

# SUNER-C

## Deliverable 8.1: Risk Management Report

## Table 1

Project Summary	
<b>Project Number</b>	101058481
<b>Project Acronym</b>	SUNER-C
<b>Project Name</b>	SUNER-C: SUNERGY Community and eco-system for accelerating the development of solar fuels and chemicals
<b>Starting date</b>	01/06/2021
<b>Duration in months</b>	36
<b>Call identifier (part)</b>	HORIZON-CL4-2021-RESILIENCE-01
<b>Topic</b>	HORIZON-CL4-2021-RESILIENCE-01-16
<b>Type of action</b>	HORIZON-CSA (Coordination and Support Actions)
<b>Service</b>	HADEA/B/03

## Disclaimer



No part of this document may be reproduced and/or published by print, photoprint, microfilm, or any other means without the previous written consent of the SUNER-C consortium. The content of this deliverable does not reflect the official opinion of the European Union. Responsibility for the information and views expressed herein lies entirely with the author(s).

## Table 2

Management Information	
<b>Final version</b>	29 November 2022
<b>WP</b>	8 – Project management and coordination
<b>Lead and co-lead beneficiaries</b>	UNIVERSITEIT UTRECHT (1-UU) & COMMISSARIAT A L'ENERGIE ATOMIQUE ET AUX ENERGIES ALTERNATIVES (2-CEA)
<b>Dissemination Level</b>	Public
<b>Authors</b>	Frédéric CHANDEZON (CEA), Nathalie HERLIN (CEA & Nathan COUTARD (UU)
<b>Deliverable Number</b>	D8.1
<b>Deliverable Name</b>	Risk Management Report
<b>Reviewers</b>	Project Coordination Team (UU, CEA, CVE & ICIQ) & SUNER-C Quality and Impact Assurance (Q&IA) Board
<b>Abstract</b>	This risk management report addresses the critical risks for the correct implementation of the SUNER-C project and the related corrective actions. This document will be updated at months M18 and M36.

**Table 3**

Document History			
Version	Date	Responsible	Action
Draft 1	28 Oct. 2022	F. Chandezon & N. Herlin (CEA)	Internal review of draft version 1 finalised
Draft 2	8 Nov. 2022	F. Chandezon & N. Herlin (CEA), N. Coutard (UU)	Internal review of draft version 2 finalised
Draft 3	11 Nov. 2022	M. Ventosa & L. Lopez (ICIQ)	Internal review of draft version 3 finalised
Draft 4	16 Nov. 2022	F. Chandezon & N. Herlin (CEA)	Internal review of draft version 4 finalised
Draft 5	25 Nov. 2022	SUNER-C Q&IA board	Internal review by the Q&I board of the draft version 4
Final version	29 Nov. 2022	F. Chandezon (CEA) & N. Coutard (UU)	Implement final feedback and submit the deliverable

