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Alkaline electrolyzers with enhanced durability

ENDURE



[Dissemination Tools]
(Deliverable D5.2)

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NOTICES

For information, please contact the project coordinator, Mari Šavel, e-mail: mari.savel@stargatehydrogen.com. This document is intended to fulfil the contractual obligations of the ENDURE project, which has received funding from the Clean Hydrogen Partnership and its members, concerning deliverable D5.2 described in contract 101137925.

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Table of revisions

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List of Partners

Stargate Hydrogen Solutions OÜ (Stargate)

Fraunhofer-Institut für Fertigungstechnik und Angewandte Materialforschung (IFAM)

Zentrum für Sonnenenergie- und Wasserstoff-Forschung Baden-Württemberg (ZSW)

Fundación para el Desarrollo de las Nuevas Tecnologías del Hidrógeno en Aragón (FHa)

Permascand AB (Permascand)

Université catholique de Louvain (UCLouvain)

List of Abbreviations

D: Deliverable.

M: Month.

WP: Work Package.

GA: General Assembly.

PG: Project Group.

EC: European Commission.

R&I: Research & Innovation.

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1 Objectives

According to the dissemination and communication strategy of the ENDURE consortium – Deliverable D5.1, M3 – the activities within WP5 aim at rising awareness and interest around the project activities, as well as creating a path for successful exploitation of the outcomes and disseminating the results among the target groups. Since the consortium is composed of companies, research centres and a university, the communication tools, set-up in WP5, should reach both scientific and commercial fields, and establish bridges between these fields.

2 Communication tools

The ENDURE communication tools have already been defined in the early stages of the project (M1 – M3, as described in D5.1). Their updated description can be found below, followed by the updated timeline for their construction and use (comments on the action plan in Section 2.2).

2.1 Dissemination and communication tools

All the tools that will be used in the context of ENDURE are present in the following list. Some of these tools are already operational, while others are under construction or planned for later stages.

2.1.1 Visual identity: ENDURE logo

The ENDURE logo has been developed in the early stages of the project. It can be seen in Figure 1. It represents an electrolysis cell, where the two E letters at the beginning and at the end represent the current source and collector, a membrane can be seen in the middle of the word and the two middle letters represent electrodes, as bubbles are surrounding them. The proportion of hydrogen and oxygen (stoichiometry of the water splitting process) in terms of bubble surface is respected. This logo directly puts the reader at the core of the ENDURE activities.



Figure 1. ENDURE logo.

The ENDURE logo is already being used by the consortium since M3, e.g. on the linkedin page (see Section 2.1.4), on the project website (see Section 2.1.2) and on reporting material (like the first deliverable reports).

2.1.2 Website

The objective of the project website is to provide an informative and up-to-date tool for any type of visitor (academia, industry, students, etc.). In its final form, the following sections will be implemented:

- Homepage with links to all other sections.
- Consortium section with the logos and brief presentations of each member. These brief presentations have also been posted on the ENDURE linkedin page in order to maximise the visibility of each consortium member individually (see Section 2.1.4).
- About section with a general description of the ENDURE project.
- Events section with initiatives organised by the consortium and events of interest for the consortium members and followers.
- Results section with visual illustrations of the project outcomes and references to the project scientific and technical output.

Other sections may be added later as a function of the project needs. Wix.com has been chosen as a cheap and effective website provider. The domain name endureh2.com has been chosen by the consortium and acquired via Wix, as illustrated in Figure 2.

