



Green H2 and circular bio-coal from biowaste for cost-competitive sustainable Steel – G.A. nr 101070741

D7.2_Project Quality Plan



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DELIVERABLE DETAILS

Document Number:	D7.2
Document Title:	Project Quality Plan
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Dissemination level	PU – Public, fully open,
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ABSTRACT

This report describes the Project Quality Plan. This report contains the procedures under which the project will operate, in order to ensure a simple and effective management of the documentation and its quality. The Project Quality Plan covers document standards, review of deliverables/reports, file and tracking control and quality assurance. The preparation of all documentation and deliverables will be done according to standardized formats. The Project Quality Plan leads to the achievement of high-quality project results. In addition, this task will involve the following risk management activities: 1) Risk monitoring, 2) Risk assessment, and 3) Coordination of contingencies.

KEY WORDS

Project Quality assurance, risk monitoring and assessment, Project Visual Identity, Templates.

HISTORY OF CHANGES

Version	Date of submission	Description
V1	20/12/2022	First Draft
V2	21/12/2022	Revised Draft

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List of acronyms

EIC	European Innovation Council- the Funding Authority of the H2STEEL Project
CoAg	Consortium Agreement
GA	General Assembly
KOM	Kick-Off Meeting
PM	Project Manager
PMP	Project Management Plan
PO	Project Office
POr	Project Officer
WP	Work Package
WPL	Work Package Leader
DM	Dissemination Manager
EM	Exploitation Manager

1. Definition of the quality in the H2Steel project

1.1. Scope of the quality plan

The Project Quality Plan aims at providing a quality control structure for the project. In the H2Steel project, the quality is performed ensuring the document standards, review of deliverables/reports, file and tracking control and quality assurance. The preparation of all documentation and deliverables will be done according to standardized formats. The Project Quality Plan leads to the achievement of high-quality project results.

In addition, this task will involve the following risk management activities:

- 1) Risk monitoring,
- 2) Risk assessment,
- 3) Coordination of contingencies.

The quality plan encompasses the description of the quality assurance procedures and is addressed to the project partners for the successful development of the project.

1.2. Description of the process

As an integral part of management planning, the quality plan is prepared in the early project phase to provide the consortium with the guidelines and conditions for the execution of the technical activities. To ensure the applicability of the quality plan at any time, the coordinator should perform quality reviews throughout the duration of the H2Steel project and shall ensure that the quality plan is available to all involved partners and that the requirements regarding the quality assurance are met.

1.3. Governing bodies and responsibilities related to quality issues

1.3.1. Coordinator Project Office

Politecnico di Torino- Department of Energy is the project coordinator, and it appoints as Project Manager Prof. David Chiaramonti.

Prof. Chiaramonti has previous experiences in large EU, national and regional research projects focused on thermochemical processes and technologies applied in the energy sector. Additional information about the skills and competences of Prof D. Chiaramonti are available in the project website.

The Project Office, located at the Department of Energy, is responsible for the efficient day-to-day administrative management of the project and supports the Project Manager on tasks regarding accountancy, partnership communication and reporting as well as centralizing information and project outputs.

1.1.1. Quality Coordinator

POLITO, as project coordinator, and Prof. Chiaramonti, as Project Manager, cover the role of quality coordinator. The Quality Coordinator will monitor the progress of the project and report any significant deviations in terms of results, quality, timing and

resources spent. Further the Quality Coordinator will ensure that all project outcomes (like material used in presentations, conferences and workshops) will have the same high level of quality.

1.1.2. Work Package Leader and Work Package team

The Work Package (WP) Leaders are responsible for the achievement of the related WP objectives and results. Their role is to coordinate all efforts of the participants in the WP – Work Package Team- and to monitor the progress by checking status and task quality. The leading beneficiaries for each WP are defined in the GA and listed here as follows.

Table 1. Work Package Leaders

WP	Title	Lead Beneficiary
1	Biowaste feedstocks selection and biochar production	RE-CORD
2	Development of a Biocoal-based catalyst for biomethane pyrolysis	POLITO
3	Design, construction and testing of a new proof-of-concept system	POLITO
4	Assessment of H2STEEL concept: green H2 and C integration in Steel-making	ULEI
5	Communication and Dissemination	CONTACTICA
6	Exploitation of the H2STEEL concept	I3P
7	Coordination and management	POLITO
8	Portfolio activities	I3P

It's up to the WP Leader define, within the WP team, Task representative to let the organisation of the WP more effective.

