

next-CSP

Next-CSP

**High Temperature concentrated solar thermal power plant
with particle receiver and direct thermal storage**

**H2020 European funded project - Grant Agreement number
727762**

Deliverable (D9.2)

WP9 – WP Exploitation, Communication and Dissemination of results

Deliverable D9.2 Report on dissemination and communication activities

Date of Delivery: 28/05/2019

Deliverable Author(s): Marie Prouteau



**Next-CSP is a project that has received funding from the European Union's Horizon
2020 research and innovation programme under grant agreement No 727762.**



Document identifier: Next-CSP-WP9-D9.2

Deliverable leader	EURONOVIA
Deliverable contributors	All partners
Related work package	WP9
Author(s)	Bérénice Peirera , Marie Prouteau
Due date of deliverable	30 09 2018
Actual submission date	28 05 2019
Approved by	CNRS
Dissemination level	Public
Website	www.next-csp.eu
Call	H2020-LCE-07-2016
Project number	727762
Instrument	Research & Innovation Actions
Start date of project	01/10/2017
Duration	48 months

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Executive Summary

The purpose of this deliverable 9.2 is to report on the dissemination and communication activities implemented by all the partners during the two first years of the project. It will detail how each activity has been implemented (purpose & expected, impact, recipient, content, media, timing ...). These activities are part of the WP9 Dissemination and Exploitation whose aim is to establish the exploitation and dissemination plan for the project, to promote the dissemination of results and ensure relevant communication activities to raise awareness on the project.

This deliverable was supposed to be submitted at M24 and was submitted at M32, in this sense this also presents what has been achieved during the first two years and a half.

During the first two years and a half of the project, the project partners were focused on the awareness raising of the project topic and activities. This will be presented there as well the next actions to be planned which will be more intense. During the final year and a half, the activities will be intensified since this represents the crucial period for the dissemination to enable a sustainable impact after the end of the project and presents the assembly and test of the demonstrator.

This report is based on the D9.1 - Plan for dissemination and exploitation of the results (PEDR) and includes, among others, an update of the description of the created dissemination material and actions and the organized events.

This deliverable will help to structure the final strategy in terms of dissemination and communication. With the aim of obtaining the maximum visibility and reporting the development of the Next-CSP activities and the results obtained, the dissemination actions will reinforce the initial objectives on:

- Creating awareness of the project for the public at large
- Disseminating results obtained from various WPs
- Performing dissemination of success stories related to the technological developments within the project
- Making the scientific community, stakeholders and decision makers aware the technologies developed in the project
- Creating the basis for an after-project impact



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1. INTRODUCTION

A Plan for Dissemination and Exploitation of Results (PEDR) is extremely important to plan an efficient strategy to create awareness of the project results and maximize the future potential commercial exploitation of the Next-CSP project results. A first PEDR, corresponding to the deliverable 9.1 of the WP9, presented the activities foreseen in the project to enhance the dissemination and exploitation strategy, maximize the expected impact of the project, and develop sustainability for the continuation of the project activities after the EU-funding.

This deliverable 9.2 is the report on what has been achieved so far as planned in the PEDR in regards to dissemination and communication.

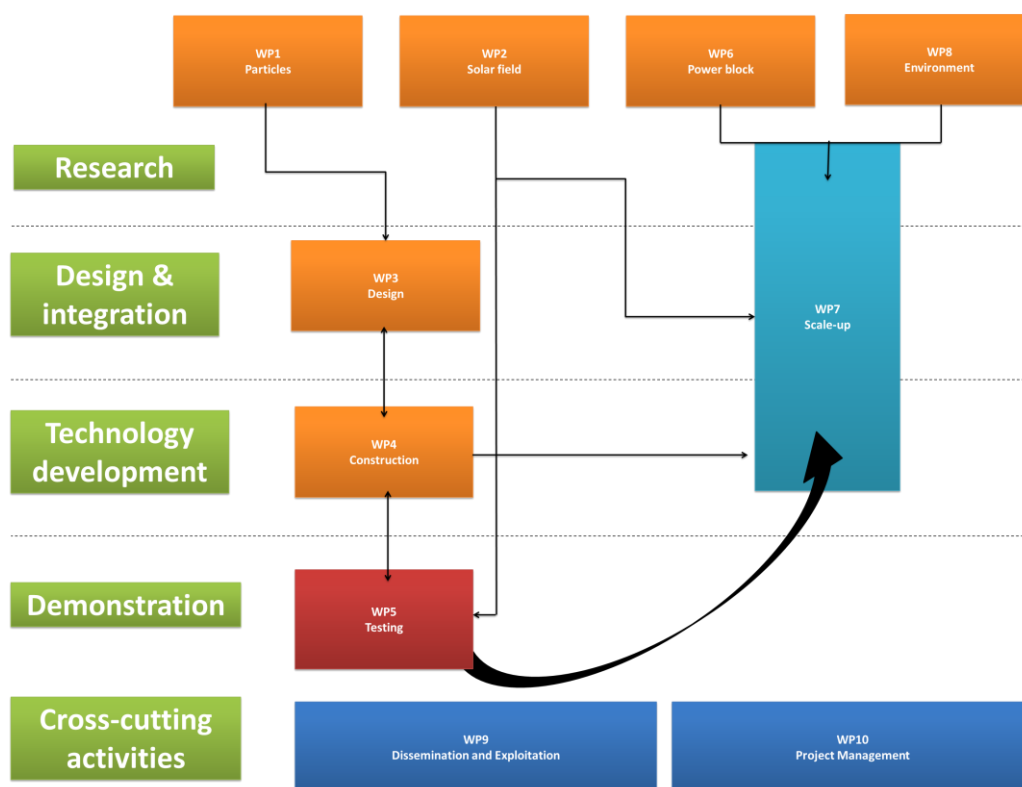
1.1. WP9 OBJECTIVES

This deliverable takes place as part of the Work Package (WP) 9 on dissemination and exploitation, whose objectives are :

- To disseminate the foreground to the EU community, key professionals, scientific communities, private sector, policy makers and the general public;
- To engage with stakeholders in order to guarantee the long-term sustainability of the project results and to ensure maximum visibility of the project through tailored communication activities in order to raise awareness about the potential of high-temperature research infrastructures;
- To foster the innovation potential of the project through the mapping of the exploitable results and actions to boost their exploitation

The development of the project communication and dissemination strategy is a horizontal activity which spans the work of all WPs as presented in the figure below.

Figure 1 – WP9 in relation to other WPs



1.2. INTERNAL WP9 MANAGEMENT AND COMMUNICATION

All project participants are updated regularly about the WP9 advances through the semestrial reports done for each project meeting and other regular emails. Important documentation related to the WP9 is stored on the internal access-based platform <http://next-csp.eu/intranet/>. All dissemination and exploitation materials are stored on this intranet as well as all the updates of the 9.1.

1.3. PURPOSE OF THE EXPLOITATION AND DISSEMINATION ACTIONS

In accordance with EU objectives for dissemination and exploitation of EU funded research projects, each dissemination action aims to:

- Show how European collaboration has achieved more than would have otherwise been possible, notably in achieving scientific excellence, contributing to competitiveness and solving societal challenges;



- Show how the outcomes are relevant to our everyday lives, by creating jobs, introducing novel technologies, or making our lives more comfortable in other ways;
- Make better use of the results, by making sure they are taken-up by industry and the scientific community to ensure follow-up, and also by decision-makers to influence policy-making.

Specific objectives:

- To ensure high visibility of the project among key stakeholders through the management and use of appropriate communication channels;
- To design specific actions aimed at the scientific community and general public (including business and political stakeholders);
- To engage and ensure collaboration with industry and end-users;
- To ensure that all project partners can identify and understand the information needs of specific target audiences;
- To design and conduct the dissemination and engagement strategy.

1.4. CONTENT OF THE PEDR

The PEDR contains the following information regarding dissemination and communication:

- Definition of the target groups (policy makers, end-users, industries, R&D stakeholders, all relevant to thermal storage, CSP, renewable energies, etc)
- Definition of the message (enhancing the role of renewable energies, promoting the need of renewable energies and CSP, demonstrating the positive impact of Next-CSP actions, showing the development of the project, etc)
- Selection of the communication channels (website, emails, press releases, publications, journal articles, conferences, workshops, etc)
- Planning of the implementation (timing, costs and human resources, etc)
- Development of Key Performance Indicators (KPIs) to assess the success of the implementation (number of publications, number of emails received from stakeholders, number of visits on the website, feedback received from audiences at conferences, surveys, etc)

The project will use the KPIs developed to assess the success of the plan. The coordination of the implementation of the plan is done by EURONOVIA as WP9 leader.



1.4.1. Document maintenance

The PEDR document is reviewed and updated after each reporting period (M18, M36, and M48), as the project proceeds. This document contains a revision history log. When changes occur, the document's revision history log will reflect an updated version number, the date of the new version, the author making the change, and a summary of the changes.

1.4.2. Responsibilities

Euronovia is the leading beneficiary in charge of writing this deliverable and will also be in charge for the future updates. Euronovia is in charge of the management of the dissemination and exploitation actions.

All partners have responsibilities in their role as disseminator of the project results. According to the grand agreement and 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).

2. DISSEMINATION AND COMMUNICATION PLANNING

2.1. DEFINITION OF THE TARGETED AUDIENCE

The primary group is the main group within the dissemination target audience. The major part of the actions is targeted to this group. This is where we can expect the maximum impact in terms of potential collaborations and future exploitation.

