

**Sustainable SoluTions FOR  
recycling of end-of-life Hydrogen  
technologies**



## **Deliverable D8.8**

### **Data Management Final Report**

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## Abbreviations

APCs	Article processing Charges
DOI	Digital object identifier
DMP	Data Management Plan
EoL	End-of-life
FAIR	findable, accessible, interoperable and re-usable
GA	Grant Agreement
MEA	Membrane Electrode Assembly
PEMFC	Polymer electrolyte fuel cell
PGMs	Platinum group metals
ORD	Open Research Data
SOFC	Solid oxide fuel cell



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# 1 Executive Summary

According to the Open Research Data (ORD) Pilot set up by the European Commission, all data generated by H2020 projects have to be **available for open access and reusable**: the main aim of the ORD pilot is the improvement and maximization of access to research data, with a special consideration for the need for balancing protection of scientific information, opportunities for commercialization and security. BEST4Hy project adopted the principle “**As open as possible, As closed as necessary**”, enhancing a reliable data tracking and management.

Research Data have been managed according to the guidelines described in the Data Management Plan (deliverable D8.2), which specified how data were to be used and handled during and after the project, which type of data would become open access, how those data would be shared and in which repository, and which methods and standards would be used. This document reports the data collected within the project and details on their sharing.

## 2 Introduction

*BEST4Hy – “SustainaBIE SoluTions FOR recycling of EoL Hydrogen Technologies” has the main objective of bringing to TRL5 recycling technologies adapted or developed specifically for PEMFC and SOFC, which would ensure the maximization of recycling of critical raw materials including PGMs, rare earth elements, cobalt and nickel. The technologies are evaluated for cost efficiency and environmental impact to ensure the materials bring value to the European economy without harmful emissions or high energy costs. The outputs of the recycling technologies are optimized for both closed loop and open loop recycling. More specifically, Pt and membrane materials are delivered back for manufacturing MEAS to be tested in full stacks, while both anode and cathode materials from EoL SOFCs are treated for direct recycling into cells. The whole EoL device is considered, with technologies validated for open loop recycling and opportunities for recovery of other components of the cells/stacks explored. This document reports on the data collected during the project and their availability for access. The deliverable has been developed by ENVIPARK, coordinator of project BEST4Hy, with the support of all partners.*

Within the Data Management Plan (Deliverable D8.2), it was assumed that the data likely to be generated by BEST4Hy project might be:

- experimental and observational data (measured during the qualification of materials, equipment and process, both raw and derived data).
- models (to predict process interaction and behavior).



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- simulations (optimization of machine structure, optimization of energy consumption).
- multimedia documents (reports, spread sheets, presentations, websites),
- images (photo to document the project progress).
- videos (e.g., short movies, animations)
- stakeholders contacts and interaction activity documents (also foreseeing personal data like emails to be properly collected and stored).

The list of data categories collected and their availability is presented in the body of the report in **Errore. L'origine riferimento non è stata trovata.** to **Errore. L'origine riferimento non è stata trovata.**

## 3 Open access

### 3.1 Open access in BEST4Hy Grant Agreement

ARTICLE 29 in GA\_BEST4Hy (BEST4Hy Grant Agreement) specifies that project's beneficiaries will ensure Open Access.

#### 29.2 Open access to scientific publications

Each beneficiary must ensure open access (free of charge online access for any user) to all peer-reviewed scientific publications relating to its results. In particular, it must:

(a) as soon as possible and at the latest upon publication, deposit a machine-readable electronic copy of the published version or final peer-reviewed manuscript accepted for publication in a repository for scientific publications;

Moreover, the beneficiary must aim to deposit at the same time the research data needed to validate the results presented in the deposited scientific publications.

(b) ensure open access to the deposited publication — via the repository — at the latest:

- upon publication, if an electronic version is available for free via the publisher, or
- within six months of publication (twelve months for publications in the social sciences and humanities) in any other case..

(c) ensure open access — via the repository — to the bibliographic metadata that identify the deposited publication.

The bibliographic metadata must be in a standard format and must include all of the following:

- the terms “Fuel Cells and Hydrogen 2 Joint Undertaking”, “European Union (EU)” and “Horizon 2020”;



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- the name of the action, acronym and grant number;
- the publication date, and length of embargo period if applicable, and
- a persistent identifier.

Some xx publications have been produced during project BEST4Hy, in Open Access. They have all been uploaded onto Zenodo.

### 29.3 Open access to research data

Regarding the digital research data generated in the action ('data'), the beneficiaries must:

(a) deposit it in a research data repository and take measures to make it possible for third parties to access, mine, exploit, reproduce and disseminate — free of charge for any user — the following:

- the data, including associated metadata, needed to validate the results presented in scientific publications, as soon as possible;
- other data, including associated metadata, as specified and within the deadlines laid down in the 'data management plan' (see Annex 1);

(b) provide information — via the repository — about tools and instruments at the disposal of the beneficiaries and necessary for validating the results (and — where possible — provide the tools and instruments themselves).