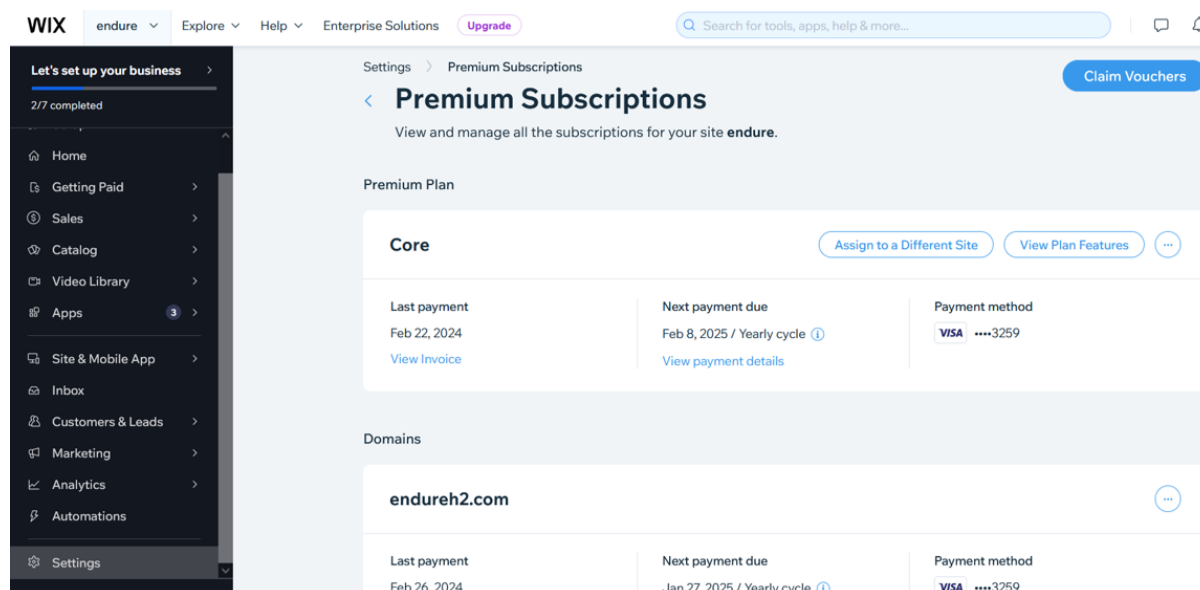


Figure 2. Construction of the ENDURE website via Wix.

The ENDURE website is currently still under construction. It has been published online at the end of M6 in a minimal version, following the project timeline. It could not be published in its final form due to a lack of manpower in the early stages of the project. Adequate recruiting has been achieved since then, so that more manpower will be dedicated to its full construction, which we plan to complete in autumn 2024.

2.1.3 Press and media material

Interaction with local media will be stimulated by the consortium members as another key method to maximise the project visibility. Classic media – e.g. paper or online journal articles, radio and television interviews or reports – should not be underestimated as they enable reaching a complementary audience compared to social media or specialized technical or scientific publications.

The first activity in this sense was a project press release that presents the objectives, innovation and the potential impact. It highlights the tangible benefits for citizens, businesses, and addresses European cooperation. It is already available online on the ENDURE linkedin page (first post on linkedin) and at the respective websites of the consortium members (see e.g. <https://stargatehydrogen.com/news/project-endure-kick-off/>). It will be distributed to local and international press throughout the project timeline. Additional press releases are expected during the project.

2.1.4 Social media

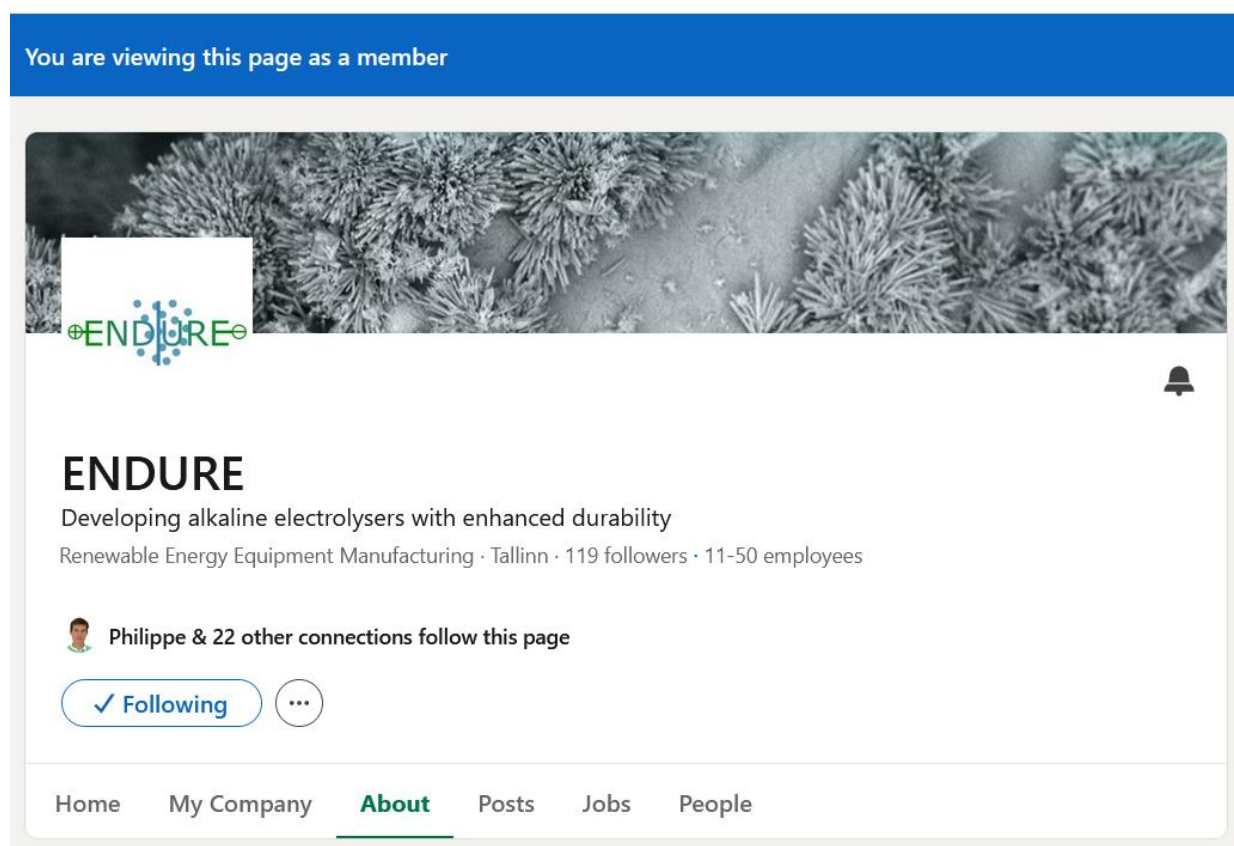


Figure 3. Illustration of the ENDURE linkedin page.

