), the project develops a specific communication and dissemination plan to assure that the whole consortium follows a clear strategy in promoting SHARP-sCO₂ towards the potential stakeholders and the various targets groups. Therefore, D6.1 "Dissemination and Stakeholders' engagement Plan and D&C material" focuses on the identification of a clear brand identity, the definition of key-messages, the identification of target groups and audiences and how to engage them, content formats, Key Performance Indicators as well as on the plan of activities.

The deliverable is aimed at defining the following aspects:

1. Establishing the Goals and methodology of the dissemination and communication strategy.







- 2. **Defining Key Audiences**: identifying the stakeholders to reach choosing the best way to engage them.
- 3. **Identifying Key Messages**: Defining the messages to convey most strongly to the different target audiences.
- 4. **Developing Communication and Dissemination materials:** Realization and description of materials to be developed to convey the messages to the target audiences.
- 5. Specifying a Timeline: presenting a timeline to follow for D&C activities
- 6. Communicating the Research Results







2 STRATEGY

The dissemination and stakeholders' engagement strategy consists of three main phases:

• Phase I focusing on raising interest among stakeholders:

The first phase aims at increasing project visibility about the project concept and its innovations via interest raising activities using the common project visual identity. The project will be promoted via project website and public communication and dissemination material (project brochure, leaflets, etc.).

In this phase, Stakeholders are engaged to collect insights/feedback on SHARP-sCO₂: main target groups are represented by RTOs taking advantage of partners' network in both sCO2 and CSP sectors (*Technische Universität Dresden, RINA, KTH Royal Institute of Technology, Instituto IMDEA Energía*) and additional industrial players.

- Phase II focusing on the exploitation-oriented dissemination of results: The second phase aims at showing SHARP-sCO₂ potential by disseminating its results. The planes activities include the publication of papers and articles in open access journals and the participation at relevant conferences, events, and further stakeholders' workshops aimed at foster interaction with O&G world and relevant policy makers.
- Phase III focusing on the promotion of the overall results beyond the project: The third phase aims at stimulating scale up of the project, engaging additional technology enablers and further potential clients. The results of the project (validation campaign, replication analyses, stakeholder feedback) will be promoted during the latest phases of the project and related webinar conferences.

The following picture shows the potential target audience engaged during the different phases of the projects:



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Figure 1: Project's phases

2.1. Overall Goal and Methodology

The communication and dissemination strategy aims at maximizing the project visibility toward the targeted stakeholders, disseminate the generate knowledge to the end-users and exploit the SHARP-sCO₂ key technologies. Specifically, the main goals are the following:

- Establishing a distinct visual identity to allow SHARP-sCO₂ to stands out from other projects sharing similar goals.
- Involving relevant stakeholders, including related ongoing H2020/HE project by means of targeted dissemination and communication actions (events, fairs, workshops etc.).
- Building a strong online presence through an effective project website and social media accounts (LinkedIn, Twitter, YouTube).

To achieve these objectives, the communication and dissemination strategy includes:

- Analysis of the target and selection of the appropriate communication modes to reach SHARP-sCO₂ target.
- Development of key messages and valuable contents able to meet target needs.







- Definition of the tactic to engage stakeholders.
- Definition of Key Performance Indicators.

The Dissemination and Stakeholders 'engagement Plan is designed to be a practical tool to be used by all partners to develop their communication and dissemination activities efficiently through their most appropriate channels and contribute to the global objective of the project.

In this regard the communication strategy is structured so that a successful and targeted action plan aimed at communication, dissemination and exploitation actions will be created.

COMMUNICATION	Objective Showing the general public, the impact and benefits of SHARP- sCO ₂ .	Target Audience Media and broad public
DISSEMINATION	Transfer knowledge with the aim to enable others to take advantage from projects results.	Scientific community, policy makers
EXPLOITATION	Effectively using project results to create an effective impact for society.	Subjects (also external) that make concrete use of the project results

RINA Consulting is the communication and dissemination leader of the project, and it is responsible of the implementation of the plan, which will be updated yearly.