Data used for the publications, if available, have been published contextually with the articles.

## 4 Methodology applied for the DMP BEST4Hy

### 4.1 BEST4Hy project internal repository

All data collected during the project have been stored and preserved in an online data repository/cloud platform linked to the project website (<https://cloud.best4hy-project.eu>). The partners can access with user and password and only BEST4Hy partners have access to it.

	Name	Size	Modified
<input type="checkbox"/>	MEETINGS	21.3 MB	18 minutes ago
<input type="checkbox"/>	WP1	0 KB	a month ago
<input type="checkbox"/>	WP2	0 KB	a month ago
<input type="checkbox"/>	WP3	0 KB	a month ago
<input type="checkbox"/>	WP4	0 KB	a month ago
<input type="checkbox"/>	WP5	0 KB	a month ago
<input type="checkbox"/>	WP6	0 KB	a month ago

Table 1 BEST4Hy repository



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## 4.2 Research datasets

Deliverable D8.2 provided an overview of data expected to be collected or generated by the project. The same tables have been updated to provide the final overview of the information collected and shared with the public.

Data have been shared between partners using the project internal repository (access allowed only to partners): <https://cloud.best4hy-project.eu>.

Scientific publications have been published in open access mode and also uploaded onto the project website and Zenodo. The public deliverables have been uploaded also onto Zenodo and the project website, while for confidential deliverables a synthetic document has been produced and uploaded.



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Table 2 WP1 Data-Types (status M36)

WP	Tasks	Data type	Data description	Partner involved	STATUS AT M6	STATUS AT M36
1. Existing and novel technologies of PEMs: proof of concept	Task 1.1: Existing Platinum recovery technology	Experimental/characterization/publications/documents/photos/videos	Experiments for recovery Pt and optimization. Quality characterization (ICP-OES) of Pt/solution. Results reported in the D1.1. photos and videos to collect all the information about processes. Documents produced along the project: D1.1, D1.2, D1.5 (public documents). Publications	HRD, ENVI, EKPO, IDO-Lab	<p><b>Open/restricted?</b> During the project the partners will define which data are restricted and which open. The 3 reference documents are public. To define mainly between HRD and EKPO which photos or videos can be presented in the documents. Some data will be presented in scientific publications</p> <p><b>Sharing</b> Data shared between partners using the project internal repository (access allowed only to partners): <a href="https://cloud.best4hy-project.eu">https://cloud.best4hy-project.eu</a>. Scientific publication and public deliverables: Upload on Zenodo. Confidential Deliverables: upload a synthetic document</p>	<p><b>Open/restricted?</b> Public deliverables: D1.1, D1.2, D1.5. Photos within are public and have been cleared with EKPO. Videos produced are also public. No scientific publication produced.</p> <p><b>Sharing</b> Public deliverables uploaded in pdf form on project website and on Zenodo.</p>



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WP	Tasks	Data type	Data description	Partner involved	STATUS AT M6	STATUS AT M36
1. Existing and novel technologies of PEMs: proof of concept	Task 1.2: Novel recycling technologies to recover platinum and ionomer	Experimental/characterization/publications/documents/photos/videos	Experiments for gaseous dismantling and for ionomer recovery and optimization. Fraction purity (MEB and ICP techniques) analysis from gas phase. Characterization of Pt/C and ionomer. Results reported in the D1.1. photos and videos to collect all the information about processes. Documents produced along the project: D1.1, D1.3, D1.4, D1.5. Publications.	HRD, CEA, IDO-Lab	<p><b>Open/restricted?</b></p> <p>During the project the partners will define which data are restricted and which open. 2 reference documents are public and 1 confidential. To define mainly between HRD and EKPO which photos or videos can be presented in the documents. Some data will be presented in scientific publications</p> <p><b>Sharing</b></p> <p>Data shared between partners using the project internal repository (access allowed only to partners): <a href="https://cloud.best4hy-project.eu">https://cloud.best4hy-project.eu</a>. Scientific publication and public deliverables: Upload on Zenodo. Confidential Deliverables: upload a synthetic document</p>	<p><b>Open/restricted?</b></p> <p>Public deliverables: D1.1, D1.5. Photos within are public and have been cleared with EKPO. German patent by HRD [File No. LKG662.0001] Videos produced are also public. One scientific publication being prepared on electroleaching/electrodeposition</p> <p><b>Sharing</b></p> <p>Public deliverables in pdf form uploaded onto project website and Zenodo. Public one page abstract of confidential deliverables D1.3 and D1.4 uploaded onto website and Zenodo.</p>