The primary group is composed of:

- The research and academic community active in the field of concentrated solar power, solar tower technology, thermal storage.
- Potential end-users and lead users industry, and in particular their executive officers, and related technology clusters

The secondary group is composed of actors affected by the success of the project, although not identified as primary target group. It includes:

- Policy makers and funding agencies in country or regions with solar potential
- Researchers and engineers from companies that might be interested by the outcomes, although not automatically considered as lead users
- Investors and business actors
- Standardization bodies

The tertiary group consists of the general public and other actors that can find interest in the project. More particularly, the tertiary group includes:

- University students
- Young pupils as well as teachers
- Partners' local stakeholders
- Media and public at large

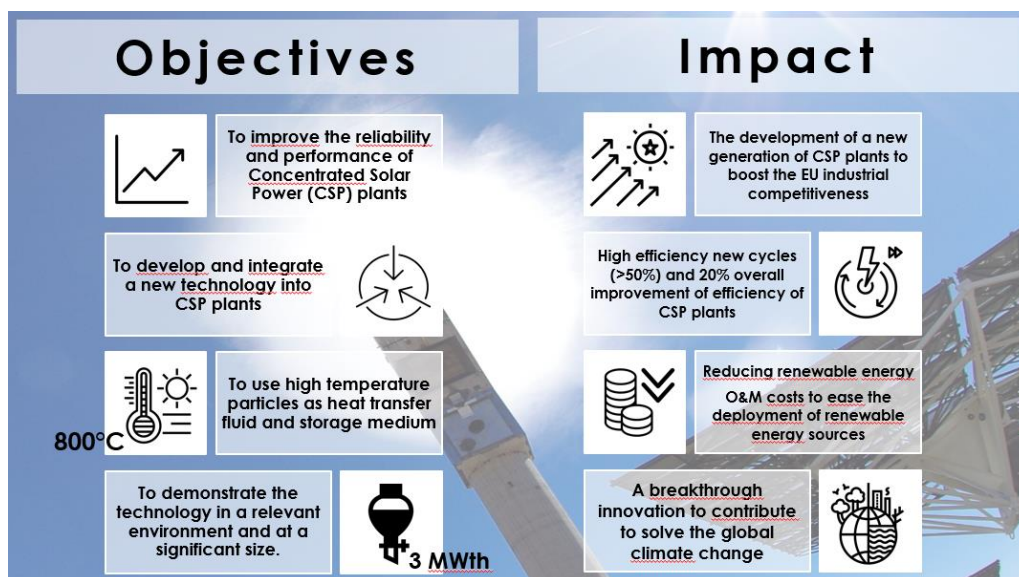
This final group will be more targeted by the general communication actions since the project scientific results might be too narrowed for them and a more general and vulgarized message on the project should be sent to them.

2.2. DEFINITION OF THE Next-CSP MESSAGE

There are many ways to communicate on the project activities and results. Here are some messages that are promoted through the dissemination activities:

- Enhance the role of Renewable Energy to ensure people are aware of their benefits for the environment, society and life of the citizens
- Advertise the project itself (general scope, coverage, goals and milestones and plans to reach them)
- Enhance the role played by Next-CSP in the European solar industry by showcasing the project potential for the benefits of the industry
- Demonstrate the positive impact of Next-CSP in the wide spectrum of solar technologies
- Recall the importance of involving key users and public authorities at local, regional and national levels in the project in order to guarantee the back-up of the project by key stakeholders
- Enhance the role of Renewable Energy to ensure people are aware of the benefits for the environment and society
- Promote the study and construction of the pilot to show the European capacities in developing Renewable Energy technologies
- Enhance the life of the citizens in the future

Figure 2 – Next-CSP project messages to disseminate





2.3. DEFINITION OF THE DISSEMINATION AND COMMUNICATION CHANNELS

The following table gives an overview of the dissemination and communication actions to be carried-out in Next-CSP as planned in the PEDR.

For more details regarding what is communication and what is dissemination:

- Dissemination is the public disclosure of the results of the project in any medium. Disclosure may sound passive, like a shop opening up, but it is an activity, like a shopkeeper attracting customers. It is a process of promotion and awareness-raising right from the beginning of a project. It makes research results known to various stakeholder groups in a targeted way, to enable them to use the results in their own work. This process must be planned and organised at the beginning of each project, usually in a dissemination plan.
- Communication means taking strategic and targeted measures for promoting the action itself and its results to a multitude of audiences, including the media and the public, and possibly engaging in a two-way exchange. The aim is to reach out to society as a whole and in particular to some specific audiences while demonstrating how EU funding contributes to tackling societal challenges.



Table 1 – Summary of dissemination and communication actions

Dissemination activity	Timing	Main objective	Main Targeted audience	Main Key Performance Indicators	Quantification of KPI
Peer-reviewed scientific publications (Open Access) in journals such as: e.g. Solar Energy, Applied Energy, Journal of Solar Energy Engineering, Solar Energy Materials and Solar Cells, etc	All along the project and after its completion	Inform and promote about the scientific results of the project Transfer of knowledge	The research and academic community related to the project technology	Number of publications	8 publications in journals
Participation in conferences (presentation of posters or scientific papers): e.g. SolarPACES Symposiums, CSP Today, ASME conferences, ISES solar world congress, etc ...	All along the project and after its completion	Promote the scientific results to interested groups and interact with other related technologies	The research and academic community (and more industry oriented depending on the type of conferences).	Number of conferences attended Number of posters or oral presentation Number of participants to the conference	6 conferences attended 6 posters Min 200 participants
Three participations to trade/scientific fairs like Intersolar, Electrify Europe, SolarPACES, CSP today, ...	Year 2, 3, and 4 and more if relevant	Promote the results and engage with the industry for the enhancement of the exploitation of the scientific results	Research community, Industry and policy makers related to solar/renewables technology End users	Number of participants to the exhibition fairs Number of visitors of the stand	Minimum 200 participants 20 visitors per event
One technical workshop to present the project results Hosting partner: CNRS	To be defined	- Promote and engage the community into more personal interactions with the project	Specific players in the field (academic or non-academic institutions) with a special focus on SMEs who may be	Number of attendees to the workshop	20 attendees per event



		<ul style="list-style-type: none"> - Present and receive feedback on the results. - Transfer of knowledge - Attract Master students, PhD students or post-docs to engage into renewable energies 	interested with such a new technology and manufacturers of the technology		
One business workshop presenting the economic and environmental assessment Hosting partner: EDF	To de defined	Provide better scientific and technological understanding to non-scientific stakeholders Present the LCA and risk issues of the technology Raise funds for the further development of the technology	Policy-makers, industries, investment organisations, environmental sector, all related to Renewable Energy Systems. The European industrial associations at a EU level like ESTELA but also at a worldwide level	Number of Attendees to the workshop	20 attendees
One training course Hosting partner: IMDEA	To be defined	Transfer of knowldege to students through a manual describing the use of the pilot unit Attract Master students, PhD students or post-docs to engage into renewable energies	Education The universities where courses related to the field are taught.	Number of attendees	20 attendees
One open infoday Hosting partner: to be defined at M6	M48	-Provide better scientific and technological understanding to non-scientific stakeholders	Public at large but this will be targeted especially to engage with politicians and the press	Number of attendees	40 participants minimum



		-Make science more accessible to non-specialists			
Technical reports in the form of the deliverables – all public deliverables	All along the project	Publish online and open access to the scientific results Transfer of knowledge	Public at large, any interested group	Number of reports available	All deliverables
Next-CSP website + logo and visual identification	Month 6	Raise awareness, inform, engage, promote the project & the results.	Public at large	Number of visitors	Minimum 00 visitors / month
Social web-based media (especially LinkedIn and Twitter) and presence on the web (especially Wikipedia)	All along the project	To make science more accessible to a wider public To make renewable energies popular	Public at large, especially targeted for a younger public who engages more with social media.	Number of news published Number of followers	10 news per year / 150-200 followers at the end of the project
2 brochures, 8 newsletters (together with other CSP projects), 2 press releases, 1 video, 2 articles in magazines	All along the project	Inform about the project Promote the project innovative concept	Public at large, the partners' contact list	Number of subscribers to the newsletter Number of recipients of the brochures Number of view of the videos	100 / 500 / 200
PhD participation and researchers participation to events for science popularization (like the EU researcher's night - pint of science - ESOF - ...)	All along the project if relevant	Popularize science by making it attractive Create interest in younger generation to follow science careers	The public in general and young researchers	Number of events	At least 1 event



2.4. GANTT CHART OF THE DISSEMINATION AND COMMUNICATION ACTIONS

The planning and execution of the activities require a good scheduling closely aligned with key project deliverables and milestones. Seeing the importance to disseminate about the Access programme and attract new users, dissemination activities will take place all along the project at regular time. But a logical schedule is to take place and the dissemination activities are to be performed according to this timing:

- 1) Initial awareness phase (month 0-6): this especially includes establishment of the project website, analysis of relevant information resources in terms of identification of dissemination opportunities and creation of basic dissemination tools including graphical identity of the project (i.e. project logo, templates for project documents and for project presentations).
- 2) Targeted dissemination phase (month 6-36): the consortium will enrich the website, publish a project brochure, issue the first press releases and attend selected events. Preliminary project results will be presented to the target audiences. Dissemination will be reinforced before the launch of each access campaign.
- 3) Presentation of results (month 36-48): this represents the period closely before the end of the project when Next-CSP reaches its most significant outputs. This phase will be focused on informing the target audience for the exploitation.