All other partners have to contribute by:

- Identifying and involving all potential stakeholders to promote engagement on SHARP-sCO₂.
 social media and to increase the awareness about SHARP-sCO₂.
- Promoting the project outcomes at national and international level.
- Contributing to content ideas with useful and engaging material (pictures, technical content, project's newsletter).
- Undertaking dissemination in their country contributing to the promotion of the project at national and European levels;
- Informing RINA Consulting about any attended event, paper published etc. so that RINA Consulting can implement the website and share the contents on the social media accounts.





2.2 Objectives

A fundamental step in the development of SHARP-sCO₂ Communication and Dissemination Plan is the definition of **SMART objectives**:

- **Specific:** SHARP-sCO₂ objectives specifically describe the result that is desired in a way that is detailed, focused and well defined.
- **Measurable**: SHARP-sCO₂ objectives are measurable in order to keep track of the achievements of the project and to report all the dissemination and communication activities.
- Attainable: SHARP-sCO₂ objectives are achievable and realistic.
- Relevant: SHARP-sCO₂ objectives aim at achieving the expected impacts presented in the project call.
- **Time-based:** A deadline, date or time when the objective will be accomplished is clearly defined in the dissemination and communication plan.



Figure 2: SMART Goals

SHARP-sCO₂ communications strategy's main objectives are:

- Develop an effective brand identity in order to allow an easy identification of the project based on the presence of a logo with a strong visual impact which can help SHARP-sCO₂ to stands out from other Horizon projects focused on similar subjects;
- Provide up-to-date information about the project to various groups of stakeholders;







- Spread the main impacts of SHARP-sCO₂ among specialized and non-specialized target audiences;
- Communicate the competitive advantages of the project to selected target groups;
- Favor the exploitation of the project's results;
- Convert the scientific/technical results into messages for public outreach, understandable also by the general public;
- Raise awareness of potentially interested parties across relevant stakeholders from the PV sector about the SHARP-sCO₂ proposed technologies;
- Promote knowledge transfer of SHARP-sCO₂ innovative solutions, along with the benefits they can provide, toward potential target end-users/adopters to speed up their adoption.

2.3 Target

To maximize the impact of the communication strategy, communication and dissemination activities are going to be carefully selected in relation to the different target audiences, the objectives to be reached and the designated communication channels. With the ambition of introducing high level of innovation in further developing the CPS technology, SHARP-sCO₂ will also contribute to foster the EU energy efficiency transition. For this reason, its outcomes are going to be relevant for a wide range of stakeholders: business partners, policy makers at EU and national level, research and academia, other research projects, EU initiatives, local communities.

The following table shows:

- The audience the project activities are targeting.
- The objectives to reach by communicating to the selected target groups.
- Key messages which identify the issues particularly important for the different target.
- Communication channels we are going to use to reach them.

The list of target groups will be gradually expanded and detailed during the project lifetime.







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Target audience	Objectives	Key messages	Communication Channels
CSP Companies, Engineering Firms, industrial plant managers	 Raise awareness about SHARP-sCO₂ and its goals Inform about new solutions highlighting the economic impact of the expected innovations Increase competitiveness of the CSP sector 	 Novel potential role of CSP plants Replicability Business opportunity 	 Communication materials Project website Fairs and events Newsletters
Scientific Community, R&D Institutions, Universities and technical sector	 Raise awareness about SHARP-sCO₂ and its goals Provide knowledge to the scientific community Promoting further R&D/I activities 	High level of innovationReplicabilityKey findings	 Events/conferences Scientific publications Webinars Newsletters Lectures
Policy makers at EU and National level and Public bodies	 Raise awareness about SHARP-sCO₂ and its goals Raise awareness about environmental impacts Promote policies and supporting schemes 	 Clean energy generation Decarbonisation transition 	 Project website Communication materials EU events Position papers
Other EU-funded projects and sister initiatives	 Raise awareness about SHARP-sCO₂ and its goals Collaboration (e.g. on joint events) Exchange of best practices Knowledge sharing 	ReplicabilityHigh level of innovation	 Webinar And Workshops Joint events Newsletters Social Media
Local communities, general public	 Raise awareness about SHARP-sCO₂ and its goals Raise awareness about economic empowerment foster by SHARP-sCO₂ Raise awareness about environmental impacts 	 Positive impact on society (in term of employment guarantee, new jobs creation, community welfare etc.) Relevant contribution to carbon neutrality 	 Project website Communication materials Newsletters Public events

