



# SET4H2

## Coordination and Support Action SET4H2

### Quality Assurance Plan

D1.6

WP1 / T1.3


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# Technical References

<b>Project Acronym</b>	SET4H2
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<b>Project Title</b>	Support to the SET Plan IWG on hydrogen
<b>Project Duration</b>	1st May 2024 – 30th April 2026 (24 months)

<b>Deliverable No.</b>	D1.6
<b>Title of Deliverable</b>	Quality Assurance Plan
<b>Subtitle of Deliverable</b>	
<b>Dissemination level*</b>	PU*
<b>Work Package</b>	WP 1 – Organisation and Management
<b>Task</b>	T1.3 Monitoring, data management, risk management and quality assurance
<b>Lead Beneficiary</b>	DLR
<b>Contributing Beneficiary</b>	

\* PU = Public (Fully open); SEN = Sensitive (Limited under the conditions of the Grant Agreement); EUCI = EU Classified (RESTREINT-UE/EU-RESTRICTED, CONFIDENTIEL-UE/EU-CONFIDENTIAL, SECRET-UE/EU-SECRET under Decision 2015/444.

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	Document:	Quality Assurance Plan		
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	Authors:	DLR	Date	15/08/2024


## Executive summary

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The deliverable D1.6 Quality Assurance (QA) Plan is part of the work package WP1 Organisation and Management, and a direct output from task T1.3 Monitoring, data management, risk management and quality assurance.

The quality assurance plan (QAP) outlines the structures by which project outputs of the CSA SET4H2 will be checked for quality during the project lifetime. The document clarifies the responsibilities within the project framework, and introduces an internal peer review system for quality control with clear deadlines and conflict resolution measures to ensure smooth implementation of the project and timely delivery of project outputs.

The QAP lists the deliverables of the project. Moreover, it defines the different roles and responsibilities of the project partners during the implementation of the project, i.e. deliverable leader and work package (WP) leader. Furthermore, the document describes the procedure by which the quality assurance (QA) is to be conducted for all types of documents, e.g. internal memos on the progress of tasks and the final draft versions of deliverables (reports, policy briefs, etc.). Last but not least, the QAP provides key performance indicators (KPIs) by which the project activities will be assessed. KPIs will serve as guidance for WP leaders and the Project Coordinator to assess results of the tasks.


	Document:	Quality Assurance Plan		
	Reference:	D1.6	Version:	1.0
	Authors:	DLR	Date	15/08/2024

# Table of Contents

<b>TECHNICAL REFERENCES .....</b>	<b>2</b>
<b>EXECUTIVE SUMMARY.....</b>	<b>3</b>
<b>LIST OF ABBREVIATIONS AND CSA SET4H2 PARTNERS .....</b>	<b>5</b>
<b>1. INTRODUCTION .....</b>	<b>6</b>
<b>2. SUBJECTS OF THE QUALITY ASSURANCE PROCESS .....</b>	<b>7</b>
2.1 PROJECT DELIVERABLES .....	7
2.2 EXTERNAL DOCUMENTS .....	10
2.3 WORKING PROCESSES.....	10
2.4 PROJECT EVENTS/ACTIVITIES .....	10
<b>3. ROLES AND RESPONSIBILITIES .....</b>	<b>11</b>
3.1 PROJECT COORDINATOR .....	13
3.2 WORK PACKAGE LEADER/DELIVERABLE LEADER .....	13
3.3 CONFLICT RESOLUTION .....	13
<b>4. QUALITY ASSURANCE PROCEDURE.....</b>	<b>14</b>
4.1 REVIEW PROCESSES .....	14
4.2 REVIEW GUIDELINES.....	14
4.3 QUALITY ASSURANCE OF THE WORKING PROCESS.....	15
4.4 EXTERNAL DOCUMENTS.....	17
4.5 PROJECT EVENTS .....	17
<b>5. PERFORMANCE INDICATORS .....</b>	<b>18</b>

## List of Tables

Table 1: List of project deliverables .....	9
Table 2: List of work packages and tasks .....	12
Table 3: List of Key Performance Indicators .....	18
Table 4: List of Impacts of CSA SET4H2 .....	20