WP	Tasks	Data type	Data description	Partner involved	STATUS AT M6	STATUS AT M36
1. Existing and novel technologies of PEMs: proof of concept	Task 1.3: Novel PEMs recycling technologies generalisation to	Experimental/characterization/publications/documents	Experiments for PEMWE recovery materials. Document prepared along the project: D1.6. Publications	HRD, CEA, IDO-Lab	<p><b><u>Open/restricted?</u></b> During the project the partners will define which data are restricted and which open. reference document is confidential. Some data will be presented in scientific publications</p> <p><b><u>Sharing</u></b> Data shared between partners using the project internal repository (access allowed only to partners): <a href="https://cloud.best4hy-project.eu">https://cloud.best4hy-project.eu</a>. Scientific publication and public deliverables: Upload on Zenodo. Confidential Deliverables: upload a synthetic document</p>	<p><b><u>Open/restricted?</u></b> No public deliverables; no scientific publications produced.</p> <p><b><u>Sharing</u></b> Public one page abstract of confidential deliverables D1.6 uploaded onto website and Zenodo.</p>
1. Existing and novel technologies of PEMs: proof of concept	Task 1.4 Demonstration (data for LCA/LCC)	Experimental/publications/documents	Experiments useful to collect info for LCA/LCC	HRD, CEA, UL, ENVI	<p><b><u>Open/restricted?</u></b> During the project the partners will define which data are restricted and which open. Some data will be presented in scientific publications</p> <p><b><u>Sharing</u></b> Data shared between partners using the project internal repository (access allowed only to partners): <a href="https://cloud.best4hy-project.eu">https://cloud.best4hy-project.eu</a>. Scientific publication and public deliverables: Upload on Zenodo. Confidential Deliverables: upload a synthetic document</p>	<p><b><u>Open/restricted?</u></b> No scientific publication during the project (see WP5). Public deliverables D5.1 had latest data. Some updated data in D5.2 - which is also public.</p> <p><b><u>Sharing</u></b> Public deliverables D5.1 and D5.2 uploaded onto website and Zenodo</p>



Table 3 WP2 Data-Types (status M36)

WP	Tasks	Data type	Data description	Partner involved	STATUS AT M6	STATUS AT M36
2. Characterization and evaluation of recycled materials in single cell and stack PEM configuration	Task 2.1: Pt/C Catalyst synthesis is	Experimental/characterization/publications/documents	Experiments with recovered material: synthesis. Results reported in the D2.1 and D2.2 (confidential documents)	CEA	<p><b>Open/restricted?</b> During the project the partners will define which data are restricted and which open. The 2 reference documents are confidential.</p> <p><b>Sharing</b> Data shared between partners using the project internal repository (access allowed only to partners): <a href="https://cloud.best4hy-project.eu">https://cloud.best4hy-project.eu</a>. Confidential Deliverables: upload on ZENODO a synthetic document</p>	<p><b>Open/restricted?</b> No scientific publication produced. Confidential deliverables produced.</p> <p><b>Sharing</b> Abstract of confidential deliverables D2.1 and D2.2 uploaded onto project website and Zenodo. Video on youtube on the polyol synthesis</p>



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WP	Tasks	Data type	Data description	Partner involved	STATUS AT M6	STATUS AT M36
2. Characterization and evaluation of recycled materials in single cell and stack PEM configuration	Task 2.2: Characterization of recovered materials	Experimental/characterization/publications/documents	Quality characterization of recycled materials: recycled Pt salt : ICP-OES, DRX, XRF, results reported in Wp1 deliverables. Recycled catalyst Pt/C: XRD, XRF, TEM, electrochemical characterization (RDE, ECSA, ORR kinetics), in situ performance in single cell et stack, results reported in D2.1 D2.2 D2.3 and D2.4; recycled ionomer: NMR-F, results reported in Wp1 deliverables	CEA, HRD, IDO-Lab	<p><b>Open/restricted?</b> During the project the partners will define which data are restricted and which open. 2 reference documents confidential, 1 is public, and 1 is products. Some data might be presented in scientific publications</p> <p><b>Sharing</b> Data shared between partners using the project internal repository (access allowed only to partners): <a href="https://cloud.best4hy-project.eu">https://cloud.best4hy-project.eu</a>. Public deliverables: Upload on Zenodo. Confidential Deliverables: upload on ZENODO a synthetic document</p>	<p><b>Open/restricted?</b> Public deliverable: D2.3. Graphs and visual material within are public and cleared with partners already. D2.4 = products No scientific publication produced</p> <p><b>Sharing</b> D2.3 uploaded onto project website and Zenodo in pdf form. Public one page abstract of confidential deliverables D2.1 and D2.2 uploaded onto website and Zenodo.</p>
2. Characterization and evaluation of recycled materials in single cell and stack PEM configuration	Task 2.3: Remanufacturing of the MEA	Experimental/characterization/publications/documents	Experiments for remanufacturing MEA. Document prepared along the project: D2.1 D2.2, 2.3 and 2.4.	CEA, EKPO	<p><b>Open/restricted?</b> During the project the partners will define which data are restricted and which open. 1 reference document is public and 2 confidential, 1 is products.</p> <p><b>Sharing</b> Data shared between partners using the project internal repository (access allowed only to partners): <a href="https://cloud.best4hy-project.eu">https://cloud.best4hy-project.eu</a>. Public deliverables: Upload on Zenodo. Confidential Deliverables: upload a synthetic document</p>	<p><b>Open/restricted?</b> Public deliverable: D2.3. Graphs and visual material within are public and cleared with partners already. D2.4 is products. No scientific publication produced.</p> <p><b>Sharing</b> Public deliverables D2.3 uploaded onto website and Zenodo in pdf form. Public one page abstract of confidential deliverable D2.1 and D2.2 uploaded onto project website and Zenodo. Video on youtube on the MEA manufacturing</p>