It is expected to organize webinar and workshops with the joint participation of sister projects to increase attractiveness and raising the awareness for the topic among the stakeholders. Any dissemination of results will duly display the EU emblem and include information on the EU funding (see paragraph 2.5).





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2.4 Definition of the Key Indicators

In order to understand if the set objectives will be reached, clear Key Performance Indicators have been identified. The Key Indicators aim at determining measurable objectives, identify, monitor and foresee trends in order to implement corrective, preventive and improvement actions when necessary.

Channel/Content	КРІ	Value
Project Website	Worldwide scale	<i>Visits: <5000 = poor;</i>
	visibility	5000-10,000 = good;
		>10,000 = excellent
Public Report	Downloads on the	<50 = poor; 50-100 =
	website	good; >100 = excellent
Promotional Material	Distribution	<300 copies = poor; 300-
		800 copies = good;
		>800 copies = excellent
E-newsletter	Number of subscribers	<50 = poor; 50-100 =
		good; >100 = excellent
Papers	Number of papers	<7 = poor, 7-10 = good,
	submitted	>10
		<i>= excellent</i>
Conference presentations	Number of conference	<10 = poor, 10-15 = good,
	presentations	>15 = excellent
Workshops	Overall number of	<20 = poor; 20-40 = good;
	participants	>40 = excellent

2.5. EU Emblem and official disclaimer

In accordance with the Commission's guidelines on visual identity, SHARP-sCO₂ will be identified by the EU Emblem and the official disclaimer "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 or [name of the granting authority]. Neither the European Union nor the granting authority can be held responsible for them.", and "This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement № 101083899".

All the promotional material displays the EU emblem (minimum height: 1 cm) and the name of the European Union is always be spelled out in full.





3 BRAND IDENTITY

Brand identity is the visible elements of SHARP-sCO₂ which aims to reinforce the project's external image and to convey a coherent image and brand recognition. It makes the project easily recognizable enhancing the success of the communication strategy

The brand identity clearly conveys the projects' messaging and has been developed analyzing the project target audience, goals and key message.

The SHARP-sCO₂ brand identity consists in its project logo, document templates, colors and fonts.

3.1. Project Logo

The logo has been designed in the early stage of the project in order to identify SHARsCO2 concept and vision. SHARP-sCO₂ logo serves to represent a recognizable visual identity that will be used across all communication materials to ensure a common look and feel and provide a wide dissemination of the project results.

Its colors and design will be used in all the upcoming visual materials so that the identity of the project could appropriately been valorized.



The colors palette and font used for the visual identity is the following:

To convey project idea, two different colors has been chosen to design the logo: blue and yellow which represent the photovoltaic energy and the solar power.









As regards the stylistic choice, the two main research areas of the project have been included in the logo, namely the concentrated solar power systems (with the A representing a solar power tower) and the CO2 molecule (intersecting with the final O).

The logo has been provided in various formats and types:

- In various file formats: .png, .ai
- In full colour and in negative



Figure 3: Full colour Logo



Figure 4: Negative Logo

3.2. Templates: Deliverables and Presentation (slides) Layouts

A set of templates (including report template and presentation slide template) has been drafted based on the logo design. These are:

- presentation slide template;
- deliverable template;









• minutes template;

All these materials will be used by project partners during all their meeting, workshops and presentations, so that the visual identity of the project is sustained throughout all events both internal and external to the project.



Figure 5: Presentation slides template The template will be used by the partners to hold presentations during the course of the project









Figure 7: Minutes Template

The template will be used by the partners to draft minutes template during the course of the project.