2. Quality Assurance – Reporting

2.1. Progress reporting

To ensure the quality and compliance to project schedule of each WP, each WP leader is requested to report the technical and financial status of their own WP in written form to the PO in the due time: in concomitance with the date set for the GA and the monitoring deadlines fixed in the D7.1 Preliminary Project Management Plan.

To achieve a consistent flow of information, the status reporting shall be sent to the PO latest 2 weeks after the end of the progress monitoring period (biannual deadline) and/or reporting period (at M12 & at M36)

The Technical description includes the following information:

- Performed work and achieved results;
- Status of each task;
- Status of each deliverable;
- Status of each milestone;

- Gap analysis to original project plan;
- Assessment of compliance to original project timeline;
- If applicable, countermeasures to regain compliance to original timeline;
- Outlook on work items and targets of next reporting period.

The financial content shall be collected and analysed through a proposed Excel template and then reported in the Financial Statement available in the Research & Innovation Participant Portal. The template is useful to collect and analyse the incurred eligible costs and the technical performed activities/ achievements will be made available by the coordinator in due time.

At the end of each Reporting Period, progress reports must be submitted to the EC, according to the schedule reported in the Grant Agreement. The reports need to include the technical and financial progress. Reports will be created by the Coordinator with the support of all WP leaders.

To achieve a timely delivery of the reports to the EC, the following timeline shall be followed:

- 8 weeks / 60 days before submission deadline i.e. at the end of the reporting period: coordinator requests contents from WP leaders by email;
- 6 weeks before submission deadline: WP leaders receive feedback from respective Task leaders, if any;
- 4 weeks before submission deadline: WP leaders provide draft reports to Coordinator;
- 2 weeks before submission deadline: Coordinator sends out feedback on report draft;
- at submission deadline, i.e. 60 days after the end of the reporting period: the Coordinator submits the progress report to the EC.

3. Quality Assurance – Creation of Deliverables

3.1. Dissemination level

In H2Steel, the deliverables can fall under different confidentiality levels:

- PU = Public
- SEN = Sensitive, only for members of the consortium (including the Commission Services).

and different natures:

- R = Report
- P = Prototype
- D = Demonstrator
- O = Other.

Table 2. List of deliverable

Deliverable No	Deliverable Name	Work Package No	Lead Beneficiary	Type	Dissemination Level	Due Date (month)
D1.1	Biowaste samples quality assessment and slow pyrolysis trials	WP1	2 - RE-CORD	R — Document, report	PU - Public	4
D1.2	Report on chemical leaching trials for raw char upgrading	WP1	2 - RE-CORD	R — Document, report	SEN - Sensitive	14
D1.3	Technical assessment of biowaste conversion to carbon-based catalyst	WP1	2 - RE-CORD	R — Document, report	PU - Public	20
D2.1	Report on the target characteristics of the biocoal-based catalyst	WP2	1 - POLITO	R — Document, report	SEN - Sensitive	5
D2.2	Main properties of the prepared carbon catalysts	WP2	1 - POLITO	R — Document, report	SEN - Sensitive	14
D2.3	Report on the results of catalyst testing in lab-scale methane cracking unit	WP2	1 - POLITO	R — Document, report	PU - Public	20
D3.1	Design package of the proof-of-concept biomethane catalytic cracking unit	WP3	2 - RE-CORD	DEM — Demonstrator, pilot, prototype	SEN - Sensitive	6
D3.2	Report on the commissioning of the POC reactor	WP3	2 - RE-CORD	R — Document, report	SEN - Sensitive	24
D3.3	Report on the tests performed in the pilot-scale methane cracking unit	WP3	1 - POLITO	R — Document, report	PU - Public	34