WP	Tasks	Data type	Data description	Partner involved	STATUS AT M6	STATUS AT M36
2. Characterization and evaluation of recycled materials in single cell and stack PEM configuration	Task 2.4: Performance evaluation of recycled materials	Experimental/characterization/publications/documents	Experiments in single cell FC and in a PEMFC short stack: polarization curves: Electrochemical Impedance Spectroscopy and CV measurements. Document prepared along the project: D2.3, D2.5 and 2.6. Publications	CEA, EKPO, ENVI	<p><b><u>Open/restricted?</u></b> During the project the partners will define which data are restricted and which open. 2 reference documents are public and 1 confidential.</p> <p><b><u>Sharing</u></b> Data shared between partners using the project internal repository (access allowed only to partners): <a href="https://cloud.best4hy-project.eu">https://cloud.best4hy-project.eu</a>. Public deliverables: Upload on Zenodo. Confidential Deliverables: upload a synthetic document</p>	<p><b><u>Open/restricted?</u></b> No scientific publication produced. Two deliverables produced, of which one is the public version of the confidential one</p> <p><b><u>Sharing</u></b> Public deliverable D2.6 is the public version of the confidential deliverable D2.5 and it is uploaded onto website and Zenodo.</p>



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Table 4 WP3 Data-Types (status M6)

WPs	Tasks	Data type	Data description	Partner involved	STATUS AT M6	STATUS AT M36
3. Existing Technologies (SOFCs): selection, validation and demonstration	Task 3.1: Material procurement	experimental/characterization/publications/documents/photos/videos	Post mortem characterization: SEM-EDS, XRF. Quality material characterization. photos and videos to collect all the information about processes. Publications	Elcogen, PoliTo	<p><b>Open/restricted?</b> During the project the partners will define which data are restricted and which open. The activity is reported in D3.1 (confidential). Some data will be presented in scientific publications</p> <p><b>Sharing</b> Data shared between partners using the project internal repository (access allowed only to partners): <a href="https://cloud.best4hy-project.eu">https://cloud.best4hy-project.eu</a>. Scientific publication and public deliverables: Upload on Zenodo. Confidential Deliverables: upload a synthetic document</p>	<p><b>Open/restricted?</b> D3.1 is confidential.</p> <p><b>Sharing</b></p>
3. Existing Technologies (SOFCs): selection, validation and demonstration	Task 3.2: Implementation & validation of small-scale plant	experimental/characterization/publications/documents	Experiments for recovery anode supported electrolyte. Quality characterization of recycled materials: XRF, XRD, ICP. Results reported in the D3.1	PoliTo, Elcogen	<p><b>Open/restricted?</b> During the project the partners will define which data are restricted and which open. 1 reference document confidential. Some data will be presented in scientific publications.</p> <p><b>Sharing</b> Data shared between partners using the project internal repository (access allowed only to partners): <a href="https://cloud.best4hy-project.eu">https://cloud.best4hy-project.eu</a>. Scientific publication and public deliverables: Upload on Zenodo. Confidential Deliverables: upload a synthetic document</p>	Public one page abstract of confidential deliverables D3.1 uploaded onto project website and Zenodo.
3. Existing Technologies (SOFCs):	Task 3.3: Performance evaluation of recycled materials	experimental/characterization/publications/documents	Quality characterization of recycled materials: XRD, SEM EDS... Experiments with	PoliTo, Elcogen	<p><b>Open/restricted?</b> During the project the partners will define which data are restricted and which open. The task will develop a public section of the D3.2 (D3.3). Some</p>	<p><b>Open/restricted?</b> D3.2 is confidential but D3.3 is its public version. D3.4 is confidential</p> <p><b>Sharing</b></p>