4 COMMUNICATION AND DISSEMINATION MATERIAL

Several graphic communication materials are expected to be produced and updated during the project lifetime in order to build project's awareness and visibility.

In accordance with the Commission's guidelines on visual identity, all SHARP-sCO₂ promotional material will be identified by the EU Emblem and the official disclaimer "This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement N^o 101083899".

The developed promotional material is the following:

- Project leaflet
- Project poster
- Project roll-up









4.1. Project leaflet

The project leaflet displays the core information about the project and aims at gaining interest in a wider public. It contains the following information:

- Introduction to the project concept;
- Main objectives;
- Key technologies and innovation adopted;
- List of partners.

Since the leaflet is mainly targeted to a general public, it is particularly important to propose a strong visual design able to draw attention.

The leaflet contains therefore pictures and graphics to help the reader understanding better the project objectives and the employed technology.

The project's leaflet has been structured in order to reach the following goals:

- promote the project.
- inform about the technologies that will be developed within the project.
- present project's objectives and the scope in a clear and visually eye-catching way.

This leaflet will be used by all partners during conferences, events and workshops where SHARPsCO₂ will be presented. Later on, an updated version will be provided, according to the project's developments and to the informational needs of selected target groups.

The social media pages of the projects are particularly highlighted in order promote social engagement and invite potential stakeholders to keep up-to-dated through social media channels.

The project's leaflet is structured as a trifold leaflet that follows the roll fold design.











Figure 8: Project Leaflet



Figure 9: project Leaflet









Figure 10: Project Leaflet

4.2. Project Poster

The project poster is a communication tool that summarize information concisely and attractively to help publicizing the project during public events. It has been created in order to achieve three main objectives: 1) Increase the knowledge about the project; 2) Convey the project's objectives in a clear and eye-catching way; 3) Involving European stakeholders and other potential end-users

The poster contains: Project logo, acronym and long title; Partnership logos; Reference to EU funding and to grant agreement number; Project concept; Technology; Key Innovators; Expected Impact.

The contact details (project e-mail, website, social media pages etc.) will be carefully highlighted in order to address the traffic to the official project channels.









Figure 11: Project poster

4.4. Project roll-up

On the lines of the poster, a roll-up has been created in order to present the project also during public events. The roll-up will be displayed especially during the international events in which RINA Consulting will promote the project as dissemination leader.

The roll-up has the same objectives and follows the same structure as the poster.









Figure 12: project Roll-Up







5. COMMUNICATION CHANNEL

In this chapter, general tools for communication and dissemination activities of the project are listed.

Project milestones and outcomes will be disseminated through various channels outside the consortium in order to reach different targeted audiences considering for each of them the best planning.

The planning will be updated and revised every year in order to adapting to project development considering possible changes in performed and planned activities.

RINA Consulting will maintain the **project website**, with the purpose of giving detailed information about SHARP-sCO₂ objectives, consortium, deliverables and reports on key findings.

Social media accounts (Twitter and LinkedIn) have been created and will be updated during the course of the project, allowing the forge of connections and synergies with relevant multipliers, EU bodies and other EU projects and initiatives.

On the occasion of key milestones and project activities where high stakeholder participation is needed, ad hoc online **promotional campaigns** will be performed.

In addition, a periodic newsletter will inform the stakeholders about the project achievements.

Last but not least, a targeted dissemination will be provided thanks to **scientific articles and technical reports** that will be published in open access journals of high standard.

5.1. Website

The website (available at: <u>www.sharpsco2.eu</u>) has been structured and designed with the goal of disseminating the key information about the project and giving the visitors access to the public project deliverables, targeting both technical and non-technical audiences. The website allows to browse through the sections using a bar menu or a lateral dot navigation bar according to the device.

The main goals of the website are:

- To provide relevant and ongoing information about the project to a broad public.
- To serve as central database of all the activities and deliverables carried out by SHARPsCO₂ project and its partners.