	Document:	Quality Assurance Plan		
	Reference:	D1.6	Version:	1.0
	Authors:	DLR	Date	15/08/2024


# List of Abbreviations and CSA SET4H2 Partners

## List of Abbreviations

Abbreviation	Long form
CETPartnership	Clean Energy Transition Partnership
CHJU	Clean Hydrogen Partnership
CSA	Coordination and Support Action
DoI	Declaration of Intent
EERA	European Energy Research Alliance
IWG	Implementation Working Group
SET Plan	European Strategic Energy Technology Plan
SRIA	Strategic Research and Innovation Agenda
TRI	Transition Initiatives
TWG	Temporary Implementation Working Group

## CSA SET4H2 consortium partners

Nr.	Partner	Acronym	Country
1	Deutsches Zentrum für Luft- und Raumfahrt e.V.	DLR	Germany
2	Ministero dell'Università e della Ricerca	MUR	Italy
2.1	Alma Mater Studiorum – Università di Bologna	UniBO	Italy
3	Direção-Geral de Energia e Geologia (Directorate General for Energy and Geology)	DGEG	Portugal
4	Balgarska Asotsiatsia za Vodorod, Gorivni Kletki i Sahranenie na Energia (Bulgarian Hydrogen, Fuel Cell and Energy Storage Association)	BGH2A	Bulgaria
5	Österreichische Energieagentur - Austrian Energy Agency	AEA	Austria
6	Association of European Renewable Energy Research Centers	EUREC	Belgium
7	Hydrogen Europe Research	HER	Belgium

	Document:	Quality Assurance Plan		
	Reference:	D1.6	Version:	1.0
	Authors:	DLR	Date	15/08/2024

# 1. Introduction

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Quality is considered a cornerstone for the success of the CSA SET4H2. The project involves partners from several countries from the EU, and the challenging objective is to fulfil the deliverables, tasks and work packages in a well-coordinated manner due to their complimentary nature between the different measures and activities as well as its support to the IWG on hydrogen within the SET Plan.

It is important to consider the quality of the project's activities and services as a vital requirement for ensuring the project's objectives. The timely delivery of deliverables and the high quality of the activities and services are crucial for the successful implementation of the project, hence a specific task (T1.3) has been dedicated to QA.

The main objectives of the QAP are to ensure:

- smooth implementation of the project,
- timely completion of the tasks,
- high quality of the project's activities and deliverables,
- consistency of the format of the concept notes (for events/activities) and deliverables,
- traceability of the deliverables.

The QAP provides an overview of the activities that are required to undergo QA, then it describes the roles and responsibilities of the respective partners. Finally, the document defines the procedures for the QA, and provides performance indicators for the assessment of the activities.


	Document:	Quality Assurance Plan		
	Reference:	D1.6	Version:	1.0
	Authors:	DLR	Date	15/08/2024

## 2. Subjects of the Quality Assurance process


### 2.1 Project Deliverables

During the lifetime of the project, we plan to produce 30 deliverables under the different WPs, each of them are to be submitted to the EC by the PCO.

No.	Deliverable name	WP	Lead participant	Type	Dissemination level	Due month
<b>D1.1</b>	Project Management Plan (PMP)	1	DLR	R	PU	<b>3</b>
<b>D1.2</b>	Report on kick-off meeting	1	DLR	R	SEN	<b>1</b>
<b>D1.3</b>	Summary of project communication I	1	DLR	R	SEN	<b>12</b>
<b>D1.4</b>	Summary of project communication II	1	DLR	R	SEN	<b>24</b>
<b>D1.5</b>	Data Management Plan	1	DLR	P	PU	<b>4</b>
<b>D1.6</b>	Quality Assurance Plan	1	DLR	P	PU	<b>3</b>
<b>D2.1</b>	Terms of Reference of IWG	2	DLR/ BGH2A	R	SEN	<b>3</b>
<b>D2.2</b>	SET Plan Progress Report for SETIS I	2	DLR/ BGH2A	R	PU	<b>4</b>
<b>D2.3</b>	SET Plan Progress Report for SETIS II	2	DLR/ BGH2A	R	PU	<b>15</b>
<b>D2.4</b>	Contribution and support to the integrated SET-Plan	2	DLR/ BGH2A	R	PU	<b>22</b>
<b>D2.5</b>	Integration of ERA Pilot SRIA priorities in the Hydrogen IP	2	DLR/ BGH2A	R	PU	<b>24</b>
<b>D2.6</b>	Report on contributions of the advisory board	2	DLR/ BGH2A	R	PU	<b>24</b>
<b>D2.7</b>	Synthesis report WP 3,4,5	2	DLR/ BGH2A	R	PU	<b>24</b>