The tentative GANTT chart below gives an indication of the scheduling of the dissemination and communication activities as this was planned at the beginning.

Table 2 – Next-CSP original Gantt chart for dissemination and communication

	Year 1				Year 2				Year 3				Year 4				After project			
	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4
COMMUNICATION ON PROJECT ACTIVITIES																				
Public website and updates																				
Communication in social media (LinkedIn and Twitter)																				
E-newsletters																				
brochures																				
Video																				
Press releases																				
DISSEMINATION OF PROJECT activities																				
Peer-reviewed publications																				
Participation to conferences																				
Public technical deliverables																				
EVENTS																				
Exhibitions																				
Workshops and final infoday																				
Popularization events and actions																				
JOINT ACTIONS WITH H2020 CSP PROJECTS																				

2.5. CREATION OF INDIVIDUAL DISSEMINATION PLAN

Dissemination and exploitation of project results are important targets of the consortium to ensure the scientific progress beyond the state-of-the art in the course of the project and for a sustained impact after finishing the project (adapting the project to received feedback).

Thus, for the final period of the project, Euronovia will make sure that each partner clearly involves its communication department and media to ensure appropriate dissemination at partner level. In the Table below are listed the available social media feeds per organisation. A google sheet has been created to enable for live modifications of the document.



Table 3 – Extract of Individual dissemination plan

Channel	CNRS / PROMES	EDF	INPT	KU Leuven	EPPT	IMDEA	Comessa	SBP	Whittaker	EURO
Blog	X									X
Newsletter/ News	X	X	X	X		X	X	X	X	X
Press release	X		X	X						
Twitter	X	X	X	X		X	X	X	X	X
Linkedin	X	X	X	X		X	X	X	X	X
Company website	X	X	X	X	X	X	X	X	X	X
Magazines	X	X		X						
Others		Web TV		Podcast						

2.6. DISSEMINATION RULES AND PROCEDURES

2.6.1. Consortium dissemination rules

The basic regulation of the dissemination activities are regulated by the Consortium Agreement (Section 8.4) which states that:

“During the Project and for a period of 1 year after the end of the Project, the dissemination of own Results by one or several Parties including but not restricted to publications and presentations, shall be governed by the procedure of Article 29.1 of the Grant Agreement subject to the following provisions.

Prior notice of any planned publication shall be given to the other Parties at least 45 calendar days before the publication. Any objection to the planned publication shall be made in accordance with the Grant Agreement in writing to the Coordinator and to the Party or Parties proposing the dissemination within 30 calendar days after receipt of the notice. If no objection is made within the time limit stated above, the publication is permitted.

An objection is justified if:

(a) the protection of the objecting Party's Results or Background by IPR or secrecy



would be adversely affected

(b) the objecting Party's legitimate interests in relation to the Results or Background would be significantly harmed.

The objection has to include a precise request for necessary modifications.

If an objection has been raised the involved Parties shall discuss how to overcome the justified grounds for the objection on a timely basis (for example by amendment to the planned publication and/or by protecting information before publication) and the objecting Party shall not unreasonably continue the opposition if appropriate measures are taken following the discussion.

The objecting Party can request a publication delay of not more than 90 calendar days from the time it raises such an objection. After 90 calendar days the publication is permitted.

A Party shall not include in any dissemination activity another Party's Results or Background without obtaining the owning Party's prior written approval, unless they are already published, by the owning Party or by a third party with the owning Party's authorization.

The Parties undertake to cooperate to allow the timely submission, examination, publication and defence of any dissertation or thesis for a degree that includes their Results or Background subject to the confidentiality and publication provisions agreed in this Consortium Agreement.

Nothing in this Consortium Agreement shall be construed as conferring rights to use in advertising, publicity or otherwise the name of the Parties or any of their logos or trademarks without their prior written approval."

2.6.2. Rules for peer-reviewed publications

All draft articles must be sent to the coordinator and the communication manager before publication or production for reporting and archiving purposes. This will allow checking if they fulfil the dissemination requirements or whether they conflict with other existing papers. All publications of the project should be in open access and includes the acknowledgment to the EC funding.



2.6.3. Open access to scientific publications

The access policy that will be implemented will give priority to the Green model with the requirement to fix the embargo to 6 months after the first date of publication, as required by the EC. However, when not applicable, the publication policy of the consortium will be to pay the fees to make the scientific publications free of access. The costs related to paying the 'Gold' open access have been integrated to the budget of the project.

All publications will be stored in an online repository, either institution-based or subject based repositories. Another planned possibility for the open access repository is the specific Open Access pilot repository initiated by the European Commission <https://www.openaire.eu/>

Further to this and whenever necessary, the addendum to publication agreement¹, provided by the European Commission will be used. This is an instrument that, if accepted by the editor, modifies the publisher's agreement and allows the researcher to keep key rights to your articles. EURO will be in charge of supporting the researchers for these administrative issues related to the communication with the publishers.

2.6.4. Use of graphic identity and EU visibility

A common graphic identity has been defined to allow for better visibility and recognition as well as branding of the Next-CSP project. Therefore, all dissemination tools and activities must refer to or include:

- The name of the project: Next-CSP and its full title (unless if space is lacking and the integration of the title is not possible)
- The project's website URL (www.next-csp.eu)
- The Next-CSP project logo
- Acknowledgements to EC public funds: the official EU Emblem, with the Horizon 2020 indication below, will be used for any (internal or external) deliverable, report and dissemination tool. All publications based on work funded by EC within the activities of the Next-CSP project should acknowledge their affiliation to Next-CSP and bear recognition of the EC funding. This is generally accomplished by adding the following sentence in the

¹ http://ec.europa.eu/research/participants/data/ref/fp7/89989/model-amendment-to-publishing-agreement_en.doc



acknowledgements section coupled with the EU emblem:

“Next-CSP is a project that has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 727762.”

2.7. EVALUATION AND MONITORING OF THE ACTIONS

During the Next-CSP lifecycle, two mechanisms are used to review the progress of the dissemination activities and provide feedback to the project:

- Key Performance Indicators.
- Reports and deliverables regarding the dissemination activities (see section 4)

2.7.1. Key Performance Indicators (KPIs)

Key Performance Indicators (KPI's), are a measuring factor for the performance and progress of an activity, message, task, etc. towards its expected impact. They will be used to assess the performance of the dissemination activities all along the project duration and realign the dissemination plan if necessary when KPIs are not matched and the expected impact not reached.

Here below is a set of quantitative indicators that can be used by the partners to evaluate the impact of an action :

- Brochure/flyers: Flyers have been printed and will be delivered to:
 - all beneficiaries
 - important stakeholders including the European Commission
 - During the project events
 - KPI used: number of brochures distributed at conferences
 - < 20 = poor ; 20 - 50 = good > 50 = very good
 - ◆ So far, for each conference, an average of 30-40 brochures are distributed to contacts approached at the booths or during other events. The parntners are also asked to distribute locally the materials.

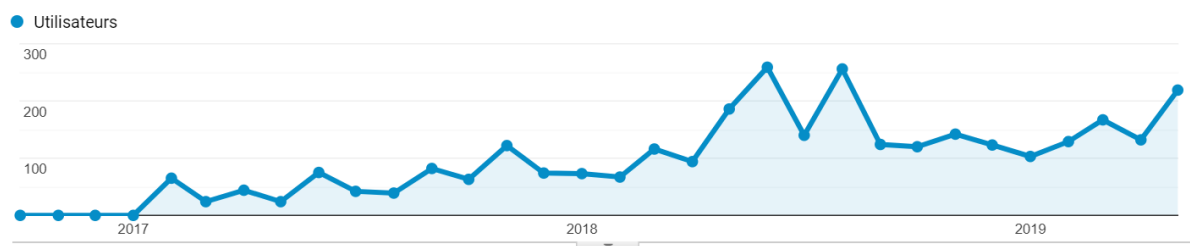
The brochure will be updated before the end of the project, taking into account the

results of the projects. This final brochure will be printed in 1000 copies.

- Website: The project website is the essential dissemination tool for Next-CSP. Hence, the project coordinator will get a semestrial update on:

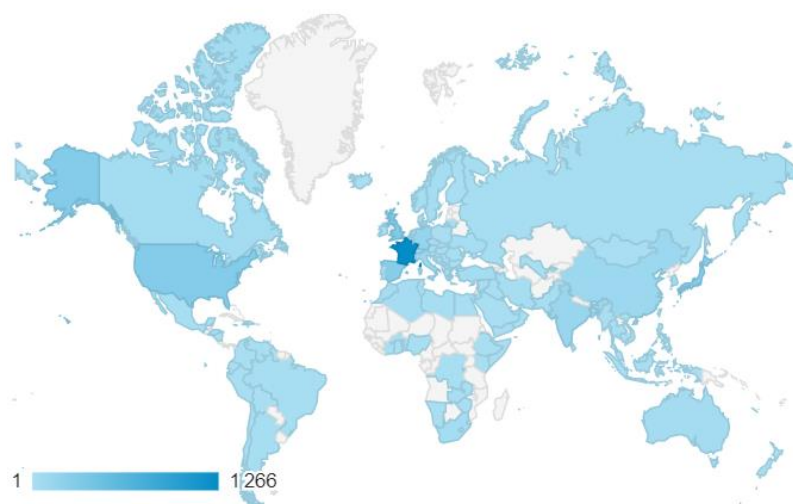
- Number of visits in the Website (traffic) / months

○ < 100 = poor ; 100 – 200 = average ; 200 - 500 = good ; > 500 = very good



- Countries of website's visitors

○ Excellent worldwide coverage with 115 countries mapped that accessed the website



○ The figures below shows the interest for the project shared between the different continents. After Europe, this clearly shows the Asian interest for the project, followed closely by Americas.