The website is divided into the following sections:

- A. **HOME**: welcome page giving an exhaustive overview of the project about involved countries, funding and project duration, main objectives, reference to the social media and a form for newsletter subscription.
- B. THE PROJECT divided in two thematic sub session:
 - a) The Concept: overview about the technologies to be developed by the project
 - b) *The Team*: information about the consortium with description of the partners and their role in the project's development.
- C. VALIDATION: this section contains the infographic regarding the project's progress
- D. PUBLIC DOCUMENTS: online repository of the project's communication material divided in three subsections:
 - c) *Publications:* In this sub-section all the scientific publications released by the partners will be shared and made available to the visitors.
 - d) *Promotional Materials:* In this sub-section all the promotional materials (logo, leaflet, poster, public presentation and video, etc.) will be shared and made available to the visitors.
 - e) *Public Deliverables:* In this sub-section all the public project deliverables will be shared and made available to the visitors.
- E. NEWS AND EVENTS: divided in two subsections:
 - a) News
 - b) Events
- F. CONTACTS: features project contact details

Moreover, the homepage includes the newsletter subscription form, carefully highlighted in order to make it as more visible as possible for the website visitors. The website will be continually updated until the end of the project and even beyond if necessary. During the project lifetime, all partners are invited to add project news in their own websites, in order to increase the potential audience.

The SHARP-sCO₂ Project logo is embedded in the project banner, which is contained on the website.



Figure 13: Website Banner



This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement № 101083899



Security level: RINA/CL/SENSITIVE





Figure 14: Screenshot of the website homepage



Join Our Newsletter Sign up to receive news and updates

Figure 15: Screenshot of the section validation









Figure 16: Screenshot of the Sub-section team

5.2. Social Media Channel

Any project news, activities and results will be communicated through the project's own social media accounts. The social media management will be implemented following the rules contained in the *Social media guide for EU funded R&I projects5*².

The project partners are furthermore invited to use their social media accounts to promote the project related activities posting the news in their pages by using the hashtag: **#SHARPSCO2**. This Hashtag will be used in every post related to the project, to increase the project visibility.

The following table list the project partners' social media accounts and websites:

Partners	Website	Twitter	LinkedIn
КТН	www.kth.se/en	@KTHuniversity	linkedin.com/school/kth/
RINA-C	www.rina.org	@RINA1861	linkedin.com/company/rina/

² https://ec.europa.eu/research/participants/data/ref/h2020/other/grants_manual/amga/soc-med-guide_en.pdf







UNIGE	www.tpg.unige.it	@TPG_UNIGE	linkedin.com/in/tpg-unige-387a44163/
CERTH	www.certh.gr/root.e	@CERTHellas	https://www.linkedin.com/company/certh/
	n.aspx		
TU Dresden	https://tu-	@tudresden_de	https://www.linkedin.com/school/tu-
	dresden.de/		dresden/
IMDEA	https://www.imdea.o	@IMDEAInstitut	https://www.linkedin.com/company/imde
	rg/	es	a-energy/
ODQA	https://www.odqa.co	N/A	https://www.linkedin.com/company/odqat
	m/		echnology/
SEICO	www.seico.eu	N/A	https://www.linkedin.com/company/seico
Heizungen			-heating-cooling-engineering/about/
MASEN	www.masen.ma	@MasenOfficiel	https://www.linkedin.com/company/mase
			n/
UNIVERSITY	https://www.ox.ac.u	@UniofOxford	https://www.linkedin.com/school/oxfordu
OF OXFORD	k/		ni/

Linkedin

LinkedIn is the world's largest professional network with over 875 million users in more than 200 countries and regions worldwide³.

SHARP-sCO2LinkedInpageSHARP-sCO2Project(https://www.linkedin.com/company/92842215/admin/?feedType=following)hasbeencreatedand will be used to inform and engage the (business) stakeholders such as Firms, policy makers,industrial managers etc.

To promote engagement on LinkedIn, rich content will be periodically shared.

³ https://www.smperth.com/resources/linkedin/linkedin-statistics/











Figure 17: Linkedin Page

Twitter

Twitter was chosen as a project's channel by the consortium because is a very useful tool to connect to experts in different fields and to reach out a wider audience in the dissemination of contents such as general public or potential end-users.