	Document:	Quality Assurance Plan		
	Reference:	D1.6	Version:	1.0
	Authors:	DLR	Date	15/08/2024

<b>D3.1</b>	Minutes/Report on Meetings with IWGs/ERA Forum/SET Plan Conference	3	DGEG	R	SEN	<b>24</b>
<b>D3.2</b>	Analysis report on H2 in the IPs of other IWGs	3	DGEG	R	PU	<b>12</b>
<b>D3.3</b>	Synopsis report of SRIAs to identify gaps and synergies	3	DGEG	R	PU	<b>14</b>
<b>D3.4</b>	Report on mapping value chains, infrastructural and industrial scale-up enablers and challenges identified in the frame of the SET Plan	3	DGEG	R	PU	<b>7</b>
<b>D3.5</b>	Study on enablers and challenges to scale up the EU based deployment of hydrogen to feed the EU Strategy on Energy System Integration and the EU Offshore RES Strategy	3	DGEG	R	PU	<b>15</b>
<b>D3.6</b>	IWG joint position paper on hydrogen for NECP revision purposes	3	DGEG	R	PU	<b>24</b>
<b>D4.1</b>	Mapping of initiatives, networks and platforms to engage with on a European level	4	MUR/UniBO	R	PU	<b>3</b>
<b>D4.2</b>	Mapping of R&I projects on hydrogen and fuel cells at EU level.	4	HER	R	PU	<b>12</b>
<b>D4.3</b>	Report on technologies development trends from projects monitoring	4	UniBO	R	PU	<b>18</b>

	Document:	Quality Assurance Plan		
	Reference:	D1.6	Version:	1.0
	Authors:	DLR	Date	15/08/2024

<b>D4.4</b>	Country fiches on R&I initiatives in selected Third Countries	4	MUR/UniBO	R	PU	<b>12</b>
<b>D4.5</b>	Report on hydrogen R&I framework at the international level	4	UniBO	R	PU	<b>22</b>
<b>D5.1</b>	Key aspects report	5	AEA	R	PU	<b>6</b>
<b>D5.2</b>	Map of networks and country fact sheets	5	AEA	R	PU	<b>16</b>
<b>D5.3</b>	Synergy report	5	AEA	R	PU	<b>18</b>
<b>D5.4</b>	Exchange report	5	AEA	R	PU	<b>24</b>
<b>D6.1</b>	Dissemination, Exploitation and Communication Plan (incl. visual identity, branding guidelines)	6	DLR/EUREC	R	PU	<b>4</b>
<b>D6.2</b>	Results of Dissemination and Communication activities	6	DLR/EUREC	R	PU	<b>24</b>

R – Report, P – Plan, PU – public, SEN – sensitive


*Table 1: List of project deliverables*

The deliverables will be reviewed following the procedure described in the fourth chapter. Peer reviewers (internally amongst and between partners) might check the deliverables at different stages of their development. A QA check will be done two weeks before the date of the delivery, mainly focusing on the working process. A final QA check is done before submitting the document to the EC. Besides all that, all responsible project partners will have the possibility to comment on all the documents.