D4.1	Baseline LCA of the modelled system	WP4	3 - ULEI	R — Document, report	PU - Public	18
D4.2	Energy models of baseline and H2STEEL solution	WP4	6 - AMMR	OTHER	SEN - Sensitive	26
D4.3	Full-scale LCA and SLCA report	WP4	3 - ULEI	R — Document, report	PU - Public	32
D4.4	H2STEEL macroeconomic assessment in relationship to EU decarbonization goals	WP4	7 - IC	R — Document, report	PU - Public	32
D4.5	Strategic recommendations for EU decarbonisation policy	WP4	7 - IC	R — Document, report	PU - Public	36
D5.1	Communication & Dissemination Plan	WP5	5 - CONTACTICA	R — Document, report	PU - Public	9
D5.2	H2STEEL Website	WP5	5 - CONTACTICA	DEC — Websites, patent filings, videos, etc	PU - Public	2
D5.3	Data Management Plan - 1	WP5	5 - CONTACTICA	DMP — Data Management Plan	SEN - Sensitive	6
D5.4	Data Management Plan - 2	WP5	5 - CONTACTICA	DMP — Data Management Plan	SEN - Sensitive	36
D5.5	Final report on Communication & Dissemination Activities	WP5	5 - CONTACTICA	R — Document, report	PU - Public	36
D6.1	Patent landscape analysis on the H2STEEL technologies	WP6	4 - I3P	R — Document, report	PU - Public	36

D6.2	Study on market sizing and the analysis of entry barriers and value drivers	WP6	4 - I3P	R — Document, report	PU - Public	35
D6.3	Analysis on alternative innovation path and research results exploitation	WP6	4 - I3P	R — Document, report	PU - Public	35
D6.4	Report on impact metrics and related actions	WP6	4 - I3P	R — Document, report	PU - Public	36
D6.5	Dissemination and Exploitation Plan 1	WP6	4 - I3P	R — Document, report	SEN - Sensitive	6
D6.6	Dissemination and Exploitation Plan 2	WP6	4 - I3P	R — Document, report	SEN - Sensitive	36
D7.1	Preliminary Project Management Plan	WP7	1 - POLITO	R — Document, report	PU - Public	3
D7.2	Project Quality Plan	WP7	1 - POLITO	R — Document, report	PU - Public	3
D7.3	Scientific and Technical review documents	WP7	1 - POLITO	R — Document, report	PU - Public	13
D7.4	Final report Scientific and Technical review documents on H2STEEL outcomes and follow up strategy	WP7	1 - POLITO	R — Document, report	PU - Public	36
D8.1	Report on Portfolio activities 1	WP8	4 - I3P	R — Document, report	SEN - Sensitive	12
D8.2	Report on portfolio activities 2	WP8	4 - I3P	R — Document, report	SEN - Sensitive	24
D8.3	Report on portfolio activities 3	WP8	4 - I3P	R — Document, report	SEN - Sensitive	36
D8.4	Technologies potentials assessment 1	WP8	4 - I3P	R — Document, report	SEN - Sensitive	24
D8.5	Technologies potentials assessment 2	WP8	4 - I3P	R — Document, report	SEN - Sensitive	36

3.2. Deliverables Review and Approval

The WP Leader is responsible for defining timing and purpose of each deliverable. The WP leader will identify any actions necessary to allow the deliverable to pass the internal deliverable review, in charge of the PM.

The following timeline shall be followed for the submission of deliverables:

- 8-to-6 weeks before the deadline: the coordinator reminds the deliverable owner of the upcoming submission deadline;
- 4 weeks before the deadline: the deliverable owner submits the draft to the appointed reviewer (WP leader);
- 3 weeks before the deadline: the appointed reviewer proposes an amended version to the deliverable owner;
- 2 weeks before the deadline: the deliverable owner submits the draft to the PM and PO;
- From 2 weeks before the deadline and until the deadline: the PM and the PO and the deliverable owner work together to finalise the deliverable. The final version of the deliverable is always uploaded in the Research & Innovation Participant Portal by the PO.

After the approval, the Project Manager and the Project Office have in charge of uploading the final version of Deliverables in the relevant section of this website.

3.3. Language

The language in use among the Consortium is English. For Dissemination & Communication purpose, the CTA can require to the Partners to translate content already available in English into their own language.

3.4. Deliverables format

Each deliverable should have a similar format. Heading, fonts and structure are similar in order to present a professional and consistent image. The deliverables are split into sections, each section starting on a new page.