1. Europe	2 491
2. Asia	772
3. Americas	426
4. Africa	164
5. (not set)	85
6. Oceania	46



- **Newsletter:** The newsletter is a good way to estimate the number of interested stakeholders. This will be done jointly with other H2020 CSP projects following EC recommendations.
 - How many people have subscribed to the newsletter via the formular?
 - < 100 = poor ; 100 – 200 = average; 200 - 500 = good; > 500 = very good
 - ◆ SO far, there are more than 250 subscribers to the list.
 - How many people have opened the newsletter ?
 - < 10% = poor ; 10 – 30% = average ; 30% - 60% = good ; > 60% = very good
 - ◆ The number reached with the last issue was 48,8%
 - Number of Newsletters
 - So far, the planning is set on a biannual newsletter. The last issue is available here : <https://us15.campaign-archive.com/?u=be5a9e502ccb8c519b107bae4&id=d9a944f1bb>
- **News and Press Releases:** The Next-CSP project aims to publish more than 10 news per year and 2 press releases and 2 articles about the project results in addition to the deliverables, announcements and important milestones.
 - Number of news on the website
 - One per month should be the minimum to raise interest and traffic on the website – At the end of the project, a complete table overview will be reported in the final report regarding all the news published
 - Tentative to estimate how many people have been reached
 - According to the stats, after the landing page, the News section is the second one to receive the most visitors, which represents 1426 visitors.
- **Events:** Events where Next-CSP results will be disseminated will be advertised on the website and in the newsletters. Whenever possible, a list of attendees to these events will be tracked and used for future dissemination actions in accordance with personal data laws. The following KPI can apply:
 - Number of events where Next-CSP is presented
 - < 3 = poor ; 4-6 = average ; 7-9 = good ; > 10 = very good
 - Number of Next-CSP presentations
 - < 5 = poor ; 6-8 = average ; 9-11 = good ; > 11 = very good
 - ◆ So far the project has been presented in 8 different events leading to 13 presentations



- Number of events organized (booths/workshops/infodays)
 - < 3 = poor ; 4-7 = good ; > 8 = very good
 - ◆ So far 3 events have been organized (2 booths and one workshop). 2 other workshop and one final conference should be organized as well as more than more 4-5 exhibitions
- New contacts created during the events (which depends also on the type of event and area) and data gathered for dissemination lists
 - < 5 = poor ; 6-10 = average ; 10 – 20 = good ; > 20 = very good
 - ◆ A complete report regarding the events and the database gathered for the stakeholders will be provided at the end of the project with the final report
- Social Media: A Next-CSP linkedin page is already existing. The following indicators will be measured:
 - number of members
 - < 50 = poor ; 50 - 100 = good ; > 100 = very good
 - ◆ So far there are 88 subscribers and we expect to reach 150 by the end of the project
- Publications: The following indicators will apply:
 - Number of peer-reviewed publications
 - < 2 = poor ; 3-5 = average ; 6-8 = good ; > 8 = very good
 - ◆ So far we have 3 peer-reviewed publications in open access and expect to have 4 more in the coming year. 3 additional have already been published but are not in open access.
- Media appearances / other dissemination materials : The following indicator will apply:
 - Number and type of media appearance: to monitor the number of impacts in which the project has appeared/been mentioned in any media (i.e. publications, article, news, interview, workshop, etc).
 - < 5 = poor ; 6-10 = average ; 8-10 = good ; > 10 = very good
 - ◆ So far, the project has 9 media appearances in books, studies, wikipedia, articles, presentation on a CSP website, ...

In addition, a number of qualitative indicators can be used also :



- Individual feedback by the recipients of the communication actions
- General feeling on the dissemination and communication actions to get specific ideas about what has been successful, how to do things differently next time or new ideas for future projects

Qualitative indicators can be obtained through the implementation of the following tools:

- Satisfaction questionnaires distributed at the project events
- Direct feedback obtained in face-to-face or telephone contact with the participants in events or other relevant stakeholders of the project
- Analysis on the overall success of the project
 - A report on these qualitative indicators will be done at the end of the project.

2.7.2. Reports and deliverables for the evaluation

Two reports have been scheduled to show the advancement related to dissemination and communication actions.

- D9.2 Mid-term report on dissemination and communication activities (M24)
- D9.4 Final report on dissemination and communication activities (M48)

These two reports will enable to present the evaluation of the dissemination and communication actions and propose new actions if the impact expected has not been reached according to the KPI.

2.7.3. Tracking of the dissemination and communication actions

Euronovia will be in charge of listing and tracking all the communication activities of the partners. A google form is used to gather all information related to the activities implemented by each partner. This has been set up on an online sheet so that the consortium can update it easily. This will be especially important for the final period.

Below is an extract of the table that is used to track the information. All partners are required to fill that in and keep evidences of the action.



Table 4 – Next tracking of dissemination and communication actions - Examples

Next-CSP- Tracking and evaluation of the dissemination and communication actions																
Dissemination or communication channel to be used	Purpose and expected impact	KPI to measure the impact	KPI reached	Audience targeted	Expected numbers of people reached	Actual numbers of people reached	Dissemination level (local, regional, national, european, international)	Content to be disseminated	Any IP conflicts ?	When (and where if relevant)	Responsible	Participation from the consortium	Status of the implementation	General Success of the action Y/N ?	If yes, any comments on the impacts achieved ?	If no, any measures to revise the action ?
ESOF Conference	Popularize science	Number of participants on the booth	25	Public at large	100	100	All	General information on the project	NO	July 2018 - Toulouse	Euronovia	None	Achieved	Yes	Interest from the audience on CSP in general	
Flyer	Inform about the project Promote the project	Number of flyers distributed at the events	Depends on the event	Public at large	200	200	International	General information on the project	NO	February 2018 - Paper and online	Euronovia	CNRS	Achieved	YES		
One training course	Transfer of knowledge to students Attract new students to work in CSP		15	Students and education sector	30	15	International	General information on CSP and the project technology	NO	June 2018 - Edimburgh	Euronovia - Whittaker	ALL speakers	Achieved	Yes and No	Quality of the presentations and involvement of the partners Good feedback from the participants Training course available on the website	Location to be better located for future events Not a central location A day is too long for students who have classes during the week
		Number of participants														
Exhibition booth at SolarPACES	Promote the results Engage with the industry Find new interested users	Number of new leads	40	The scientific community (private or public)	500 participants	500	International	General information on the project Technology general details	NO	September 2019 - Casablanca	Euronovia	CNRS as co-organiser Presence of some partners on the booth	Achieved	Yes	SolarPACES is THE annual international conference on CSP Strong interest for innovation/R&D projects	

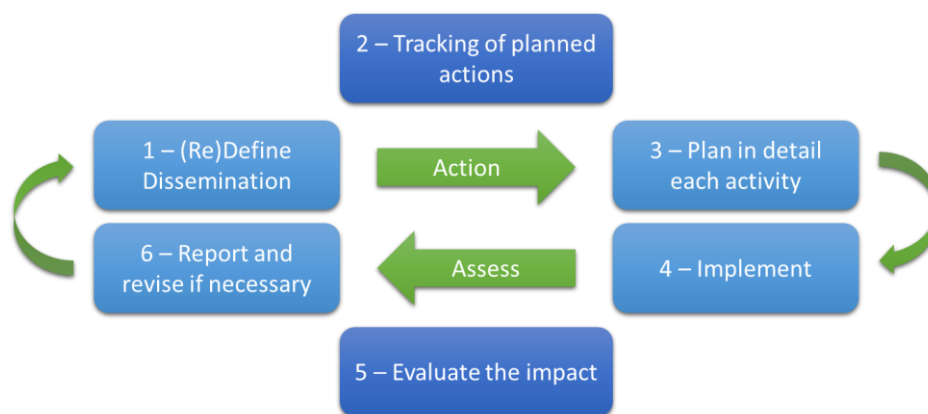
2.7.4. Overview of monitoring process scheme

The tracking table is crucial to facilitate an accurate monitoring and assessment of the dissemination actions in the final period, and to understand the impact of the actions carried out.

By performing regular monitoring of the activities, it is possible to assess if the action plan is being carried out properly and on time. It will also be possible to see which activities had the biggest impact on the stakeholders (both in quantitative and qualitative terms) and to improve communication actions if necessary.

The process of monitoring of dissemination and exploitation activities can be outlined as presented below.

Figure 3 – Next-CSP Monitoring process



1 – Each partner should define its own dissemination activities according to the general plan exposed in this deliverable and

2 – Insert the information in the tracking table as presented above

3 – Each partner should plan in detail the action

4 – Each partner should implement it, with the support of Euronovia if needed

5 – Once the action has been implemented, each partner should fill in the impact columns in the tracking table

6 – Euronovia will be in charge to report the actions in the deliverables and for the periodic report and propose new actions if necessary

3. REPORT ON THE ACTIONS IMPLEMENTED

3.1. MAPPING OF THE TARGETED STAKEHOLDERS

The targeted audience will be constantly updated throughout the lifetime of the project in relation to the results and deliverables. The list is defined with all consortium members and regularly updated. This activity will take all its importance in the last year of the project, once the technology is being demonstrated and installed at the plant.