For all deliverables, a common format should be applied according to the designed templates, which were developed under WP6 (templates available on Sharepoint). This ensures a common appearance of the project documents. To be able to easily identify and track the documents, especially during the preparation phase, both the MS Word and the PDF files are to be saved using the following name:

[SET4H2\_Deliverable.number]\_Name of deliverable\_v\*\*.docx/pdf

(e.g. SET4H2\_D1.6\_Quality assurance plan\_v02.docx; D1.6\_Quality assuranceplan\_final.pdf)

	Document:	Quality Assurance Plan		
	Reference:	D1.6	Version:	1.0
	Authors:	DLR	Date	15/08/2024

## 2.2 External Documents

Beside project deliverables listed in the description of the action (DoA), there will be several other documents prepared by the project during its lifetime. These documents, e.g. communication and dissemination materials (leaflets, brochures, flyers, etc.) will also be internally peer-reviewed. These documents will be checked as to whether they represent the project identity well, reflect professionalism, and contribute to reaching the project's objectives.

## 2.3 Working Processes


It is not only the deliverables that are the subject of quality assurance. An essential part of quality assurance is the work processes that lead to the completion of the documents in detail. Some tasks are designed to last several months. Therefore, a review of the current work processes is necessary. A review of progress of the current work processes is foreseen in order to identify both those factors that contribute to the success of work processes and those aspects that are obstacles to the success of the task. This will be systematically considered and planned for.

## 2.4 Project events/activities

In the course of the project's 24 months, several events/activities will be organised, e.g. information and discussion sessions as well as online seminars. Since the high quality of these events/activities is crucial for the overall success of the project's objectives, reviewing their strengths and weaknesses to thereby improve future events/activities is essential.

The partner in charge of the event/activity (WP leader) is responsible for the quality of the event/activity. The quality is thus guaranteed at the WP level.


- The responsible partner has to prepare a concept note before starting the actual organisation of an event/activity, which is to be sent to the PCO;
- The PCO checks the concept note, makes suggestions and agrees with the responsible partner on a finalised concept note;
- The responsible partner organises the event/activity;
- If there is a document, such as a deliverable or a report, to be prepared following the event, it will be reviewed following the same process as the one applied to operational documents (see chapter 4).

	Document:	Quality Assurance Plan		
	Reference:	D1.6	Version:	1.0
	Authors:	DLR	Date	15/08/2024

### 3. Roles and Responsibilities


During the project’s lifetime, each consortium member will have different roles and responsibilities. The following paragraphs assess these roles and responsibilities. The overview of work packages and work tasks including the respective lead can be found in the following Table:

No. WP/T	Work Package Title	WP Leader	Main WP Partners	Deliverables
WP1	Organisation and Management	DLR	DLR	
T1.1	Contract administration & reporting			D1.1
T1.2	Project coordination and communication			D1.2-D1.4
T1.3	Monitoring, data management, risk management and quality assurance			D1.5, D1.6
WP2	Secretarial support to the IWG and transfer of SRIA Results into IWG and SET Plan	DLR	DLR, BGH2A	
T2.1	Secretarial support and organisational logistics to the IWG members and supporters			2.1-2.4
T2.2	Finalisation of draft IP and later revision			2.5
T2.3	Establishing Scientific Advisory Board			2.6
T2.4	Synthesis of results of WP 3,4,5 and integration of SRIA activities in the Implementation Plan			2.7
WP3	R&I on H2 Integration in SET-Plan and beyond	DGEG		
T3.1	Interacting, coordinating, and engaging within the SET Plan IWG communities/ETIP communities		DGEG, BGH2A& DLR	D3.1, D3.2
T3.2	Analysis and Comparison ERA SRIA on Green H2 with other relevant SRIAs (e.g. CHP, CETP) and Monitoring the state-of-the-art in Hydrogen R&I		DGEG	D3.3
T3.3	Enablers and challenges on H2 integration into wider systems		DGEG	D3.4-D3.6
WP4	Networking and cooperation with EU and international initiatives	MUR		

	Document:	Quality Assurance Plan	
	Reference:	D1.6	Version: 1.0
	Authors:	DLR	Date 15/08/2024