**Table 4**

Consortium Information	
<b>Coordinator:</b>	1. UNIVERSITEIT UTRECHT (UU)
<b>Beneficiaries:</b>	2. COMMISSARIAT A L'ENERGIE ATOMIQUE ET AUX ENERGIES ALTERNATIVES (CEA) 3. EUROPEAN RESEARCH INSTITUTE OF CATALYSIS A.I.S.B.L. (ERIC) 4. UNIVERSITEIT GENT (GU) 5. UNIVERSITEIT LEIDEN (LU) 6. UNIWERSYTET WARSZAWSKI (UW) 7. FUNDACIO PRIVADA INSTITUT CATALA D'INVESTIGACIO QUIMICA (ICIQ) 8. SIEMENS ENERGY GLOBAL GMBH & CO. KG (SE) 9. DECHEMA GESELLSCHAFT FUR CHEMISCHE TECHNIK UND BIOTECHNOLOGIE (DECH) 10. FRAUNHOFER GESELLSCHAFT ZUR FORDERUNG DER ANGEWANDTEN FORSCHUNG EV (Fraunhofer) 11. CARBYON BV (CAR) 12. TURUN YLIOPISTO (UTU) 13. USTAV FYZIKALNI CHEMIE J. HEYROVSKEHO AV CR, v. v. i. (HIPC) 14. UPPSALA UNIVERSITET (UppU) 15. COVESTRO DEUTSCHLAND AG (COV) 16. CO2 VALUE EUROPE AISBL (CVE) 17. FUNDACION IMDEA ENERGIA (IME) 18. ALMA DIGIT SRL (AD) 19. INTERUNIVERSITAIR MICRO-ELECTRONICA CENTRUM (IMEC) 20. AVANTIUM CHEMICALS BV (AVT) 21. NEXTCHEM S.P.A. (NEXT) 22. ALLIANCE EUROPEENNE DE RECHERCHE DANS LE DOMAINE DE L'ENERGIE (EERA) 23. SYNERGEIES STIN EPISTIMI KAI TECHNOLOGIA-SYNEST IDIOTIKI KEFALAIOUCHIKI ETAIREIA (SYN) 24. UNIVERSITATEA DIN BUCURESTI (UB) 25. ARCELORMITTAL BELGIUM NV (AM) 26. VICAT (VIC) 27. BELGISCH LABORATORIUM VAN ELEKTRICITEITSINDUSTRIE (ENGIE-LAB) 28. ENGIE (ENGIE) – <b>Affiliate Entity</b> 29. RHODIA OPERATIONS (SOLVAY) 30. BOND BETER LEEFMILIEU VLAANDEREN (BBL) 31. TOTALENERGIES ONE TECH BELGIUM (TEOTB) -- <b>Associated Partner</b>

# Executive summary

This document, D8.1 Risk Management Report, is a deliverable of the SUNER-C project, which is funded by the European Union's Horizon Europe under Grant Agreement No 101058481. The document outlines the list of critical risks that could be faced during the course of the project, their level of likelihood and their potential impact to the project. This document also details the list of corrective actions that will be implemented in case identified risks materialise and actually impact the project.

The Risk Management Report is based on a revision and updating of the critical risks for implementation that were identified in the project proposal plan and Specific Grant Agreement and taking into account the experience based on the first 6 months of the SUNER-C project. It distinguishes the risks intrinsic to the project and its consortium, from external risks, *i.e.* those related to external factors onto which the project has no influence.

This document will be updated at Month 18 of the project when additional key information becomes available and at the end of the project (Month 36). At M18, any potential risks that would have materialized during the first 18 months of the project will furthermore be described, together with the implemented mitigation measures and their consequences. At M36, the Risk Management Report will furthermore focus on the risks related to a tentative large-scale research and innovation initiative to be launched at the end of the SUNER-C CSA.

# Table of Contents

---

Disclaimer.....	2
<b>Executive summary.....</b>	<b>6</b>
<b>List of abbreviations .....</b>	<b>8</b>
1 Introduction .....	9
<b>1.1. SUNER-C in short .....</b>	<b>9</b>
<b>1.2. Purpose of the deliverable .....</b>	<b>11</b>
2 Risk Management Report of the SUNER-C CSA.....	12
3 Conclusion.....	17

# List of abbreviations

List of abbreviations	
<b>AISBL</b>	Association Internationale Sans But Lucratif (in english, international association without lucrative purpose)
<b>CSA</b>	Coordination and Support Actions
<b>C&amp;D</b>	Communication and Dissemination
<b>D</b>	Deliverable
<b>EC</b>	European Commission
<b>HE</b>	Horizon Europe
<b>KPIs</b>	Key Performance Indicators
<b>LSRI</b>	Large-Scale Research and Innovation Initiative
<b>LoS</b>	Letter of Support
<b>MS</b>	Member State
<b>RMP</b>	Risk Management Report
<b>RTOS</b>	Research and Technology Organisations
<b>R&amp;D</b>	Research and Development
<b>R&amp;I</b>	Research and Innovation
<b>SMEs</b>	Small and Medium-Sized Enterprises
<b>SRIA</b>	Strategic Research and Innovation Agenda
<b>WP</b>	Work Package





# 1 | Introduction

## 1.1. SUNER-C in short

SUNER-C is a project that has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No 101058481. The project has officially started on 1 June 2022 and will last 36 months. Under the umbrella of the SUNERGY pan-European initiative, the newly funded SUNER-C programme entitled "SUNERGY Community and eco-system for accelerating the development of solar fuels and chemicals" will strengthen the solar fuels and chemicals community within Europe. The European Union has awarded 4 M€ to this project.