Below is the more precise type of stakeholders that are targeted and used for the dissemination and exploitation of the project results. This takes part as part of the task 9.3 and the mapping of the stakeholders.

Table 5 – Next-CSP target and user groups

Academic and research community	This group targets all research communities interested in the Next-CSP project's developments, results and innovation which can be beneficiary for their own research activities. Scientific contributions of Next-CSP are particularly interesting for researchers working in the field of development of particles as heat transfer fluid and storage medium.
Industrial sector, Professional Associations	A major objective of Next-CSP is to address and trigger the active involvement of industrial and user communities. Next-CSP is of relevance for organizations in various industry. That implies the necessity to approach them individually in the dissemination activities. At the end of the project we plan to elaborate the Next-CSP dissemination impact analysis where we will evaluate the responses gained from the different industrial segments. This will bring important information for further exploitation of the project results by particular consortium partners after the end of the project. In addition to the external action, inside the project, there will also be the creation of an innovation advisory board targeted directly at the industry sector. They will provide valuable feedback on the project, introduce challenging requirements to be considered and have a major impact on the project's sustainable development.



International Standardization Bodies (ISB)	ISB should be aware of Next-CSP scope and objectives. In a future potential advanced stage of the project, ISB could be involved and provide consultative advice on pre-standardization procedures which may be carried out when the technology reaches a suitable readiness level.
Government bodies and policy makers	This is a wide group encompassing innovation driven local, regional authorities, representatives and associations, Ministries, parliaments and Public Administrations at national and international level. There are several significant goals that can be promoted for them and especially the promotion of the use of renewable eneries and the possibilities to improve the environmental performance at low risk, with a better performance and by reducingn the LCOE. Thus, the Next-CSP technology will contribute towards expected EC sustainable emission targets.
EU technology Clusters	This group refers to activities addressing external task forces that can be relevant to Next-CSP and which will offer a quite big and reusable knowledge base for disseminating on the project. Relevant European technology clusters been identified, such as the DERBI ClusTer and the Atlansun Cluster on renewable and solar energies in France, the SOLARTYS cluster in Spain on Solar Energy & Energy Efficiency, etc
EU projects working in similar domain	The participation of project partners in other relevant projects offers the opportunity to establish quick links among parties through common participants.

We have already mapped the stakeholders that are contacted to disseminate the information on the project. This is not an exhaustive list and the actual contact database used for dissemination and exploitation will be constantly updated accordingly. This activity was part of the task 9.3 related to the construction of the stakeholder database.

The list is not exhaustive but here is just an example of the large database and communication power that the project has seeing his wide network and experience with international networks.

- **The academic and research community** database that we have built to disseminate the information on the project encompasses most of the EU research centers and outside EU dealing with CSP. This has been done thanks to previous collaborations in different EU projects and through actual participations to events. This list comprises more than 300 contacts.



■ **Industrial associations related to CSP in general**

- EU associations like ESTELA , Deutsches CSP (Germany), Protermosolar (Spain), Anest (Italy), SER (France)
- ESTELA international network : AUSTELA (Australia), Sastela (South-Africa), STELAWORLD (World)
- China National Solar thermal Energy Alliance – China
- Solar Energy Corporation of India (SECI) - India
- Solar Energy Industries Association (SEIA) – USA
- Emirates Solar Industry Association (ESIA) – UAE
- Saudi Arabia Solar Industry Association (SASIA) – Saudi Arabia

■ **Other EU associations related to solar and renewables in general**

- EASE - The European Association for Storage of Energy – Europe
- EERA – European Energy Research Alliance – Europe
- ESTIF - European Solar Thermal Industry Federation – Europe
- EDS - European Desalination Society – Europe
- REA - Renewable Energy Association – UK
- EUREC - The Association of European Renewable Energy Research Centres
- EMIRI - The Energy Materials Industrial Research Initiative

■ **EU SME support organisations**

- EBN - European Business & Innovation Centre Network
- EuroChambers - The Association of European Chambers of Commerce and Industry
- EEN – Enterprise Europe Network - To find a local partner for the EEN:
<http://een.ec.europa.eu/about/branches>

■ **Worldwide stakeholders**

- The online Platform for CSP – Brazil
- The International Solar Energy Society (ISES) – International
- The International Energy Agency (IEA) – International
- The International Renewable Energy Agency (IRENA) – International
- SolarPACES -Technology Cooperation Programme of IEA– International



- **Companies relevant in the CSP sector:** these companies have been mapped as relevant stakeholders for the project and are used to disseminate the information.

Table 6 – CSP companies relevant for the dissemination and potential exploitation

Linear fresnel:	Parabolic trough
Feranova	Aalborg CSP
Novatec Solar	Abengoa
Suncnim	Acciona
Industrial Solar	Ervis Technology
ExirSolar	TSK, including TSK Flagsol
Dish technology (sterling):	GlassPoint Solar
HelioFocus	Helioclim
ZED Solar	Parvolen
Azelio AB	Rackam
Operation and maintenance:	Schott Mirrors and Receiver Tubes
Smit Group	Royal Tech CSP
Auxiliar and anti-freezing boiler:	SkyFuel
Sugimat SL	SENER
Steam turbine erection:	Sopogy Micro CSP
Smit Group	Ultra Lite Solar
Pre-operational cleaning:	Solar tower technology:
Smit Ingeniería	ABROS green GmbH
Solarca	Aora Solar, formerly E.D.I.G. Solar Distributed Solar Thermal
	BrightSource Energy / Luz II
	CMI Solar
	Greenway CSP
	Torresol Energy

■ Other EU funded projects

Other European projects recently funded by Horizon 2020 and that are directly linked to CSP technologies (dissemination via their Coordinators could be also useful) and actions will be planned in collaboration with them. This list is non-exhaustive and year after year, after each EU call, the consortium will try to map the newcomers in the CSP technologies.

Activities of collaboration are already going on with these projects through :

- the creation of a joint CSP newsletter
- the organisation of joint workshops and joint booths at CSP conferences
- The management of LinkedIn account
- The management of a twitter account



A telephone conference is happening every 3 months between the dissemination WP leaders of each of these projects.

Table 7 – EU funded projects

Project	Title	Objective	Website
ORC-PLUS	Organic Rankine Cycle - Prototype Link to Unit Storage	Increasing energy storage to optimise power generation from a concentrated solar power plant	http://www.orc-plus.eu/
PreFlexMS	Predictable Flexible Molten Salts Solar Power Plant	Demonstrating a novel steam generator technology and a weather forecast/dispatch optimisation software in a concentrating solar power plant	http://preflexms.eu/
CAPTure	Competitive SolAr Power Towers – CAPTure	Demonstrating a new type of concentrating solar power plant that combines several towers and heliostat fields	http://capture-solar-energy.eu/
SOLPART	High Temperature Solar-Heated Reactors fESSIALor Industrial Production of Reactive Particulates	Developing at pilot scale a process suitable for particle treatment in energy intensive industries (e.g. cement or lime industries), by using high-temperature solar heat to provide thermal energy required for CaCO ₃ calcination	http://www.solpart-project.eu/
SUN-to-LIQUID	SUNlight-to-LIQUID: Integrated solar-thermochemical synthesis of liquid hydrocarbon fuels	Advancing solar fuels well beyond the state of the art and to guide the further scale-up towards a reliable basis for competitive industrial exploitation	http://www.sun-to-liquid.eu/
MinWaterCSP	MinWaterCSP - Minimized water consumption in CSP plants	Developing solutions to drastically reduce water consumption in the operation of concentrating solar power plants	www.minwatercsp.eu
WASCOP	Water Saving for Solar Concentrated Power	Minimising water consumption in concentrating solar power plant operation	http://wascop.eu/
RAISELIFE	Raising the Lifetime of Functional Materials for Concentrated Solar Power Technology	Extending the in-service lifetime of five key materials for concentrated solar power technologies	https://www.raiselife.eu/



NEXT-CSP	High Temperature concentrated solar thermal power plant with particle receiver and direct thermal storage	Developing a new system for heat transfer fluids and high-temperature receivers to obtain high efficiency power cycles (>50 %) in order to increase the efficiency of a concentrated solar power plant by 20%	WWW.next-csp.eu
PEGASUS	Renewable Power Generation by Solar Particle Receiver Driven Sulphur Storage Cycle	Investigating a novel power cycle for renewable electricity production by applying a solar particle receiver with a sulphur storage system for base load operation	https://www.pegasus-project.eu/
MOSAIC	MOdular high concentration SolAr Configuration	Developing a new type of concentrated solar power plant based on a modular design using a novel high-concentration mirror concept	http://mosaic-h2020.eu/
INSHIP	Integrating National Research Agendas on Solar Heat for Industrial Processes	Engaging major European research institutes with recognized activities on SHIP, into an integrated structure	http://inship.eu/
IN-POWER	Advanced Materials technologies to QUADRUPLE the Concentrated Solar Thermal current POWER GENERATION	Develop High efficiency solar harvesting CSP architectures based on holistic materials and innovative manufacturing process	http://in-power-project.eu/
MUSTEC	Market uptake of Solar Thermal Electricity through Cooperation	Assess the existing barriers and opportunities for concentrated solar power that could play a key role in the future European electricity system by supplying electricity from Southern to Northern European countries	http://www.mustec.eu/
SOCRATCES	Solar Calcium-looping integrAtion for Thermo-Chemical Energy Storage	Demonstrating the feasibility to integrating Calcium-looping process (CaL) and concentrated solar power (CSP) plants for thermochemical energy storage and power generation	https://socratces.eu/
SHIP2FAIR	Solar Heat for Industrial Process towards Food and Agro Industries	Demonstrating solar heat integration in four open-to-public industrial sites covering sugar, wine, spirits and meat sectors	http://ship2fair-h2020.eu/



	Commitment in Renewables		
SOLWATT	Solving Water Issues for CSP Plants	Demonstration at two sites that water consumption can be reduced with innovations in the solar field cleaning techniques, power-block cooling, water recycling system, and with optimised plant operation strategy	https://solwatt.eu/
HYCOOL	Industrial Cooling through Hybrid system based on Solar Heat	Increasing the current use of solar heat in industrial processes by developing a combined system based on new Fresnel concentrated solar collectors and hybrid heat pumps	http://hycool-project.eu/project/

■ EU National Contact Points related to CSP

- The Energy team: <http://www.c-energyplus.eu/>
- The Environment team: <http://www.env-ncp-together.eu/>
- The NMP (Nanotechnologies Materials and Production) team: <http://www.nmpteam.com/index.html>
- The Research Infrastructure team: <http://www.euroris-net.eu/>

■ National / Regional Funding Organisation Contact Points in solar energies

These agencies are part of the Solar Era net network and will be contacted when needed to reach policy and funding stakeholders. This will take all its importance for the final year of the project.