T4.1	Support coordination with relevant expert networks and initiatives at EU level		MUR, UniBO	D4.1
T4.2	Intelligence on hydrogen EU R&I projects		HER, UniBO	D4.2, D4.3
T4.3	Mapping Third Countries initiatives on hydrogen		MUR, UniBO	D4.4
T4.4	Cooperation with international organisations and initiatives		UniBO	D4.5
WP5	Exchange between Member States and stakeholders on best practices and lessons learnt, EU societal involvement and outreach	AEA	AEA, DLR	
T5.1	Analysis of the current status quo in the Member States with regard to hydrogen activities			D5.1, D5.2
T5.2	Identify areas where coordination or partnership to increase efficiency between Member States or regions can best be developed			D5.3
T5.3	Provide a forum/platform for discussion on issues Member States wish to discuss with stakeholders and the public			
T5.4	Facilitate exchange between Member States and stakeholders (industry, academia, civil society) on best practices and lessons learned			D5.4
WP6	Dissemination, communication & outreach	DLR, EUREC	DLR, EUREC	
T6.1	Dissemination, Exploitation and Communication Plan			D6.1
T6.2	Development of communication channels and tools (“communication toolbox”) incl. dissemination of results (e.g. relevant events, publications)			D6.2

Table 2: List of work packages and tasks

	Document:	Quality Assurance Plan		
	Reference:	D1.6	Version:	1.0
	Authors:	DLR	Date	15/08/2024

### 3.1 Project Coordinator

The project coordinator (PCO) shall, in addition to its responsibilities as a party, perform the tasks assigned to it as described in the Grant Agreement and the Consortium Agreement.

The PCO will be the intermediary between the EC and the consortium, and will:

- handle all communication within the consortium and with the EC;
- coordinate the needed negotiations (e.g. the Consortium Agreement before the project start);
- monitor that the partners comply with their obligations (Grant and Consortium Agreements);
- control the finances, administer the EC financial contribution, and coordinate the reporting.

### 3.2 Work Package Leader/Deliverable Leader

As stated in the DoA, the implementation of the project is divided into six WPs with defined tasks that will be accordingly fulfilled by deliverables. These tasks are the key elements of the project. They contribute to the aims of the WPs and therefore to the overall objectives of the project.

The WP leaders are the beneficiaries responsible for the coordination, execution, communication and delivery of the concerned WT activities. Additionally, the WP leaders will collaborate and exchange views with the other WP leaders for an improved coordination across the project activities.


A continuous monitoring of the work progress must be guaranteed. In order to achieve this, all deliverables and external documents, such as communication materials, will be monitored and reviewed by the responsible WP leader first. The process of peer-reviewing, i.e. the identification of peer reviewers for the different outputs of the WT, is organised by the WP leader. An internal report on the ongoing activities will regularly be given to the PCO. A report on achievements and about favourable as well as hindering conditions for the whole process will be elaborated by the WP leader and communicated to PCO regularly, at least quarterly.

### 3.3 Conflict resolution

Effective conflict resolution begins with an understanding of the individual and collective management roles. As a general rule, project management will aim towards the goal of consensus building, promoting mediation over voting in order to ensure a maximum degree of cooperation.

The WP leaders will immediately notify the PCO of any events or circumstances that may significantly affect the performance of the work executed in their WP. The PCO will be responsible for trying to resolve this issue by consulting with the WP leader and any partners directly involved in the WP and to reach a compromise between conflicting parties, based on consensus and also considering the conformance to project objectives and work plan.

The PCO will follow its standard procedures for conflict resolution and ensure constructive procedure towards reaching the goals of the project.

	Document:	Quality Assurance Plan		
	Reference:	D1.6	Version:	1.0
	Authors:	DLR	Date	15/08/2024

## 4. Quality Assurance procedure

### 4.1 Review processes

All deliverables and external documents will have to be internally reviewed. Any issues with quality will have to be resolved before the final submission of the deliverables to the EC by the PCO. Reviewers are identified and selected by the WP leaders. Ideally, a reviewer should be a person (from a partner organisation) who did not participate in the preparation of the respective deliverable.

Reviewing should always be part of the ongoing work in progress and shall be done at different stages of the work. Reviewing is possible internally, on the level of the partner's organisation, and externally, in the form of an exchange of draft versions.

The role of the reviewer is to monitor the quality of the deliverable/report to the best of their capacity. The goal of the review is to improve the deliverable. The authors will take the comments into account in the finalisation of the deliverables/reports. If, after revision of the deliverable/report, the reviewer considers the deliverable to be insufficient or technically wrong, they forward their remaining concerns to the PCO.