The SUNER-C consortium is a unique and balanced partnership of 31 organisations (including one affiliate and one associate partner), bringing together a large diversity of partners, expertise, fields, and representatives of all the EU regions. The consortium consists of 13 academic partners (UU, CEA, GU, LU, UW, ICIQ, Fraunhofer, UTU, HIPC, UppU, IME, IMEC, UB), 13 industrial companies (SE, CAR, COV, AD, AVT, NEXT, SYN, AM, TEOTB, VIC, ENGIE-Lab, ENGIE, SOLVAY), 4 network organizations and federations (ERIC, DECH, CVE, EERA), and 1 Non-Governmental Organization (BBL).

The overarching objective of the SUNER-C project is to create an inclusive innovation community and eco-system that builds on the current SUNERGY network and includes new stakeholders across Europe. Bringing together fundamental and applied knowledge from various sectors of society as well as often unique resources, the enhanced community will prepare a Large-Scale Research and Innovation initiative (LSRI) beyond the CSA, as a partnership or another instrument to be discussed and agreed upon with the Commission and the Member States and Associated Countries. The goal is to overcome scientific, technological, organizational, and socio-economic challenges, accelerate innovation in solar fuels and chemicals, and enable the transition of existing and future technologies from laboratory and demonstrator levels to large-scale industrial and broad societal applications.

The SUNER-C consortium will also work on the development of a strategic roadmap towards the broad implementation of solar fuels and chemicals, with supporting strategies for innovation and exploitation, and a firm focus on crosscutting and socio-technical aspects.