SHARP-sCO₂ Twitter account SHARP-sCO2 Project has been created to promote online conversation and debates around the project.

In particular, a specific engagement strategy has been elaborated to make the communication strategy more effective:

- Strategic hashtags have been identified and included in the project's tweets, such as #HEU #EnergyEfficiency and #solarpower #Decarbonisation, #H2020energy,
- Trending hashtags will be exploited to raise awareness about the project;









 Several questions will be asked to the project's followers in order to create online debates;

Strategic Twitter accounts (such as partners, events' account, h2020 accounts, journalists etc...) will be mentioned in all SHARP-sCO₂ tweets;

• Captivating images and videos will be included in all the project's tweets in order to catch the users' attention.



Figure 17: Twitter Page

5.4. Project Video/YouTube

A project video will be created to promote the project's objectives, its outcomes, performed events etc.

The video will be consistent with SHARP-sCO₂ brand identity and it will be shared on SHARP-sCO₂ social media and on project partners' communication channels.

A YouTube Channel will be launched in order to collect the video materials (Project video, videointerviews etc.)







5.5. Newsletter

A periodic project newsletter will be delivered every 6 months in order to keep up-to-dated potential stakeholders about the project achievements and create a SHARP-sCO₂ community.

The banner of the newsletter and the subscription form have been placed in the homepage of the project's website in order to make it as more visible as possible and enhances the chances to attract potential stakeholders.

5.6. Scientific Publications

To maximize impact of the project, scientific articles and technical reports will be published in open access journals of high standard.

The project's results will be published in full open access international scientific/technical journals, such as MDPI ones (Energies, Fuel) or ASME/ELSEVIER ones guaranteeing Open Access via Green Open Access approach (Energy, Applied Energy, Advances in Applied Energy). The results will be divulged also in relevant scientific journals at national level mainly in the member states where the partners are established.

Results will also be presented at relevant conferences such as SOLARPACES, EU sCO2-Forum, EU Green Week, EUSEW, ENLIT, etc., either through oral or poster presentations etc.

All publications will be collected in a dedicated space within the project website for open access/download. OA to peer-reviewed scientific publications will be provided.

In particular:

- considering the high relevance of the project and the high numbers of R&D partners involved, at least 8 peer-reviewed publication will be released;
- A total of 4 press releases will be drafted before the end of the project and distributed to key media outlets;
- Appropriately selected mainstream media (e.g. online outlets, magazines, influential blogs, local tv networks, etc.) will be targeted to share SHARP-sCO₂ key results.







6. STAKEHOLDERS INTERACTION AND RELATIONS WITH SISTERS PROJECTS

Interactions with relevant initiatives and associations (like <u>ESTELA</u>, <u>ETN Global</u>, <u>sCO2 EU Forum</u>) and sisters projects (like SOLARSCO2OL, CO2OLHEAT etc.) will be guaranteed thanks to the presence of RINA Consulting, CERTH – Centre for research and technology Hellas and KTH Royal Institute of Technology who are active in these frameworks and are interested to develop synergies among inter-disciplinary 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 the above-mentioned ESTELA, ETN etc. as well as international committees to promote project results at policy-making level fostering EU and Extra-EU replication thanks to MASEN, RINA Consulting and other stakeholders.

At this purpose SHARP-sCO₂ is committed to create synergies with sisters' projects and other projects working on similar topics, also leveraging on-going projects where partners are participating (e.g. SOLARSCO2OL), TU Dresden key role in sCO2-Europe forum and University of Genoa, KTH, Rina Consulting connections with ETN and ESTELA.







7. EVENTS

In order to track any communication and dissemination action performed by SHARP-sCO₂ partners RINA Consulting has shared the "Communication and Dissemination Tracking File", a tool for the collection of inputs from partners referring to planned and future communication and dissemination activities that will be updated every 6 months thanks to the inputs of the whole Consortium.