Table 8 – National funding organisations

Country / Region	Funding Organisation or Contact Point	Contact(s) and Domain(s)
Austria	Austrian Research Promotion Agency (FFG)	Anita Hipfinger: anita.hipfinger@ffg.at , +43 5 7755 5025
Belgium-Flanders	Vlaams Agentschap Innoveren en Ondernemen	Geert Carchon: geert.carchon@vlaio.be , +32 2 432 42 94 Bart De Caesemaeker: bart.decaesemaeker@vlaio.be , +32 2 432 42 49
Belgium-Wallonia	Service Public de Wallonie (SPW)	DGO4-Department of sustainable energy and buildings Laurence Polain: laurence.polain@spw-wallonie.be , +32 81 486342
Cyprus	Research Promotion Foundation (RPF)	Pavlos Leptos: pleptos@research.org.cy , +357 22205026
France	Agence de l'environnement et de la maîtrise de l'énergie (ADEME)	Tristan Carrere, Ingénieur Photovoltaïque, tristan.carrere@ademe.fr , +33 (0)1 47 65 23 51



France	Agence Nationale de la recherche (ANR)	Aurélien Gaufrès: Aurelien.gaufres@agencerecherche.fr, +33 1 73 54 82 29 Pascal Bain: Pascal.Bain@agencerecherche.fr, +33 1 78 09 80 43
Germany	Projektträger Jülich (PtJ)	Geschäftsbereich Energiesystem: Erneuerbare Energien/Kraftwerkstechnik, Fachbereich Photovoltaik (ESE 1) Renate Horbelt: r.horbelt@fz-juelich.de, +49 2461 61 9874 Kambulakwao Chakanga: k.chakanga@fz-juelich.de, +49 2461 61 9871
Germany-NRW	Projektträger ETN	Fachbereich Energie Dr. Melanie Schulte: me.schulte@fz-juelich.de, +49 2461 690 504 Dr. Joachim Kutscher: jo.kutsche@fz-juelich.de, +49 2461 690 604
Greece	General Secretariat for Research and Technology (GSRT)	Paraskevi Afentaki International S&T Cooperation Directorate Bilateral and Multilateral Cooperation Section +302107458112
Israel	Ministry of Energy	Gideon Friedmann, Head of R&D Division - Office of the Chief Scientist, +972-2-5316020 (Office), +972-2-5316017 (Fax), +972-58-5337565 (Mobile), gideonf@energy.gov.il
Italy	Ministry for Education, University and Research (MIUR)	Ing. Aldo Covello tel. +39 06 9772 6465 e-mail: aldo.covello@miur.it Dott. Andrea Previti - tel: (+39) 06 5849 7146 e-mail: andrea.previti@est.miur.it
Netherlands	RVO	Otto Bernsen, otto.bernsen@rvo.nl Wijnand van Hooff, wijnand@tki-urbanenergy.nl
Spain-CDTI	Centre for the Development of Industrial Technology (CDTI)	Gabriel Barthelemy: gabriel.barthelemy@cdti.es, +34 91 581 0707

3.2. CREATION OF VISUAL IDENTITY AND MATERIALS

The visual identity of Next-CSP includes a logo (see below), as well as the website, brochures and other dissemination materials to be created all along the project depending on the dissemination and communication needs. A standard Powerpoint template to be used for official presentations as well as a Word template will be created (mainly for deliverables). These templates will be sent to partners for EU and local project communication.



3.2.1. Logo

The logo will be used for all communication materials. The background filligrane in grey can be put in white if needed depending on the background of the materials.

Figure 4 – Next-CSP logos



3.2.2. Website

The website (www.next-csp.eu) enhances the visibility of the project as it serves as the main communication tool for the wide dissemination of the project deliverables and outcomes. This portal provides content to the scientific communities, policy makers, professionals, academic and researchers, market actors and general public. The website includes information on the project scope, objectives and activities, partners and information on the dissemination activities (events and other communication materials), links to other CSP projects and news.

The website will be frequently updated and the content will be expanded constantly during the project lifetime. The website includes the following features:

- Home
- About us
 - Objectives
 - Workplan
 - Partners
- Documents
 - Reports
 - Scientific productions
- Dissemination
 - Events
 - Newsletters



- Communication material
- News
- Contact
- Intranet

Figure 5 –Next-CSP website home page



3.2.3. The flyers and brochure

The flyers have been produced in February 2018. This contains straight to the point information under the form of an infographic.

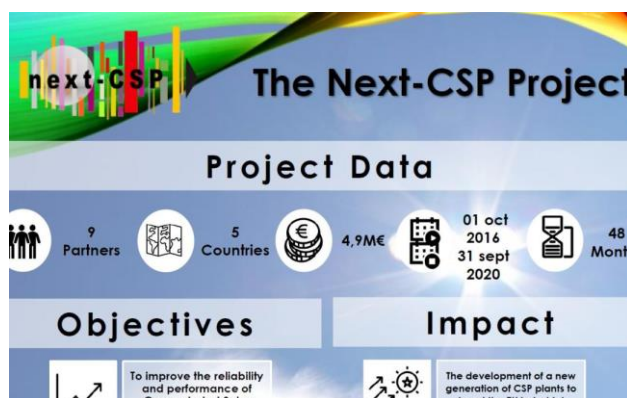


Figure 6 – Next-CSP project flyer

This has been distributed to the workshop in Edimbourgh and to the partners in June 2018. The flyer has also been distributed to the ESOF conference and the SolarPACES conference.

The main objective of the first project brochure is to provide the audience with an attractive and clear overview of the project, and a summary of the main project objectives and impacts. This brochure will be designed to reach not only experts, but also interested non-specialists.

A second version of the brochure will be implemented at the end of the project. This version will focus on the Next-CSP results and potential exploitation opportunities.

3.2.4. The poster

A poster has been produced for conferences purposes. This will be used for general presentations at conferences when a poster can be featured.

Figure 7 – Conferences poster



3.2.5. Templates

One template for the deliverables has been produced and one other one has been produced for the powerpoint to be used by the partners for all presentations on Next-CSP.





Figure 8 – Next-CSP ppt deliverable



3.2.6. Project factsheet

To get a more detailed overview of the project activities, a project factsheet has been created under the invitation of the EC and can be used for dissemination purposes. This is part of the dissemination material package that the partners can use to disseminate information on the project.

Figure 9 – Project Factsheet

 <div>FINAL PROJECT FACT SHEET EUROPEAN UNION CO-FUNDED PROJECT</div> 	
<p>under the funding PROGRAM</p> <p>Horizon 2020</p> <p><u>SOLAR ENERGY</u></p>	
<p>Project acronym:</p> <p>next-CSP</p> <p>High Temperature concentrated solar thermal power plant with particle receiver and direct thermal storage</p>	
<p>Author:</p> <p><u>Gilles Flamant</u></p> <p>done in Font Romeu on:</p> <p>Friday, November 25, 2016</p>	
<p>Grant agreement reference: ENER/H2020/727762/"next-CSP "</p> <p>Project duration: 01.10.2016 ÷ 30.09.2020</p> <p>Project total cost: 4.947.420,73€</p> <p>EU contribution: 4.947.420,73€</p> <p>Coordinating entity: CNRS</p> <p>CNRS DR13, 1919, route de Mende 34293 Montpellier Cedex 5, France</p> <p>Coordinator: Gilles FLAMANT</p> <p>Tel.: 33-607818809 email: gilles.flamant@promes.cnrs.fr</p> <p>Project web site: http://www.next-csp.eu</p>	