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WPs	Tasks	Data type	Data description	Partner involved	STATUS AT M6	STATUS AT M36
			remufacturing of the cell: impedance, mechanical analysis, high resolution micro_CT, SEM. Document prepared along the project: D3.2, 3.3 and 3.4. Publications		data will be presented in scientific publications <b>Sharing</b> Data shared between partners using the project internal repository (access allowed only to partners): <a href="https://cloud.best4hy-project.eu">https://cloud.best4hy-project.eu</a> . Scientific publication and public deliverables: Upload on Zenodo. Confidential Deliverables: upload a synthetic document	Uploaded onto website and Zenodo pdf version of public deliverable (which is already the public version of the confidential deliverable D3.2). Public one page abstract of confidential deliverable D3.4 uploaded onto website and Zenodo.
3. Existing Technologies (SOFCS): selection, validation and demonstration	Task 3.4 Open loop – analysis of different scenarios	publications/documents	Document prepared along the project: D3.5. Publications	PoliTo, Elcogen	<b>Open/restricted?</b> During the project the partners will define which data are restricted and which open. D3.5 document is public. Some data might be presented in scientific publications <b>Sharing</b> Data shared between partners using the project internal repository (access allowed only to partners): <a href="https://cloud.best4hy-project.eu">https://cloud.best4hy-project.eu</a> . Scientific publication and public deliverables: Upload on Zenodo. Confidential Deliverables: upload a synthetic document	<b>Open/restricted?</b> D3.5 is a public deliverable <b>Sharing</b> Uploaded pdf version of public deliverable onto project website and Zenodo
	Task 3.5 Demo of plant with monitoring for LCA/LCC data collection	experimental/publications/documents	experiments useful to collect info for LCA/LCC	PoliTo, UL, ENVI	<b>Open/restricted?</b> During the project the partners will define which data are restricted and which open. Some data will be presented in scientific publications <b>Sharing</b> Data shared between partners using the project internal repository (access allowed only to partners): <a href="https://cloud.best4hy-project.eu">https://cloud.best4hy-project.eu</a> . Scientific publication and public	<b>Open/restricted?</b> D3.2 is confidential but D3.3 is its public version. Public deliverables D5.1 had latest LCA data. Some updated data in D5.2 - which is also public. <b>Sharing</b> Uploaded onto website and zenodo pdf version of public deliverable (which is already the public version of the confidential deliverable D3.2). See also WP5.





WPs	Tasks	Data type	Data description	Partner involved	STATUS AT M6	STATUS AT M36
					deliverables: Upload on Zenodo. Confidential Deliverables: upload a synthetic document	

Table 5 WP4 Data-Types (status M36)

WPs	Tasks	Data type	Data description	Partner involved	STATUS AT M6	STATUS AT M36
4. Novel technologies (SOFCs) studies	Task 4.1: Study and identification of novel recycling technologies for SOFC	experimental/characterization/publications/documents/photos/videos	Post mortem characterization of cathode dismantled cells: RD, FESEM-EDS, XPS, XRF. Experiments for recovery. Publications	PoliTo, Elcogen	<p><b><u>Open/restricted?</u></b> During the project the partners will define which data are restricted and which open. The activity is reported in D4.1 (confidential). Some data will be presented in scientific publications</p> <p><b><u>Sharing</u></b> Data shared between partners using the project internal repository (access allowed only to partners): <a href="https://cloud.best4hy-project.eu">https://cloud.best4hy-project.eu</a>. Scientific publication and public deliverables: Upload on Zenodo. Confidential Deliverables: upload a synthetic document</p>	<p><b><u>Open/restricted?</u></b> D4.1 and D4.2 are confidential reports. D4.3 is the public version of D4.2. One publication on MDPI Sustainability (open access)</p> <p><b><u>Sharing</u></b> PDF version of public report uploaded onto website and Zenodo. Uploaded also public one page abstract of confidential deliverables D4.1.</p>



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WPs	Tasks	Data type	Data description	Partner involved	STATUS AT M6	STATUS AT M36
4. Novel technologies (SOFCs) studies	Task 4.2: Lab scale validation of previous recycling processes identified	experimental/characterization/publications/documents	Quality characterization of recycled materials: SEM-EDS, XRF, XRD. Experiments with recovered materials. Results reported in the D4.3 and 4.4.	PoliTo	<p><b>Open/restricted?</b> During the project the partners will define which data are restricted and which open. The task will develop a public section of the D4.2 (D4.3) and a confidential document (D4.4). Some data might be presented in scientific publications</p> <p><b>Sharing</b> Data shared between partners using the project internal repository (access allowed only to partners): <a href="https://cloud.best4hy-project.eu">https://cloud.best4hy-project.eu</a>. Scientific publication and public deliverables: Upload on Zenodo. Confidential Deliverables: upload a synthetic document</p>	<p><b>Open/restricted?</b> D4.4 is a confidential deliverable. 1 publication submitted by end of January 2024.</p> <p><b>Sharing</b> One page abstract of confidential deliverable D4.4 uploaded onto Zenodo and project website.</p>