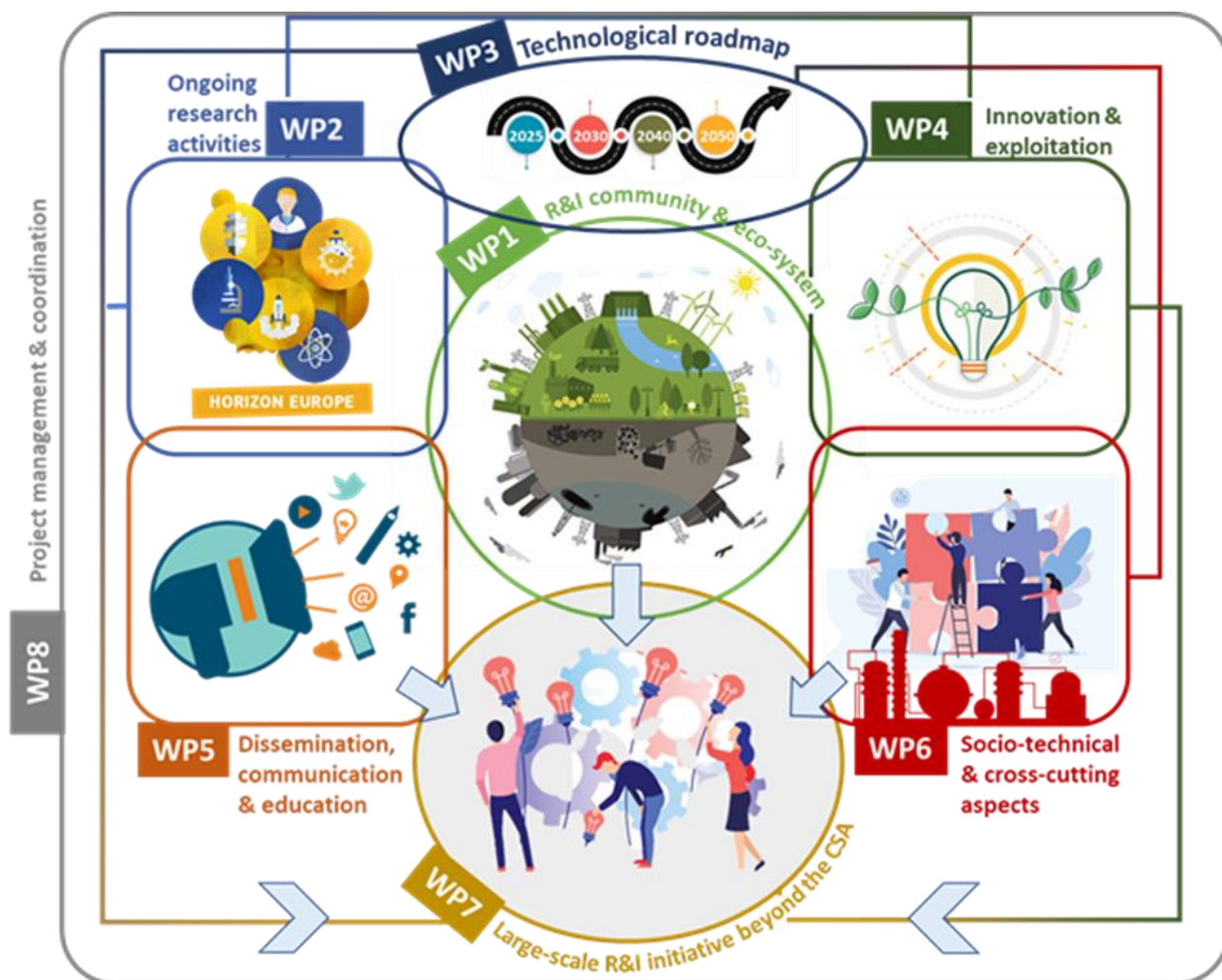
Through a holistic approach, SUNER-C will contribute to a circular economy by replacing fossil-derived fuels and chemicals with renewables and carbon recycling as a key element toward the EU net-zero emissions target by 2050. SUNER-C will build upon the work of SUNERGY, a pan-European



initiative on fossil-free fuels and chemicals from renewable power and solar energy, with currently over 300 supporting organizations across and beyond Europe to date.

In Figure 1 is represented an overview of the work package structure of SUNER-C with its eight WPs. The deliverable D8.1 “Risk Management Report” is a deliverable of WP8 “Project management and coordination”.

Please see here <https://sunergy-initiative.eu/suner-c/> for more information.



**Figure 1: SUNER-C CSA project and its eight work packages. The Risk Management Report (D8.1) is a deliverable of WP8 “Project management and coordination”**

## 1.2. Purpose of the deliverable

The document outlines the list of critical risks that could be faced during the course of the project, their level of likelihood and their potential impact. This document also details the list of preventive and corrective actions that will be implemented in case identified risks materialize.

The Risk Management Report is based on a revision and updating of the critical risks for implementation identified in the project proposal plan and Specific Grant Agreement. It takes into account the experience based on the first 6 months of the SUNER-C project and specifies whether the risks are intrinsic to the project or are more related to external factors. We expand here on the mitigation measures for the risks identified at the proposal preparation stage (the first seven risks in the table in Section 2 below). In addition, three additional risks (the three last ones in the list below) were identified since the writing of the proposal and thus mitigation measures are also given for those additional risks.

This document will be updated on the 18<sup>th</sup> month of the project when additional key information becomes available and at the end of the project (Month 36). At M18, potential risks that would have materialized during the first 18 months of the project will furthermore be described together with the implemented mitigation measures and their consequences. At M36, the Risk Management Report will furthermore focus on the risks related to a tentative large-scale research and innovation initiative to be launched at the end of the SUNER-C CSA.