3.3. PUBLICATIONS AND MEDIA APPEARANCE

3.3.1. Journal publications (next-csp acknowledging)

- .F. Rovenese, M.A. Reyes-Belmonte, J. González-Aguilar, M. Amelio, S. Bova, M. Romero, “Flexible electricity dispatch for CSP plant using un-fired closed air Brayton cycle with particles based thermal energy storage system”, *Energy* (2019) - doi.org/10.1016/j.energy.2019.02.135
- .M.A. Reyes-Belmonte, A. Sebastián, J. Spelling, M. Romero, J. González-Aguilar, “Annual performance of subcritical Rankine cycle coupled to an innovative particle receiver solar power plant”, *Renewable Energy* (2019) – doi:10.1016/j.renene.2018.06.109
- Huili Zhang, Weibin Kong, Tianwei Tan, Flamant Gilles & Jan Baeyens, “Experiments support an improved model for particle transport in fluidized beds”, DOI:10.1038/s41598-017-10597-3 – August 2017
- These 3 publications below are acknowledging the Next-CSP project but are not in open access :
 - Qian Kang, Raf Dewil, Jan Degreè, Jan Baeyens, Huili Zhang, **Energy analysis of a particle suspension solar combined cycle power plant**, ELSEVIER, *Energy Conversion and Management*, Volume 163, 1 May 2018, Pages 292-303
 - Weibin Kong, Tianwei Tan, Jan Baeyens, Gilles Flamant, and Huili Zhang, Bubbling and Slugging of Geldart Group A Powders in Small Diameter Columns, *ACS Publications, Ind. Eng. Chem. Res.*, 2017, 56 (14), pp 4136–4144
 - Kang Q, Flamant G, Dewil R, Baeyens J, Deng YM, Particles in a circulation loop for solar energy capture and storage. Accepted January 2018 for publication in *Particuology*
- One paper is under review in the journal “Solar Energy “
 - Journal: *Solar Energy* - Title: Thermal analysis of fluidized particle flows in a finned tube solar receiver - Authors: Alex Le Gal; Benjamin Grange; Michael Tessonnaud; Antoine Perez; Christophe Escape; Jean-Louis Sans; Gilles Flamant



3.3.2. Conference proceedings (next-csp acknowledging)

- .F. Rovense, M.A. Reyes-Belmonte, J. González-Aguilar, M. Amelio, S. Bova, M. Romero, “Application of un-fired closed Brayton cycle with mass flow regulation and particles based thermal energy storage systems for CSP”, Proceedings of the SolarPACES 2018, October 2-5, 2018, Casablanca, Morocco.
- .M.A. Reyes-Belmonte, E. Diaz, J. González-Aguilar, M. Romero, “Particles-based Thermal Energy Storage Systems for Concentrated Solar Power Applications”, Proceedings of the SolarPACES 2017, September 26-29, 2017, Santiago de Chile, Chile, AIP Conference Proceedings 2033(1):210013, doi:10.1063/1.5067215
- .M.A. Reyes-Belmonte, F. J. Pino, M. Romero; C. Suárez, J. González-Aguilar, J. Guerra, “Optimization of an Integrated Solar Combined Cycle”, Proceedings of the SolarPACES 2017, September 26-29, 2017, Santiago de Chile, Chile, AIP Conference Proceedings 2033(1):210012,doi: 10.1063/1.5067214
- Jack Hoeniges, Inma Perez-Lopez, Hadrien Benoit, Daniel Gautier, Gilles Flamant, “Fluidized particle in tube solar receiver and reactor: A versatile concept for particulate calcination and high-efficiency thermodynamic cycles”, Proceedings of SolarPACES 2017, September 26-29 2017, Santiago de Chile, AIP Conference Proceedings 2033, 040017 (2018); DOI: 10.1063/1.5067053

3.3.3. Events/conferences featuring Next-CSP (not leading yet to proceedings)

- Congres JNES & Conférences Internationales DERBI – Perpignan - 13 – 15 juin 2017
 - The Next-CSP project – Oral presentation, Gilles Flamant
- STAGE-STE One week course on CSP technologies, 20 October 2017, Seville, Spain, “H2020 CSP projects”, Oral presentation, Marie Prouteau Euronovia
- One week course on CSP systems – Université Mohammed V – Morocco - 18 – 22 december 2017
 - Les centrales solaires à concentration – Oral presentation, Gilles Flamant
- World Congress on Particle Technology, 2018, Orlando, US, Bubbling and Slugging of Particles in Small Diameter Columns: Experiments and 3D Numerical Simulations, Oral presentation, Florian Sabatier and Renaud Ansart INPT:

https://www.aiche.org/sites/default/files/docs/conferences/wcpt8_program_book.pdf



- SolarPACES conference - October 2018 – Casablanca
 - Aiming Strategy on the Next-CSP Receiver: Coupling of TABU Search, Ray-Tracing Software Solstice and Thermal Model - Benjamin Grange, Cyril Caliot, Gilles Flamant - CNRS
 - Optimization of a Decoupled Combined Cycle Gas Turbine Integrated in a Particle Receiver Solar Power Plant - Benoît Valentin, Frédéric Siros, Jean-Florian Brau – EDF
 - The Fluidized Bed Air Heat Exchanger in a Hybrid Brayton-Cycle Solar Power Plant - Huili Zhang, Jan Baeyens, Florian Sabatier, Renaud Ansart, Weibin Kong – EPPT INPT
- Workshop on solar thermochemical conversion, 18-19 october 2018, Department of Chemical and Environmental Engineering of the University of Seville, “Fluidized particles in tubes, an option for innovative solar receivers and reactors, Oral presentation, Gilles Flamant
- F. Sabatier, R. Ansart, H. Zhang, W. Kong, J. Baeyens, G. Flamant. Experimentations and simulations in a 4m height heated UFBF Solar Receiver. Fluidization XVI Congress. Guilin, China. 2019.

3.3.4. Media appearance

- Study on impacts of EU actions supporting the development of renewable energy technologies : http://solarheateurope.eu/wp-content/uploads/2018/09/D2.2_Technology_sector_report_Solar_thermal_Draft_for_conference_attendees.pdf
- IEA Working group report - Particle Technology Working Group (PTWG) for Global Collaboration on High-Temperature Solar-Thermal Particle Research : https://www.solarpaces.org/wp-content/uploads/SP2018_PTWG_32017_v4.pdf
- Book - Principles of Solar Gas Turbines for Electricity Generation : <https://books.google.fr/books?id=RY5aDwAAQBAJ&pg=PA203&lpg=PA203&dq=%22next-csp%22+solarpaces&source=bl&ots=izMJXxqc33&sig=ACfU3U0hXRnkBd91OqiG9k5jAs06fGs5TA&hl=fr&sa=X&ved=2ahUKewjatLqFpK7iAhVGTBoKHf5SDcoQ6AEwB3oECAkQAQ#v=onepage&q=%22next-csp%22%20solarpaces&f=false>
- Wikipedia : https://fr.wikipedia.org/wiki/Centrale_solaire_thermodynamique
- Doctoral thesis : http://e-spacio.uned.es/fez/eserv/tesisuned:ED-Pg-TecInd-Rbarbero/BARBERO_FRESNO_Ruben_Tesis.pdf
- US Course class : https://www.wecanfigurethisout.org/ENERGY/Web_notes/Solar/Solar%20Th



[ermal%20-%20Heat%20Storage.pdf](#)

- Ecole Centrale France – Next-CSP presentation - <https://www.centrale-energie.fr/spip/spip.php?article247>
- "Renewable Energy Projects Catalogue - A guide to successful and innovative projects" - <http://www.eurec.be/en/Policy-Publications/Publications/Renewable-Energy-Projects-Catalogue-2017/>
- “NEXT-CSP pilot solar loop will be ready soon”, Article section of the Chinese Solar Thermal Alliance: <http://en.cnste.org/html/events/2019/0528/441.html>

3.3.5. Social Media

- A LinkedIn group has been created (by Euronovia) to foster the presence on social networks. 88 members are now present in the group, whose aim is to widespread on the social network the information about the project. The aim is to reach more than 150 members by the end of the project, which would be a success in terms of impact seeing the importance of LinkedIn in terms of visibility for research and innovation projects: <https://www.linkedin.com/groups/8596449>.

Next-CSP is also contributing to the H2020 CSP groups (managed by another project) and which gathers 91 members : <https://www.linkedin.com/groups/13519618>

- In addition to the LinkedIn group, a twitter account has been recently created to disseminate about H2020 CSP projects among which Next-CSP: <https://twitter.com/H2020CSP>.
 - It has more than 100 followers.
- The same has been done on Instagram as a repository of H2020 CSP projects among which next-csp will be also featured: <https://www.instagram.com/h2020csp/>

Euronovia is managing each of the account (except the one on the joint LinkedIn group) but all partners are asked to provide inputs in order to fill in the different social networks with up-to-date information.