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Table 6 WP5 Data-Types (status M36)

WP	Tasks	Data type	Data description	Partner involved	STATUS AT M6	STATUS AT M36
5. LCA/LCC for FCH EoL	Task 5.1: Calculate the environmental profile of FCH products and the existing EoL technologies	publications/documents	LCA analysis of PEMFC and SOFC (manufacturing phase to EoL and recycling)	UL, HRD, Elcogen, PoliTo, EKPO	<p><b><u>Open/restricted?</u></b> During the project the partners will define which data are restricted and which open. The activity is reported in D5.1 (public). Some data will be presented in scientific publications</p> <p><b><u>Sharing</u></b> Data shared between partners using the project internal repository (access allowed only to partners): <a href="https://cloud.best4hy-project.eu">https://cloud.best4hy-project.eu</a>. Scientific publication and public deliverables: Upload on Zenodo. Confidential Deliverables: upload a synthetic document</p>	<p><b><u>Open/restricted?</u></b> D5.1 is a public deliverable. One (early) publication and various proceedings from conference attendance</p> <p><b><u>Sharing</u></b> D5.1 uploaded as pdf file on project website and Zenodo</p>
5. LCA/LCC for FCH EoL	Task 5.2: Calculate the environmental profile of the novel EoL technologies	publications/documents	LCA analysis of PEMFC and SOFC (manufacturing phase to EoL and recycling)	UL, HRD, PoliTo, CEA	<p><b><u>Open/restricted?</u></b> During the project the partners will define which data are restricted and which open. The activity is reported in D5.2 (public). Some data will be presented in scientific publications</p> <p><b><u>Sharing</u></b> Data shared between partners using the project internal repository (access allowed only to partners): <a href="https://cloud.best4hy-project.eu">https://cloud.best4hy-project.eu</a>. Scientific publication and public deliverables: Upload on Zenodo. Confidential Deliverables: upload a synthetic document</p>	<p><b><u>Open/restricted?</u></b> D5.2 is a public deliverable. Publications are planned for March 2024</p> <p><b><u>Sharing</u></b> As above: D5.2 uploaded onto Zenodo and project website as a pdf.</p>



WP	Tasks	Data type	Data description	Partner involved	STATUS AT M6	STATUS AT M36
5. LCA/LCC for FCH EoL	Task 5.3: LCC of existing and novel EoL technologies	publications/documents	LCC analysis of PEMFC and SOFC (manufacturing phase to EoL and recycling)	UL, HRD, PoliTo, CEA	<b>Open/restricted?</b> During the project the partners will define which data are restricted and which open. The activity is reported in D5.2 and 5.3 (public). Some data will be presented in scientific publications <b>Sharing</b> Data shared between partners using the project internal repository (access allowed only to partners): <a href="https://cloud.best4hy-project.eu">https://cloud.best4hy-project.eu</a> . Scientific publication and public deliverables: Upload on Zenodo. Confidential Deliverables: upload a synthetic document	<b>Open/restricted?</b> D5.2 is a public deliverable. Publications are planned for March 2024 <b>Sharing</b> As above: D5.2 uploaded onto Zenodo and project website as a pdf.
5. LCA/LCC for FCH EoL	Task 5.4: Ecolabelling certification for Fuel cell technology	publications/documents	Document prepared along the project: D5.35. Publications	RINA-C, UL, EKPO, Elcogen	<b>Open/restricted?</b> During the project the partners will define which data are restricted and which open. D5.3 document is public. Some data will be presented in scientific publications <b>Sharing</b> Data shared between partners using the project internal repository (access allowed only to partners): <a href="https://cloud.best4hy-project.eu">https://cloud.best4hy-project.eu</a> . Scientific publication and public deliverables: Upload on Zenodo. Confidential Deliverables: upload a synthetic document	<b>Open/restricted?</b> D5.3 is a public deliverable. <b>Sharing</b> D5.3 uploaded onto Zenodo and project website as a pdf



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Table 7 WP6 Data-Types (status M36)