## 2 Risk Management Report of the SUNER-C CSA

Description of risk	Level of (i)likelihood (ii) severity	Updated risk mitigation measures	WPs involved
1) Insufficient engagement of a partner leads to delays in providing deliverables and delays in the progress of the overall project	(i) Likelihood: Low (ii) Impact: Medium	SUNER-C project coordination and office will send reminders at least one month before the delivery date of each deliverable. If a partner misses the deadline, the project (co-)coordinator (PC) and the WP (co-)leaders will contact the partner in charge of the deliverable to jointly decide on corrective actions and will directly inform the EC program officer to explain the reasons for the delay. If corrective actions are not enough, take-over by other partners will be considered. Key project deliverables (related to the community and eco-system, the roadmap, the blueprint and the LSRI) will be under scrutiny by the PC, the project executive board and office to anticipate any delays and implement corrective measures. This risk is internal.	All WPs
2) Low quality deliverables	(i)Likelihood: Low (ii) Impact: Medium	The quality of the deliverables is ensured by an internal peer-reviewed system involving the PC, the WP (co-)leader and the Q&IA board (Task 8.3). The latter has been appointed at M4 and is ready to act, according to Task 8.3. Moreover, partners were selected for their high expertise and knowledge of the CSA's scope and objectives. In the unlikely case that a deliverable does not have the expected quality, the PC will not submit it and will ask the partner to revise it according to the Q&IA board recommendations. This risk is internal	All WPs
3) Insufficient involvement of the identified European/national community in the actions of CSA	(i) Likelihood: Medium (ii) Impact: Medium	Starting from the SUNERGY existing community of supporters, SUNER-C will develop a larger community (target at least 600 stakeholders as supporters) and an active eco-system. The objective is to achieve a large involvement in the project from the start, especially on tasks requiring a contribution from all the community, beyond the SUNER-C consortium partners (e.g. vision, roadmap, blueprint). It will thus organize a network of contacts in MS building at first on the consortium partners, for the MS represented in the consortium. For the other MS, SUNER-C will identify potential nodes in the SUNER-C's community of supporters or will build upon stakeholders involved in EU- or national-funded projects relevant to SUNER-C's scope and project portfolio to endorse them with this role of SUNER-C national node. Enlarging the community to new countries will also build upon stakeholder events at the national level (or alternatively for a group of EU-countries) to reach out to national communities and new supporters.	All WPs



		<p>Furthermore, to reach-out to the largest community, SUNER-C will publish online news and a newsletter with main achievements and benefits to the community. It will also communicate via opinion/perspective articles and white papers in top scientific journals. SUNER-C partners will also participate to key conferences (National, European and International) to raise awareness on SUNER-C' scope and achievements. The SUNER-C community will also be regularly consulted for contributing to key activities of the project (e.g., vision, roadmap, blueprint, LSRI beyond the CSA).</p> <p>This risk bears both internal and external aspects.</p>	
4) Insufficient engagement of industrial stakeholders	<p>(i) Likelihood: Medium</p> <p>(ii) Impact: High</p>	<p>The success of the project relies on a strong participation of the industrial stakeholders taken in a broad sense, <i>i.e.</i> meaning those belonging to the consortium, those which are SUNERGY/SUNER-C supporters (having provided a LoS), and those with activities falling in SUNER-C's scope and targeted value chains but which have not (yet) provided a LoS. A first objective is to increase the number of industrial stakeholders in the SUNERGY/SUNER-C community. In order to achieve this aim, the consortium will launch a pro-active campaign towards industrial stakeholders via communication campaigns, participation to national and European major events, by organizing dedicated events at the national level to reach stakeholders of a given MS and also dedicated events targeting industry (WP4, WP7). It will also build on established connections of SUNER-C consortium partners as well as on the SUNERGY/SUNER-C community. Finally, SUNER-C will also reach out to industrial partners contributing to EU or national proposals for which SUNER-C provided a letter of endorsement. SUNER-C will then build on this network to further engage industrial players in common activities organized during the CSA: brainstorming events during community building events planned in WP1 and WP3; building the roadmap and the blueprint for defining priority research directions and hurdles to be tackled early on.</p> <p>Furthermore, beyond the participation of industrial stakeholders to the SUNERGY/SUNER-C community, it is also essential to ensure that the project and its achievements take into account their needs and expectations in particular, on the mid- to long-term objectives with the LSRI. In order to ensure a strong and long-term commitment of industry to the CSA and beyond (LSRI), SUNER-C will thus negotiate with the industrial stakeholders together with the EC/MS an appropriate funding model for the implementation of its vision and of its technologies along all the TRL and value chains. Financial incentives and visionary investment strategies agreed by all parties is essential for efficient technology progress to be made.</p> <p>This risk bears both internal and external aspects.</p>	WP1, WP3, WP4, WP7