- Youtube - Creation of online videos to present the CSP concepts – Youtube playlist : <http://ow.ly/3VCv30k90vW>
 - Themis solar field simulation and interaction with the solar receivers: https://www.youtube.com/watch?v=OjGTAJAubMo&index=4&t=0s&list=PLBNLB4htebTs_EYp_DOhSzI5XOc7tM-ft
 - Next-CSP concept – Animated video:



https://www.youtube.com/watch?v=7RIXOInd6jk&index=1&list=PLBNLB4htebTs_EYp_DOhSzI5XOc7tM-ft

- HelioStat optical optimization:
<https://www.youtube.com/watch?v=bjsKlb9PET4&feature=youtu.be>
- Number of views for the videos : < 100 poor ; 100 – 200 = average ; 200 – 500 = good ; > 500 = very good
 - ◆ SO far, the three videos have been seen 136 times, 236 and 38 times

3.4. EVENTS organized

- Dispatchable Renewable Energies: From A Myth To Reality – 6th of June 2018 – Edimbourgh – Next-CSP workshop organised by Euronovia and Whittaker with participation of the University of Edimbourgh. <http://next-csp.eu/event/next-csp-workshop-disptachable-renewable-energies-from-a-myth-to-reality/>

Figure 10 - Programme of the training workshop:

Dispatchable Renewable Energies: From a Myth to Reality

-  Seminar date: Wednesday 6 June 2018
-  Location: Hilton Carlton Hotel, North Bridge, Edinburgh, UK
-  Registration: <https://goo.gl/forms/37Wg4wc9HrfsQINO2> Deadline: 28 May 2018
-  Organisers: The University of Edinburgh and the Next-CSP project

**NO
Registration
FEE**

Seminar Programme

- o 09:00 – 09:30 Registration of participants

Morning session – Chaired by Nicola Henderson and Jan Baeyens

09:30 - 09:40 Introduction by Jan Baeyens, European Powder and Process Technology, Belgium

09:40 - 10:00 Opening of the seminar by Garreth Harrison, Director of R&D of the University of Edinburgh, UK

10:00 - 10:30 New services and measurands for converter-dominated power systems, Andrew Roscoe, University of Strathclyde, UK

 10:30 – 10:45 Coffee break

10:45 - 11:15 Effect of CO₂ phase on CO₂ storage at pore level¹, Xianfeng Fan, University of Edinburgh, UK

11:15 - 11:45 From biomass to biofuel and bio-chemicals, Use Appels, Raf Dewil, University of Leuven, Belgium

11:45 - 12:15 From excess energy to heat storage and power generation, Frederic Pitie, Whittaker Engineering, UK

 12:15 – 13:15 Buffet lunch

Afternoon session – Chaired by Marie Prouteau and Jan Baeyens

13:15 - 13:25 Introduction by Jan Baeyens, European Powder and Process Technology, Belgium

13:25 - 13:55 Concentrated solar power (CSP): the general context and the particle option, Gilles Ramant, Innra Perez, CNRS, France

13:55 - 14:25 Options for high efficiency thermodynamic cycles associated with the particle-in-tube Next-CSP concept, Miguel A. Reyes, IMDEA, Spain

14:25 - 14:55 The Neptune software solids-gas modeling, and its applications to the particle-in-tube Next-CSP solar receiver², Renaud Ansart, LGC-University of Toulouse, France

 14:55 – 15:10 Coffee break

15:10 - 15:40 Materials' selection for high temperature solar receivers and storage applications, Ken Whittaker, Whittaker Engineering, UK

15:40 - 16:10 Economic forecasts of the future CSP plants: case study of the Next-CSP process, by Frédéric Siros, EDF, France

16:10 - 16:30 Summary and concluding remarks, Jan Baeyens

17:00 End of seminar



next-CSP



**THE UNIVERSITY
of EDINBURGH**



**THE NEXT-CSP PROJECT HAS RECEIVED FUNDING FROM THE EUROPEAN UNION'S
HORIZON 2020 RESEARCH AND INNOVATION PROGRAMME UNDER GRANT
AGREEMENT NO 727762.**



- ESOE – EuroScience Open Forum – 9 – 14 July 2018 – Toulouse, France, Exhibition organised by Euronovia
- The ESOE conference is a popularization event for science. Scientists, researchers, young researchers, business people, entrepreneurs and innovators, policy makers, science and technology communicators and the general public from all over Europe discuss new discoveries and debate the direction that research is taking in the sciences, humanities and social sciences.
- Next-CSP was part of a joint booth with other CSP projects managed by Euronovia and coordinated by CNRS – Next-CSP, SOLPART and POLYPHEM) and exhibited its objectives and impacts during 5 days to a whole bunch of none specialists.



- SolarPACES 2018 – 2 – 5 october 2018 – Casablanca Morocco – Exhibition organised by Euronovia
 - The SolarPACES conference, initiated in 1980, is the foremost symposium for the who's who in concentrating solar power and chemical energy systems, offering a forum for research, industry, politics and financing stakeholders within the framework of a scientific conference program with leading world experts.
 - Euronovia organised a joint booth with other H2020 CSP projects managed by Euronovia (Next-CSP – ORC-PLUS and SOLPART). During 4 days, the project was presented at more than 500 participants.

Figure 11 – SolarPACES 2018 – Joint booth



3.4.1. Events planned

New events will be organized to push forward the dissemination actions and target relevant stakeholders for exploitation.

- One side event technical workshop will take place during the next SolarPACES conference in October 2019
- One business event will be organized with EDF in 2020
- One open infoday for the public at large will be organized as the final conference of the project by the coordinator of the project and Euronovia – M48 – Location to be defined. Targeted groups: Public at large and policy makers
- One joint exhibition at the next Smart Energy Summir in Paris, 17-18 june 2019
- One joint exhibition at the Solar World Congress in Santiago du Chili, November 2018 organised by ISES. Chili being a very relevant stakeholder for CSP and the project technology, our presence is confirmed.



- One exhibition at SolarPACES 2019 in South Korea Seoul in October 2019. Next-CSP will exhibit with other CSP H2020 projects
- One joint booth at PowerGen Paris November 2019 – 12-14 November 2019 – Exhibition plus speaking slot at the EU H2020 Hub
- One exhibition at CSP plaza in China, July 2020, the Asian market being very relevant for NEXT-CSP, this conference being the biggest one in Asia and gathers more than 800 participants

Other planned events will be organised during the first semester of 2020 before the end of the project in September 2020.

3.5. Next actions before the end of the project

- Creation of a motion design animation – already started
- Articles in specialized magazines/webzines – not yet started
- Social media: Animation of LinkedIn and other social networks with other CSP projects - ongoing
- Website: Update of the Website with the last news provided - ongoing
- Events: Next Next-CSP workshop/seminar (one side event, one workshop, one infoday plus organisation of numerous exhibitions) – ongoing
- Participation to popularisation events
- Creation of real video – not yet started
- Interviews of each partner related to the advanced in the project – started
- Press kit (English / French / Spanish) - started
- Timeline infography plus one final brochure – started
- Mass email dissemination
- Scientific publications and presentation at conferences

Below is the updated retro-planning for the next actions to come as part of the Next-CSP projects.



Table 9 : Updated detailed retro-planning of the next actions

Next-CSP Communication & dissemination activities

Project : Next-CSP

Starting date : May 2019

End date : September 2020



Tasks	Leader	May 2019	June 2019	July 2019	August 2019	September 2019	October 2019	November 2019	December 2019	January 2020	February 2020	March 2020	April 2020	May 2020	June 2020	July 2020	August 2020	September 2020
		1 > 15 15 > 31	1 > 15 15 > 31	1 > 15 15 > 31	1 > 15 15 > 31	1 > 15 15 > 31	1 > 15 15 > 31	1 > 15 15 > 31	1 > 15 15 > 31	1 > 15 15 > 31	1 > 15 15 > 31	1 > 15 15 > 31	1 > 15 15 > 31	1 > 15 15 > 31	1 > 15 15 > 31	1 > 15 15 > 31	1 > 15 15 > 31	1 > 15 15 > 31
Events (Organization and exhibition)	Euronovia																	
Smart Energy Summit - Paris (exhibition plus speaking slot)	Accepted																	
SolarPACES - Seoul (exhibition and organization of side event)	Accepted																	
Solar World Congress - Santiago (exhibition)	Accepted																	
POWERGEN - Paris (exhibition plus speaking slot at the EU Hub)	Accepted																	
Industry Workshop (organization) - Paris EDF	To be confirmed																	
Open Info day (organization) - location to be confirmed soon	Accepted																	
CSP Plaza	To be confirmed																	
Participation to popularization events (ESOF/EUSEW/researchers nights and other national event)	to be confirmed																	
Communication	Euronovia																	
News (in social media and the website)	Ongoing																	
Motion design video plus one real video	Started																	
Press kit in French / English / Spanish	Started																	
Articles in specialized magazines	To be done																	
Podcast / partner interviews (publish one interview per month)	Ongoing																	
Timeligne graphic design and final brochure	Ongoing																	
Dissemination	Euronovia																	
Dissemination and mass email campaign	To be done																	
Scientific publications	Ongoing																	
Impact factsheet	To be done																	



4. WP9 DELIVERABLES

■ D9.1 Plan for exploitation and dissemination of the project results (M3)

Document which summarises the beneficiaries' strategy and concrete actions related to the protection, dissemination and exploitation of the project results.

■ D9.2 Mid-term report on dissemination and communication activities (M24)

Reports on the actions implemented so far

■ D9.3 Final report on the project exploitation initiatives and related impacts on innovation (M46)

Report on the concrete actions related to the protection and exploitation of the project results undertaken during the project duration toward the objectives (PEDR).

■ D9.4 Final report on the dissemination and communication activities (M48)

Report to present all final impact of the dissemination and communication actions.

5. CONCLUSIONS

The hereby deliverable aims at describing the actions proposed by Next-CSP to communicate on its activities, and disseminate project results. This document will remain a live document and will be used to report to the partners in terms of the achievement of the WP9. An internal revised version of this document will be prepared after the end of the second reporting period. And this will be followed-up by the official final deliverable on dissemination D9.4.

According to the KPIs presented, the project has reached the “average” and “good” category in some actions but also managed to reach “very good” in others.

The potential for progress is wide since as mentionned already in this document, the first 2 years are more related to raise awareness while for the last periodic report, with the results and the construction of the solar loop, including its testing, the dissemination will raise the next level and should enable to reach the expected targets in the KPIs. A minimum of “good” should be reached in all categories.



List of abbreviations

CA	Consortium Agreement
EC	European Commission
EU	European Union
IP	Intellectual Property
KPI	Key Performance Indicator
PEDR	Plan for the exploitation and dissemination of the results
PPT	Powerpoint
SME	Small and Medium Enterprise
WP	Work packages



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