WP	Tasks	Data type	Data description	Partner responsible	STATUS AT M6	STATUS AT M36
6. Measures towards take up	Task 6.1 - Regulatory aspects (EU and extra EU vision)	publications/documents	Document: D6.2 and D6.3 and publications	ENVI, all	<p><b>Open/restricted?</b> During the project the partners will define which data are restricted and which open. The activity is reported in D6.2 and D6.3 (public). Some data will be presented in scientific publications</p> <p><b>Sharing</b> Data shared between partners using the project internal repository (access allowed only to partners): <a href="https://cloud.best4hy-project.eu">https://cloud.best4hy-project.eu</a>. Scientific publication and public deliverables: Upload on Zenodo. Confidential Deliverables: upload a synthetic document</p>	<p><b>Open/restricted?</b> Public deliverables D6.2 and D6.3. No publications</p> <p><b>Sharing</b> Public deliverables in pdf form uploaded onto Zenodo and project website</p>
	Task 6.2 – Standardisation Aspects	publications/documents	Standardisation inventory and roadmap document. D6.3. Publications	RINA-C, ENVI, Elcogen, EKPO	<p><b>Open/restricted?</b> During the project the partners will define which data are restricted and which open. The activity is reported in D6.3 (public). Some data will be presented in scientific publications</p> <p><b>Sharing</b> Data shared between partners using the project internal repository (access allowed only to partners): <a href="https://cloud.best4hy-project.eu">https://cloud.best4hy-project.eu</a>. Scientific publication and public deliverables: Upload on Zenodo. Confidential Deliverables: upload a synthetic document</p>	<p><b>Open/restricted?</b> Public deliverables D6.2 and D6.3. No publications</p> <p><b>Sharing</b> Public deliverables in pdf form uploaded onto Zenodo and project website</p>



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WP	Tasks	Data type	Data description	Partner responsible	STATUS AT M6	STATUS AT M36
	Task 6.3 – Strategic Analysis towards replication	publications/documents	Strategic analysis: documents and publications. D6.3, 6.4, 6.5, 6.6	RINA-C, ENVI, HRD	<p><b>Open/restricted?</b> During the project the partners will define which data are restricted and which open. Some data will be presented in scientific publications</p> <p><b>Sharing</b> Data shared between partners using the project internal repository (access allowed only to partners): <a href="https://cloud.best4hy-project.eu">https://cloud.best4hy-project.eu</a>. Scientific publication and public deliverables: Upload on Zenodo. Confidential Deliverables: upload a synthetic document</p>	<p><b>Open/restricted?</b> Public deliverables D6.3 and D6.4. Confidential deliverables D6.5 and D6.6. No publications</p> <p><b>Sharing</b> Public deliverables in pdf form uploaded onto Zenodo and project website. Also one page abstract of confidential deliverables D6.5 and D6.6.</p>
	Task 6.4. Technical training: HOW recycling and dismantling FCH technologies	publications/documents/power points/videos/photos	Document prepared along the project: D6.7, 6.8. Public material for training	ENVI, HRD	<p><b>Open/restricted?</b> During the project the partners will define which data are restricted and which open. Some data will be presented in scientific publications</p> <p><b>Sharing</b> Data shared between partners using the project internal repository (access allowed only to partners): <a href="https://cloud.best4hy-project.eu">https://cloud.best4hy-project.eu</a>. Scientific publication and public deliverables: Upload on Zenodo. Confidential Deliverables: upload a synthetic document</p>	<p><b>Open/restricted?</b> Public deliverables D6.1 and D6.7. Videos used for training. No publications</p> <p><b>Sharing</b> Public deliverables in pdf form uploaded onto Zenodo and project website and also the training kit (documents, presentations and videos)</p>



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Table 8 WP7 Data-Types (status M36)

WP	Tasks	Data type	Data description	Partner responsible	STATUS AT M6	STATUS AT M36
7. Dissemination, communication, exploitation	Task 7.1 – Communication & Dissemination	publications/ documents	Best4Hy logo, templates of reports- presentations- deliverables, leaflets, newsletter to stakeholders, ppts for workshops	ENVI, all	<p><b>Open/restricted?</b> During the project the partners will define which data are restricted and which open. The activity is reported in D7.2 and 7.3 (public). Some data will be presented in scientific publications</p> <p><b>Sharing</b> Data shared between partners using the project internal repository (access allowed only to partners): <a href="https://cloud.best4hy-project.eu">https://cloud.best4hy-project.eu</a>. Scientific publication and public deliverables: Upload on Zenodo. Confidential Deliverables: upload a synthetic document</p>	<p><b>Open/restricted?</b> Public deliverables D7.2 and D7.3. Some public presentations</p> <p><b>Sharing</b> Deliverables, newsletters and presentations uploaded onto website and Zenodo where relevant</p>
	Task 7.2 – Stakeholders involvement	publications/ documents	documents	ENVI, all	<p><b>Open/restricted?</b> During the project the partners will define which data are restricted and which open. The activity is reported in D7.5(public). Some data will be presented in scientific publications</p> <p><b>Sharing</b> Data shared between partners using the project internal repository (access allowed only to partners): <a href="https://cloud.best4hy-project.eu">https://cloud.best4hy-project.eu</a>. Scientific publication and public deliverables: Upload on Zenodo. Confidential Deliverables: upload a synthetic document</p>	<p><b>Open/restricted?</b> Public deliverables D7.5.</p> <p><b>Sharing</b> Public deliverable in pdf form uploaded onto Zenodo</p>