SHÅRPsCQ

Partner	Channel	Link	Monthly Number of visits/followers
KTH Royal Institute of Technology	Linkedin	https://www.linkedin.com/school/kth/	184000
KTH Royal Institute of Technology	Twitter	https://twitter.com/KTHuniversity	10544
MASEN	Linkedin	https://www.linkedin.com/company/masen/	95000
MASEN	Twitter	https://twitter.com/MasenOfficiel	3808
SEICO Heizungen GMBH	Linkedin	https://www.linkedin.com/company/seico-heating-cooling- engineering/about/	54
Technische Universität Dresden	Linkedin	https://www.linkedin.com/school/tu-dresden/	90000
Technische Universität Dresden	Twitter	https://twitter.com/tudresden_de	18843
Centre for Research & Technology Hellas (CERTH)	Linkedin	https://www.linkedin.com/company/certh/	16000
Centre for Research & Technology Hellas (CERTH)	Twitter	https://twitter.com/CERTHellas	2747
IMDEA ENERGY	Linkedin	https://www.linkedin.com/company/imdea-energy/	5800
IMDEA ENERGY	Twitter	https://twitter.com/IMDEA_Nano	4161
Università degli Studi di Genova	Linkedin	https://www.linkedin.com/school/universit-degli-studi-di-genova/	110400
Università degli Studi di Genova	Twitter	https://twitter.com/UniGenova	6539
Odqa Renewable Energy Technologies	Linkedin	https://www.linkedin.com/company/odqatechnology/	1788
University of Oxford	Linkedin	https://www.linkedin.com/school/oxforduni/	999000
University of Oxford	Twitter	https://twitter.com/UniofOxford	935600
Partners Channels Events	Digital activities	Publications Other 🕀	•

Two events will be organized to promote project outcomes and collect inputs from stakeholders.

The first launching event will be held during the fall 2023 in the context of a relevant conference.

The following table show the planned and performed events in which the project has been or will be presented:

Type of events	Event title	Date	Place	Target	Partner involved	Status	N. of people reached	Link
Online and physical event	EUSEV 2023	20-22 June 2023	Bruxelle s, Belgium	Public authorities, scientific community, companies etc.	RINA Consulting,	Planned	2000	https://int eractive.e usew.eu/
Online and Physical event	Sustainabl e Place	14-16 June	Madrid, Spain	Public authorities, scientific community, companies etc.	Rina Consulting	Planned	2000	https://w ww.sustai nableplac es.eu/



Security level: RINA/CL/SENSITIVE





Online/Physic al Event	SUPEHR23	6-8 september 2023	Savona, Italy	Public authorities, scientific community, companies etc.	All partners	Planned	2000	https://su pehr23.un ige.it/
Physical event	ENLIT Europe	28-30 November	Paris, France	Public authorities, scientific community, companies etc,	Rina Consulting	Planned	2000	https://w ww.enlit- europe.co m/
Conference	SUPEHR20 23	6-8 september 2023	Savona, Italy	Scientific community	UNIGE	Planned	200	https://su pehr23.un ige.it/
Conference	Eurother m	24-26 May 2023	Lleida, Spain	Scientific community	КТН	Planned	400	<u>https://eu</u> <u>rotherm.u</u> <u>dl.cat/</u>
Conference	ASME TURBOEX PO	26-30 June 2023	Boston, USA	Scientific Community	UNIGE, KTH	Planned	2000	<u>https://ev</u> <u>ent.asme</u> . <u>org/Turbo</u> <u>-Expo</u>
Conference	SCO2 Europe	14-16 March 2023	Prague, Czech Republic	Scientific Community	KTH, UNIGE	Planned	200	https://w ww.sco2. eu/
Workshop	ETN sCO2 WG	Along the year	Online	Scientific Community	KTH, UNIGE	Planned	100	<u>www.etn</u> . global
Online/Physic al Event	Final Event	To be defined	To be defined	Public authorities, scientific community, companies etc,	All partners	Planned	2000	

The above list will be updated during the project's lifetime thanks to the contribution of all the partners.