Each deliverable comprises 4 parts:

- Front Sheet (a template is available in Appendix 1);
- Change record tab to track any version incurred before the delivering of the document;
- Executive Summary (or statement of result): it contains an adequate description of the conclusions or results of the work but does not divulge confidential details (therefore it may be made public whatever the confidentiality level of the deliverable);
- Full description of deliverable content: this Part contains a full description of the results of the anticipated work and can be distributed to a reduced audience if so classified. An index (and in case a table of the abbreviations) should be included if necessary.

4. Project visual identity

The project visual identity (project logo, templates for reports, flyer, brochure, PPT master, etc.) as well as a website need to be established and maintained in order to inform the different stakeholders and the public in general about the project.

The objective is to increase the public visibility of the project and subsequently its outcomes and facilitate the overall project goal to boost Europe's Innovation ecosystem.

In order to realize these objectives a completely new brand identity has been created for the H2Steel project. It supports internal as well as external communication: it contributes to the internal identification and motivation, and accounts for a tangible project culture.

The project logo, the key visual, all general templates and master documents, the website as well as the flyer have already been already designed (see logo and templates in the appendixes).



Figure 1. H2Steel Logo

5. Electronic data management

5.1. Document creation

To ensure compatibility and open access to all electronic project documents, common standards on data formats need to be defined.

Electronic project documents shall be created using the Microsoft Office (2016 and later) software suite. The following data formats need to be used:

- Text documents: Microsoft Office Word Document (.docx);
- Presentations Microsoft Office PowerPoint Presentation (.pptx);
- Spreadsheets Microsoft Office Excel Workbook (.xlsx).

All documents shall use the English (Ireland) language. Common rules for file names need to be followed. File names need to comply with the following rule:

- H2Steel_Index_DocName_Date_Version_Partner.ext;

with the following meanings:

- Index Number of WP or deliverable, e.g. WP1 or D1.4;
- DocName Short name suitable for content identification, e.g. KickOff;
- Date Date of document creation, e.g. 20_12_2022;
- Version Version number, e.g. V1;
- Partner Acronym of document responsible partner, e.g. POLITO;
- ext File extension, e.g. .docx;

5.2. Data transfer and storage

Public deliverables will be shared on the project website, only after the formal approval of partners. All other documents and presentations and general documents shall be shared via SharePoint, administered and maintained by the PO.

6. Risk assessment and risk management

A proper management of risks is key in the execution of H2Steel. The critical risks for implementation of the project have been identified and reported in the table.

The risk management will cover:

- technical risks: identifying the barriers to overcome in order to meet the Work Package objectives;
- time risks: such as changes or delays in producing the expected deliverables;
- competence risks: identifying the required personnel to perform the tasks, the possible competence conflicts within each organisation and proposing solutions to meet deadlines;
- budget risks: possible cost overruns due to project changes, making sure that the partners agree on the new budget figures to meet the effectiveness constraints.

The following steps will be taken to support the risk control:

- identification/definition of interfaces and responsibilities;
- partitioning of the project into phases with review in between; this allows a step-by-step development process with different solutions studied in parallel;
- management information and documentation will ensure consistency of the project activities.

The control on the project progress will be carried out by the Coordinator POLITO. The project office maintains a risk management updated along the project's execution, highlighting critical tasks and indicating responsibilities and resources. This report will indicate variations from plan and implications in terms of cost, timing and deliverable content. It will be the basis for decisions of the General Assembly about changes in budget allocation or tasks of the Partners, in order to ensure the successful implementation of the project activities.

The risk management table will be revised at each GA; updates will be made in case new risks arise during the execution of the technical activities. In this case, also appropriate mitigation measures will be indicated, addressing an appropriate response to the changing environment.

6.1. Risks related to the composition of the Consortium

Considering the issues related to the possible competition between the partners of the Consortium, appropriate policies for IPR management are part of the Consortium Agreement. These policies have to be signed before the project actually starts. IPR management issues will continuously be on the project agenda, according to the procedures planned in WP6.

6.2. Risk related to the technical development

Concerning the risks related to the scientific development of the project, the main risks are linked to the development of the pilot activities. The risks have been clearly identified, together with and appropriate mitigation measure.