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WP	Tasks	Data type	Data description	Partner responsible	STATUS AT M6	STATUS AT M36
	Task 7.3 – Exploitation and IPR Management	publications/ documents	Exploitation and IPR documents	ENVI, all	<p><b>Open/restricted?</b> During the project the partners will define which data are restricted and which open. The activity is reported in 7.5 and 7.6 (public). Some data will be presented in scientific publications</p> <p><b>Sharing</b> Data shared between partners using the project internal repository (access allowed only to partners): <a href="https://cloud.best4hy-project.eu">https://cloud.best4hy-project.eu</a>. Scientific publication and public deliverables: Upload on Zenodo. Confidential Deliverables: upload a synthetic document</p>	<p><b>Open/restricted?</b> Public deliverables D7.5; confidential deliverable D7.6</p> <p><b>Sharing</b> Uploaded onto Zenodo and website the public deliverable in pdf form. Public one page abstract of confidential deliverables D7.6 to be uploaded on same platforms.</p>



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Table 9 WP8 Data-Types (status M36)

WP	Tasks	Data type	Data description	Partner responsible	STATUS AT M6	STATUS AT M36
8. Project coordination and management	Task 8.1 – Consortium general coordination and management	documents	Best4Hy logo, templates of reports-presentations-deliverables, leaflets, newsletter to stakeholders, ppts for workshops. NdA and letter for Advisory Boards.	ENVI	<p><b>Open/restricted?</b> During the project the partners will define which data are restricted and which open. The activity is reported in D8.1 (public) and D8.3, 8.5, 8.6, 8.7</p> <p><b>Sharing</b> Data shared between partners using the project internal repository (access allowed only to partners): <a href="https://cloud.best4hy-project.eu">https://cloud.best4hy-project.eu</a>. Scientific publication and public deliverables: Upload on Zenodo. Confidential Deliverables: upload a synthetic document</p>	<p><b>Open/restricted?</b> Public deliverable D8.1. Deliverables 8.3, 8.5, 8.6, 8.7 are confidential.</p> <p><b>Sharing</b> Uploaded onto Zenodo and website the public deliverable in pdf form. Public one page abstract of confidential deliverables D8.3, 8.5, 8.6, 8.7. Check if mid term progress report is published onto CORDIS and, if so, publish onto ZENODO</p>
	Task 8.2 – Administrative and financial management	documents, excel sheets	documents and excel sheets	ENVI, all	<p><b>Open/restricted?</b> internal documents only for partners members.</p> <p><b>Sharing</b> Data shared between partners using the project internal repository (access allowed only to partners): <a href="https://cloud.best4hy-project.eu">https://cloud.best4hy-project.eu</a>.</p>	<p><b>Open/restricted?</b> Restricted data related to admin and financial management</p> <p><b>Sharing</b> No public sharing</p>
	Task 8.3 – Quality assurance, performance monitoring and risk analysis	documents	quality and risk documents	ENVI, all	<p><b>Open/restricted?</b> During the project the partners will define which data are restricted and which open. The activity is reported in D8.4 (confidential)</p> <p><b>Sharing</b> Data shared between partners using the project internal repository (access allowed only to partners): <a href="https://cloud.best4hy-project.eu">https://cloud.best4hy-project.eu</a>.</p>	<p><b>Open/restricted?</b> Restricted data related to quality and risk management</p> <p><b>Sharing</b> No public sharing</p>
	Task 8.4 – Consortium meetings organization	documents, pts		ENVI, all	<p><b>Open/restricted?</b> minutes and ppts of the meeting. Only confidential to the consortium</p> <p>Data shared between partners using the project internal repository (access allowed</p>	<p><b>Open/restricted?</b> Restricted data related to internal meetings</p> <p><b>Sharing</b> No public sharing</p>



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WP	Tasks	Data type	Data description	Partner responsible	STATUS AT M6	STATUS AT M36
					only to partners): <a href="https://cloud.best4hy-project.eu">https://cloud.best4hy-project.eu</a> .	
	Task 8.5– Data management	documents	Data managment plan documents	ENVI, all	<p><b><u>Open/restricted?</u></b> During the project the partners will define which data are restricted and which open. The activity is reported in 8.2 and 8.8 (public).</p> <p><b><u>Sharing</u></b> Data shared between partners using the project internal repository (access allowed only to partners): <a href="https://cloud.best4hy-project.eu">https://cloud.best4hy-project.eu</a>. Scientific publication and public deliverables: Upload on Zenodo. Confidential Deliverables: upload a synthetic document</p>	<p><b><u>Open/restricted?</u></b> Public deliverables D8.2 and D 8.8</p> <p><b><u>Sharing</u></b> Upload onto Zenodo and ORCD</p>



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