8. PRELIMINARY KERs

The preliminary key exploitable results (KERs) are here included to ensure a successful implementation and market penetration of the SHARP-sCO2 project.

However, a detailed report describing guidelines for project outcomes promotion on the market will be defined in D6.4 "SHARP-sCO2 outcomes exploitation plan - T6.4".

To this end, the table below provides a brief description of the KERs to highlight the main characteristics which will fully analyzed in Task6.4 in compliance with the GA:





#	Exploitable Results - ERs	Description				
1	Novel air receiver able to reach 1000°C and 4MW/m2	Validation of a new rotating jet-impinging gas solar receiver capable of achieving output air temperatures of 1000°C in a relevant environment with a minimum of 200 hours on sun testing. The prototype will be scaled to 50-100kWth and evaluated in a solar field that is capable of 4MW/m2 peak				
2	Novel electric heater for packed beds / air systems	Novel EHs with optimized wire layouts with insulating materials able to operate at medium voltage supply and up to 900°C				
3	Novel radial packed bed TES optimized for slag and waste media	Prototyping and validation of a radial flow packed bed thermal energy storage for heat up to 800°C using solid materials as main storage media and providing limited pressure drop with still elevated thermal performance				
4	New air to sCO2 Heat Exchanger design for CSP and waste heat recovery	Design and manufacturing of an innovative hot air to sCO2 heat exchanger. The heat exchanger will be designed with a focus on a modular concept relying on market ready manufacturing solutions. The hex will be experimentally investigated at the suCOO-Lab test rig at TU Dresden. A specially designed calculation tool provides additional information also for off- design situations and is used to supplement the design phase and the experimental testing				
5	SHARP-sCO2 air driven/sCO2 hybrid PV-CSP cycles	Hybrid PV-CSP plants have been recently investigated as a solution that seizes upon the low cost of PV and the dispatchability of CSP in order to attain low LCOE. Hybrid PV-CSP solutions are more techno-economically appealing than PV+Batteries, particularly when aiming at capacity factors higher than 65% due to the lower cost of thermal energy storage.				
6	LCA Tools	A tailor made, high validity Life Cycle Assessment (LCA) model will be developed by CERTH, to quantify and assess the environmental impacts of hybrid air CSP-PV plants proposed by SHARP-sCO2, with specific focus on the Global Warming Potential of the system				
7	CFD dedicated tool for granular based material storage systems	The development of a Eulerian-Lagrangian model (DDPM) aims to simulate an innovative packed bed Thermal Energy Storage (TES) system that utilizes particulate matter as the filling material. The working medium (air) flow follows a radial pattern and is characterized by high temperature levels. The desired objectives for the system include achieving the following: a working medium (air) outlet temperature of approximately 700°C, a round-trip thermal efficiency greater than 70%, a thermal exchange efficiency higher than 90%, a pressure drop lower than 1%, and an operation time with sufficient outlet temperature levels exceeding 70% of the overall operation				







Conclusions

In conclusion, D6.1 "Dissemination and Stakeholders' engagement Plan and D&C material" focuses on the identification of communication and dissemination objectives, the definition of keymessages, the identification of target groups and audiences and the choice of the most appropriate channels.

All partners will be actively involved in the communication and dissemination activities of SHARPsCO₂ in order to assure the proper exploitation of the project's results and maximize the impact of the innovative technologies that will be develop in the framework of this project.

SHARP-sCO₂ project's consortium will adopt a content marketing approach which provide the creation of an editorial plan, regularly up-to-dated by all project's partners with new content ideas and customised according to the various target audiences.

SHARP-sCO₂ editorial plan will describe the contents, the target audience, the channel and the date of publication of the news on the website as well as the social network posts.

Furthermore, the effectiveness of the project's communication activities will be tested every six months in order to track the proper key performance indicators.

Ultimately, the initial key exploitable results will be showcased to steer and advance the project's outcomes in the marketplace, based on these pre-determined KERs. It's worth noting that these particular KERs will receive special attention in D6.4 "SHARP-sCO2 outcomes exploitation plan".