The PCO acts as the final reviewer, supported by the WP leaders for specific technical aspects in reports.

As a result of the quality control by the internal reviewer and the deliverable leader, appropriate actions may include:

- Acceptance = The deliverable complies fully with the rules and reference standards listed in the QAP.
- Adjustment = The deliverable is not fully compliant with ALL the rules and reference standards listed in the QAP. Some improvements are required by the project decision bodies to make it fully compliant.
- Rejection = The deliverable is not compliant at all with the rules and reference standards and/or the subject is not addressed to the satisfaction of the project decision bodies. Significant reworking of the deliverable is required.

If agreement is not achieved between the WP leader and the reviewer, then the reviewed deliverable should be submitted to the PCO for review and decision on the action to take.

### 4.2 Review guidelines

The review should be based on the following review framework. This framework is supposed to be applicable for most if not all deliverables:

#### 1. Formal assessment

- Does the document apply to the SET4H2 editing standards (deliverable template)?
- Is the level of English language clear and understandable? Is British English used? Please refer to [EC's English language style guide](#) for reference.
- Are there any major technical errors, omissions, or lack of necessary details?
- Is the layout correct, are the tables in order, and are necessary annexes included?

	Document:	Quality Assurance Plan		
	Reference:	D1.6	Version:	1.0
	Authors:	DLR	Date	15/08/2024

## 2. Content & structure

- Does the deliverable contain what was defined in the concept of the deliverable and the Description of Action (as described in the Grant Agreement)?
- Does the Executive Summary reflect the main points of the deliverable and adequately provide an easy understanding?
- Is the content presented in a logical and to-the-point manner?
- If applicable: Do the methodology and analysis comply with academic standards?
- Does the deliverable require substantial revision or rewriting?
- Is the dissemination level (public/restricted/confidential) correct?

In all cases, clear indicators for the necessary improvements must be given, including a suggestion for how these improvements might be done.

## 4.3 Quality Assurance of the working process


### 4.3.1 Elaboration of documents

#### Step 1: Development of concept-note/guidelines and template

- The responsible WP / Deliverable leader develops a concept-note/guideline and template for the respective deliverable/work task and sends it to the partners who are immediately involved in the task according to the work plan;
- The partners review the underlying methodology, the draft table of content, etc., and agree with the WP / Deliverable leader on a finalised concept; the partners send comments and clear suggestions for improvement; this might not take longer than one week;
- After receiving the commented document from the project partners, the WP / Deliverable leader assesses the proposed changes and sends the updated concept-note/guideline and template to the partners.


#### Step 2: Conduction of work

- Each project partner completes the provided templates for the respective task/deliverable within the given time frame;
- Arising questions will directly be sent to the responsible WP / Deliverable leader and to the scientific lead and coordination of the project;
- The WP leader is in charge of collecting individual contributions and redact a homogeneous draft document; arising questions will be sent directly to the corresponding individual contributors.

	Document:	Quality Assurance Plan		
	Reference:	D1.6	Version:	1.0
	Authors:	DLR	Date	15/08/2024

### Step 3: Review of deliverables

- The final draft version of the document will be reviewed and edited by the responsible WP / Deliverable leader; arising questions will first be answered by the WP leader and by internal reviewers, if applicable;
- The WP leader sends the draft version of the document to the involved partners; project partners are invited to give comments and clear suggestions for improvement within the given time frame; this time frame shall not be longer than five days;
- After receiving the comments and suggestions, the WP leader takes them into consideration, finalises the document (both in MS Word and PDF format) and sends it to the scientific lead of the project and to the involved project partners; they have a last opportunity to comment;
- The scientific lead of the project and all the involved partners comment on the last version of the draft of the deliverable; they have no more than three working days to do so; their final comments will be considered by the WP leader;
- The final version of the deliverable is sent to the PCO by the WP / Deliverable leader; the PCO has to submit the document to the EC before the given submission deadline.