Table 3. Risks table

Critical risks & risk management strategy			
Grant Preparation (Critical Risks screen) — Enter the info.			
Risk number	Description	Work Package No(s)	Proposed Mitigation Measures
1	Staff sickness, holidays and unforeseen leave. Level of Likelihood Level of Severity Low Low	WP5, WP7, WP6, WP4, WP1, WP2, WP3	All the partners of the proposal have high staff retention rates and anticipate leave requests which allow us to ensure that conflicts with project requirements are managed. As part of POLITO Management System, key management information and administrative details are documented in centralized databases accessible to involved staff. This means that the project team members can keep up to date with project progress, meeting notes, and any discussions on key issues. This will be made available to other partners as required. This system is augmented by regular progress meetings involving all project team members. In the event of losing a senior member of the team we will identify a suitable substitution at the same level of seniority.
2	Deliverables fail to meet client expectations. Level of Likelihood Level of Severity Low Medium	WP5, WP7, WP6, WP4, WP1, WP2, WP3	To ensure deliverables meet client objectives, several review points have been scheduled during project execution.
3	Failure of the collaborative working relationship. Level of Likelihood Level of Severity Low Low	WP5, WP7, WP6, WP4, WP1, WP2, WP3	The partners have strong commitments toward the topics of the project, and already established a good collaboration. All the involved members have a large experience in working under a consortium scheme in the past. We do not therefore anticipate any problems in cooperation. In addition, the working collaboration among all the members will be closely monitored by the project manager (PM) and proper procedures will be adopted by the management of the project in order to minimize and alleviate potential frictions.
4	Raw biochar-based catalyst shows low catalytic efficiency (<50%). Level of Likelihood Level of Severity Low High	WP5, WP7, WP6, WP4, WP1, WP2, WP3	Dedicated WP (WP2) to catalyst optimization and adaptation process
5	POC shows BioCH ₄ conversion efficiency lower than lab scale trials. Level of Likelihood Level of Severity Medium Medium	WP5, WP6, WP4, WP3	POC is designed to optimize heat transfer and reduce catalyst retention time (55% conversion is expected)
6	Biochar upgrading process requires expensive reagents. Level of Likelihood Level of Severity Medium Low	WP4, WP1, WP2	Reagents will be selected to ensure that reaction products have high market value (HNO ₃)
7	None of biocoal samples obtained after catalytic cracking is compliant with steel sector requirements. Level of Likelihood Level of Severity Low High	WP5, WP6, WP4	Biochar leaching activity, and selection of more biochar-based catalyst will be reducing this risk
8	Environmental balance results to be not sustainable. Level of Likelihood Level of Severity Low High	WP5, WP6, WP4	The starting material (biomethane, biowaste) will be selected after assessing the sustainability of the supply chain
9	Major disrupting event such as pandemic, natural disasters, terrorism, etc. Level of Likelihood Level of Severity Low High	WP5, WP7, WP6, WP4, WP1, WP2, WP3	All meetings may be held via Web conference if required. Testing of hardware may be overseen via permanent webcam by the respective supplier/operator if personal presence is impractical.

7. Templates

Appendix 1 – Deliverable template

Appendix 2 – Presentation template

Appendix I – Project Deliverable Template



Green H2 and circular bio-coal from biowaste for cost-competitive sustainable Steel – G.A. nr 101070741

D. x.x Name of the deliverable





DELIVERABLE DETAILS

Document Number:	DX.X
Document Title:	
WP & Task:	WPX - TX.X
Dissemination level	PU – Public, fully open, SEN – Sensitive, limited under the conditions of the Grant Agreement
Type of Deliverable	Report this information according to table "LIST OF DELIVERABLES" pag 86/148 of the G.A
Due Date & Reporting period	M... : RP1/RP2
Date of submission	M...: date
Author:	Name (PARTY acronym) x es: D. Chiaramonti (POLITO), in bold in case of Lead Beneficiary;

ABSTRACT

KEY WORDS

HISTORY OF CHANGES

Version	Date of introduction	Reason of change

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Appendix II – Project Presentation Template

GREEN H2 AND CIRCULAR BIO-COAL FROM BIOWASTE FOR COST-COMPETITIVE SUSTAINABLE STEEL



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WPTITLE

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