5) Community fatigue due to uncoordinated European activities	(i) Likelihood: Medium (ii) Impact: High	A key challenge is building a clear identity and vision for SUNER-C compared to other European LSRI and communities and emphasize how a SUNER-C dedicated LSRI will complement the European landscape of European LSRI as well as the synergies and benefits it could bring for Europe and its MS. In order to foster cooperation and complementarities with other LSRI of interest, SUNER-C will establish contacts with them to engage them to contribute to SUNER-C's activities in order to build complementarity and synergies. Whenever possible, SUNER-C will follow and adapt the calendar of its own events to avoid overlapping with other European LSRI events of interest. It will also favor the participation of representatives of SUNER-C to events of other LSRI of interest with communication material on the CSA (poster, slides of introduction on SUNER-C and its activities) to serve as a basis for discussion and cooperation. This risk bears both internal and external aspects.	All WPs
6) Low visibility and overlap of SUNER-C events with other events	(i) Likelihood: Medium (ii) Impact: Medium	All SUNER-C partners will be in charge of (i) promoting the events in their respective countries and networks including via national stakeholder events; (ii) identify key alternative events to allow setting the SUNER-C events agenda in order to avoid overlap with third party events of interest to SUNERGY/SUNER-C community. This risk is mainly external	WP5
7) Lack of perspective for SUNER-C: crowded landscape with no new LSRI launched in HE	(i) Likelihood: Medium (ii) Impact: High	The WP7 has a dedicated task to build scenarios and identify instruments for the future LSRI beyond the CSA (Task 7.1). In this task, a main scenario will be defined but alternative scenarios will also be elaborated in case a SUNER-C dedicated LSRI could not be implemented right after the CSA. This could be the participation to activities of other relevant LSRI or as an alternative to a LSRI the possibility of an AISBL with fees to continue beyond the CSA. Dedicated workshops will be organized in the frame of Task 7.1 to discuss and elaborate the main and alternative scenarios and contingency plans will be developed in this regard. This risk is mainly external.	WP7
8) Different perspectives in the understanding of SUNER-C, its vision and objectives	(i) Likelihood: Low (ii) Impact: Medium	The success of SUNER-C relies first on a good coordination and alignment between the partners and the different WPs of the CSA in order to avoid a silo approach between WPs advancing at their own pace with no or little communication. In order to ensure a strong cooperation between partners, a duo approach for the coordination of the project and its different WPs has been chosen. Indeed, 19 partners out of 31 (nearly 2/3) have a responsibility in the project and/or its governance when including WPs (co)-lead tasks. To ensure a good	All WPs