	Document:	Quality Assurance Plan		
	Reference:	D1.6	Version:	1.0
	Authors:	DLR	Date	15/08/2024

### 4.3.2 Quality Assurance reporting

With a reasonable distance to the deadline for submitting a deliverable, the WP / Deliverable leader sends a report to the PCO. This provides information on the status of the work. The degree of completion reached is indicated. Advantageous conditions for the work are reported as well as obstacles to rapid progress.

The time distance to the deadline for submission should not be less than two weeks. This allows adequate space for corrections in the process of review and editing.

This report will contain – as an annex – the first draft version of the deliverable – even if this is not complete and main parts are missing. This is important to ensure homogeneity in all parts of the project.

This report to PCO is related to the process of the work only. The WP / Deliverable leaders continue bear the main responsibility for the content.

## 4.4 External documents

In some cases, documents that are not listed in the DoA will have to be reviewed. The basic procedure is similar to that of the project deliverables:


- The responsible partner sends the initial version of the document to the WP / Deliverable leader, who is responsible for the overall quality of work within the WP / Deliverable, therefore the WP / Deliverable leader provides suggestions for improvement;
- After the approval of the WP / Deliverable leader, the responsible partner sends the document to the involved partners and to the PCO; they review the document, provide suggestions and send the reviewed document back to the responsible WP / Deliverable leader within five working days;
- The responsible WP / Deliverable leader takes the suggestions and contribution into consideration and prepares the final document;
- The responsible partner sends the finalised document to the PCO and all project partners for information in due time.

## 4.5 Project events

During the project lifetime, information sessions and workshops for stakeholders (industry, academia and civil society), member states and the public will be organised by SET4H2.

The description of the proposed event should always include the following core information:

- Title of the event
- Responsible person
- Dates (start-end) and duration
- Location
- Back-to-back event
- Dissemination channels
- Application process, selection criteria
- Expected outcomes and impact
- Aim and objectives
- Background and context
- Target group
- Indicative number of participants

	Document:	Quality Assurance Plan		
	Reference:	D1.6	Version:	1.0
	Authors:	DLR	Date	15/08/2024


## 5. Performance indicators

In order to have a consistent impact assessment after each project activity, it would be beneficial to have a homogeneous QA task with appropriate performance indicators.

The performance indicators will serve as guidance for all work package leaders in their respective work packages. The following table shows the KPI as listed in the description of work packages:

WP	KPI	Title of KPI	WP Lead
2	KPI2.1	Finalisation of Draft IP as official document for IWG	DLR, BGH2A
	KPI2.2	Establishment of Scientific Advisory Board with up to 10 Experts from research, industry, administration, civil society	
3	KPI3.1	Participation Workshops and/or meetings with other SET Plan IWGs/ETIPs (2x/year)	DGEG
	KPI3.2	Structured dialogue with the ERA Forum (1x a year)	
	KPI3.3	Participation in the SET Plan Annual Conference (1x a year)	
	KPI3.4	Mapping of hydrogen production and application demands in Member States	
4	KPI4.1	Meeting with EU level hydrogen related initiatives (up to 10)	MUR, UniBO, HER
	KPI4.2	Country fiches on R&I initiatives in selected Third Countries (up to 10)	
5	KPI5.1	Online event with two workshops on issues Member States wish to discuss with stakeholders and the public	AEA
	KPI5.2	Exchange (event) between Member States and stakeholders (industry, academia, civil society) on best practices and lessons learned	
6	KPI6.1	Project website: Total number of visits by the end of the project: 8,000	DLR, EUREC
	KPI6.2	Newsletters (sent every six months): At least 30% open rate	
	KPI6.3	Participation in events: Two events per year at Project Promoters' initiative	
	KPI6.4	Social media (Twitter/X, LinkedIn): Total number of followers by the end of the project: 500	
	KPI6.5	Press releases: At least two per year (linked to relevant news)	


Table 3: List of Key Performance Indicators

	Document:	Quality Assurance Plan		
	Reference:	D1.6	Version:	1.0
	Authors:	DLR	Date	15/08/2024

As far as the fulfilment of the KPI objectives are concerned, a quarterly report of the WP leaders to the PCO is suggested.

Regarding sustainable implementation of the project, an impact control is applied. The following table outlines the expected impacts and describes how the CSA SET4H2 will contribute to achieve them.

<p><b>Scientific Impact:</b> Reinforced European scientific basis from emerging to close-to-market technologies; Enhanced knowledge and innovation transfer between SET Plan countries; Strengthened basis for evidence-based policy decisions.</p>	
<p>Contribution from SET4H2</p>	<p>The CSA helps the IWG, which at the moment consists of 18 countries and is supported by further initiatives such as EERA, CHJU, CETP and 4 SET Plan IWGs, to increase the exchange of knowledge and data on national and European level and to strengthen coordination of bi- and multilateral R&amp;I programmes for hydrogen. There is no other initiative known that considers the different starting conditions of countries in the transition and assumes a long-term research perspective encompassing all TRLs and the full H2 value chain.</p>
<p><b>Societal Impact:</b> Enhanced security and autonomy (hydrogen and its derivatives) of energy supply in the EU, while accelerating the green transition and increased resilience of the energy system in the EU; Export potential (within and beyond Europe) for hydrogen and renewable energy technologies through international and European collaborations (e.g. Sustainable Energy partnership, missions and innovation communities of Mission Innovation); Enhanced sustainability of renewable energy and renewable fuels value chains, taking fully into account circular economy, social, economic and environmental aspects in line with the European Green Deal priorities; Innovative data-driven services for consumers that empower them to engage in the energy transition; Enhanced consumer satisfaction and increased system flexibility thanks to enabling consumers to benefit from new energy services and facilitating their investment and engagement in the energy transition.</p>	
<p>Contribution from SET4H2</p>	<p>SET4H2 will devote a large share of its efforts towards multi-stakeholder collaboration and a quadruple helix approach to enhance the effectiveness of the IWG. Activity fiches to be produced by the IWG and supported by SET4H2 will regard attitudes towards the use of hydrogen and renewables and enhanced cooperation between all stakeholder groups including industry, civil society and the research community as broad support is essential to the success of the activities (joint calls, coordination groups, regulatory consultations). Local and regional communities play a major role in this, and SET4H2 will promote their specific needs and involvement in the transition process.</p>

	Document:	Quality Assurance Plan		
	Reference:	D1.6	Version:	1.0
	Authors:	DLR	Date	15/08/2024

<p><b>Technological Impact:</b> Availability of disruptive hydrogen and renewable energy technologies &amp; systems accelerating the replacement of fossil-based energy technologies to achieve climate neutrality in the energy sector by 2050; Integration of the energy system through H2 enabled sector coupling, improved energy storage and energy vector 21 technologies and coordinated energy infrastructures; Proven feasibility of integrating CCUS in industrial facilities and to maximise the efforts to close the carbon cycle (cost and environmental impacts of CCUS).</p>	
<p>Contribution from SET4H2</p>	<p>The assessment and recommendations of specific hydrogen technologies are at the core of the analytical work and support to the IWG provided by SET4H2. The integration in energy systems will still depend on technological advances both in research and at an industrial level, but SET4H2 can bring the relevant stakeholders together, provide informed advice to the IWG and thus the European R&amp;I community and collaborate directly with regulatory bodies and national authorities so as to ensure a direct link to policy decisions and research funding.</p>
<p><b>Economic Impact:</b> More effective market uptake through reduced costs and improved efficiency of hydrogen and renewable energy technologies including their value chains; Easy data-sharing and better predictability of return on investments in hydrogen technologies.</p>	
<p>Contribution from SET4H2</p>	<p>With its support to the provision of data on different technologies and the preparation of the IP and activity fiches of the IWG, SET4H2 can make a notable contribution to understanding and advancing the state of the art in hydrogen technologies. In the analytical deliverables, the pricing of low-carbon and renewable hydrogen will be addressed as a vital lever in building a vital hydrogen economy in Europe. Based on the insights gained during the ERA pilot on green hydrogen, regulatory framework conditions will be addressed with high priority as they are critical to the price and ultimately the successful introduction of hydrogen in value chains.</p>

Table 4: List of Impacts of CSA SET4H2