between the partners and WPs of the consortium		<p>communication and alignment between the different WPs, the executive board involves the CSA coordinator and co-coordinator and all WP (co-)leads. This executive board meets on a monthly basis with regular update on the advancement of WP and, whenever relevant, discussion on cross-WPs activities. All partners are involved in at least 5 WPs, another asset for connecting the different WPs. In addition, some tasks of general interest for the CSA involve all partners, including vision (Task 1.1) and roadmap building (3.3), discussion on tentative topics for future HE work programs (6.2) or stakeholder dialogue on implication for transition pathways (6.2). Consortium meetings with participation of all partners are organized every 6 months and include updates and discussions on all WPs. This allows keeping all partners aware of the advancement of the project and discuss future activities. Additionally, events and meetings specific to some WPs/Tasks will be organized during the CSA. In addition, the coordination team of SUNER-C will favor clustering of events or cross WPs events to further foster exchange between WPs and partners.</p> <p>The coordination team of the project will check during all the course of the project that the alignment and cooperation between WPs is efficient. In case it appears not sufficient for some WPs, the coordination will exchange with the (co-)leads of these WPs and related tasks to first achieve a better understanding of the situation and take the necessary measures for example by organizing dedicated discussions and activities across WPs.</p> <p>This risk is internal.</p>	
9) Withdrawal of a partner	<p>(i) Likelihood: Low</p> <p>(ii) Impact: Medium</p>	<p>The approach depends first, on the role of the partner (WP/task leader or not) and its involvement in the project (in terms of PM) and second, at which moment of the project the withdrawal occurs.</p> <p>Replacement of the withdrawing partner is to be favored for a highly involved partner having WP/task lead and high total allocated PM. For partners with a low involvement (no WP or task lead, low total PM allocated, below 6 PM), the role, tasks and budget of the withdrawing partner can be reallocated to remaining consortium partners with a distribution to be agreed with the whole consortium. When the withdrawal occurs at late stage (after month 12 of the project), the redistribution of task and budget will be preferred.</p> <p>This risk is internal although induced by possible external policy related the internal strategy of partners.</p>	All WPs
10) Failure to achieve part of the communication and	<p>(i) Likelihood: Medium</p> <p>(ii) Impact:</p>	<p>The SUNER-C proposal has ambitious targets for C&amp;D activities in particular in terms of scientific publications (&gt; 10), of number of subscribers for the SUNER-C newsletter and social media, and also in terms of high impact events and meetings (3 major events) and outreach activities (10) (see Table 5 in SUNER-C proposal).</p>	WP5 and WP1



dissemination (C & D) targets	Medium	<p>Regarding the target on publications, all papers would be made available in preprint form on appropriate open-access archives (e.g. arxiv.org). If papers are rejected, the possible actions will be : (i) Take into account the rejecting comments, to improve the paper and submit to alternative journals, (ii) Extend the paper scope/novelty and re-apply,</p> <p>Regarding events &amp; outreach activities and the number of subscribers to the SUNER-C newsletter and social media, the main risk lies in attracting the targeted number of attendees or subscribers. To overcome these risks, all partners will help in establishing the first contact with the audience of interest and WP5 will be in charge of keeping the contact and further attendance. Taking advantage of this line of contacts, WP5 will enhance the subscription to the newsletter and the social media accounts to mitigate the risk of not reaching the KPIs targeted. This risk bears both internal and external aspects.</p>	
-------------------------------	--------	--	--



# 3 | Conclusion

## The SUNER-C project

The overarching objective of the SUNER-C Coordination and Support Action is to create an inclusive innovation community and eco-system on solar fuels and chemicals as well as to prepare a European Large-Scale Research and Innovation initiative to be launched after the CSA. The project has ambitious objectives and has established a work plan to address all its aspects. The consortium gathers 31 partners representing the diversity of the solar fuels and chemicals community in Europe, all partners acting as nodes to reach out to more stakeholders in their country, networks and/or sectors.

All elements are present in SUNER-C in order to turn it into a full success. There are nevertheless risks inherent to the project that could impact (part of) it. In a CSA project as SUNER-C, a key aspect will be to involve a community much beyond the consortium. Therefore, risks can be of different nature. Some risks are internal to the project and consortium and solution will rely solely on the consortium to avoid them or mitigate their effects if they materialize. Other risks are due to external factors to the project, some risks hold both internal and external effects.

The present risk management report lists the identified risks and their nature, which WPs will be primarily impacted and proposes adapted mitigation measures. The present document will thus serve as a dynamic reference document for the project coordination and consortium throughout the duration of the project. It will be revised at Month 18, based on further experience acquired as the project comes about.. In this update, we will describe any risks that materialized so far, together with the implemented mitigation measures and their consequences.





Funded by  
The European Union,  
Grant Agreement No. 101058481

[www.sunergy-initiative.eu/suner-c](http://www.sunergy-initiative.eu/suner-c)