As originally planned in the project submission, a linkedin page has been created for the ENDURE project. The URL is <https://www.linkedin.com/company/endureh2/>. It contains the project overview, commitments, names and locations of the project partners. Regular posts are created, and followers are invited by all the consortium members. The linkedin page has already gathered 119 followers in five months.

Up to now, 8 posts have been created, including one post per consortium member (introducing and advertising the project members), one introductory post (press release for the ENDURE kick-off) and one post advertising early results.

An illustration of the linkedin page can be seen in Figure 3. Currently, we do not see another social media that could effectively enhance the project impact. However, we do not exclude embarking on another platform in the course of the project.

2.1.5 Publications in technical and scientific journals

All the scientific and technical findings within the ENDURE project will be published in renowned international journals such as the Proceedings of the European Electrolyser and Fuel cell Forum, International Journal of Hydrogen Energy, Journal of Physics: Energy, Solid State Ionics, Journal of Power Sources, Electrochimica Acta, Journal of Applied Electrochemistry, Nature Energy, etc. These publications will improve our credibility in the relevant scientific fields, as well as on the market.

It is also likely that the ENDURE project will create patentable results.

2.1.6 Presentations at events

Being present in the most visited events will enhance visibility and give the chance to engage with potential customers and conduct demos for better overview of the future alkaline electrolysers, using the ENDURE outcomes and capabilities. In a similar way, the scientific content produced in the project will stimulate scientific exchange with other research groups working in the field of alkaline electrolysis, which will most effectively be realized by participating to top-level conferences. We will present technical and scientific project results in events such as:

- Connecting Green Hydrogen Europe
- Hydrogen Europe Flagship Event
- European Hydrogen Week
- European Hydrogen Forum
- European Electrolyzer and Fuel Cell Forum
- International Conference on Electrolysis
- Electrochemical Society (ECS) Meeting
- Annual meeting of the International Society of Electrochemistry
- European Symposium on Electrochemical Engineering
- Fraunhofer IFAM workshop on advanced alkaline electrolysis (**planned in 2024 together with an ENDURE GA as a side event**)
- Hannover Messe (**consortium members were already present in the 2024 edition**)
- Hydrogen Technology Expo
- Berlin Electrolyser Conference
- European Hydrogen Energy Conference
- World Hydrogen Technologies Convention (WHTC)
- World Hydrogen Energy Conference (WHEC)

Apart from being present at external conferences and workshops, we will hold targeted workshops to introduce the short-stack prototype. The representatives of the target groups will be invited to present/showcase results. A workshop where accelerated stress test procedures and test protocol harmonization efforts will be discussed will also be held, and the JRC will be invited to participate.

2.1.7 Cooperation with other EU and national R&D projects

Beyond the technical and scientific exchange that will naturally take place with other related consortiums, national and within the EU context, the question of an active and structured cooperation is central. Common dissemination is an effective tool in this context. It can be implemented spontaneously between interested consortiums.

Additionally, in the EU legal framework, a tool can be used for this purpose: Horizon Results Booster. Its Module A enables creating a portfolio of R&I project results for joint dissemination. Consortiums can apply as PGs or as individual projects, in the latter case, similar ongoing projects will be identified to create PGs. Then, Module B assists the creation of a joint dissemination plan for the portfolio and Module C assists projects to improve their existing exploitation strategy.

The ENDURE consortium will use the Horizon Results Booster tool in a later stage of the project, i.e. when a critical mass of results for dissemination is obtained.

2.1.8 Discussion with government representatives and energy experts

The aim of these discussions is to integrate the technology development carried out in the context of ENDURE in EU policies, e.g. The European Green Deal and REPowerEU. In particular, the ENDURE project focuses on the development of robust and flexible alkaline electrolyzers. Provided that the project goals are reached, this should result in concrete beneficial effects on these EU policies.

2.1.9 EU tools

The consortium will make use of the freely accessible tools provided by the EC. Besides the aforementioned Horizon Results Booster, the Horizon Results Platform will be used to express our produced results as physical products for target investors, partners and politicians. Open Research Europe could also be of interest to diffuse scientific and/or technical content to a wider audience (thus also contributing to Section 2.1.5). For more general content, the EU Horizon and Futuris magazines will also be considered a more classical dissemination media (thus also contributing to Section 2.1.3). The various EU event promotion tools will also be used to promote our internal project initiatives.

2.2 Comments on the action plan

As indicated in Figure 4, all Tasks defined in WP5 (Dissemination and Communication) are running through the whole project. Although Task 5.2 produces the present deliverable at the end of M6, our dissemination tools will undergo regular updates as the project results will be produced and the project activities will be pursued. Similarly, Deliverables 5.1 and 5.3 (Dissemination and Communication Strategy and Exploitation Plan, respectively) were due in M3 and M6, respectively, but are also expected to undergo regular updates.

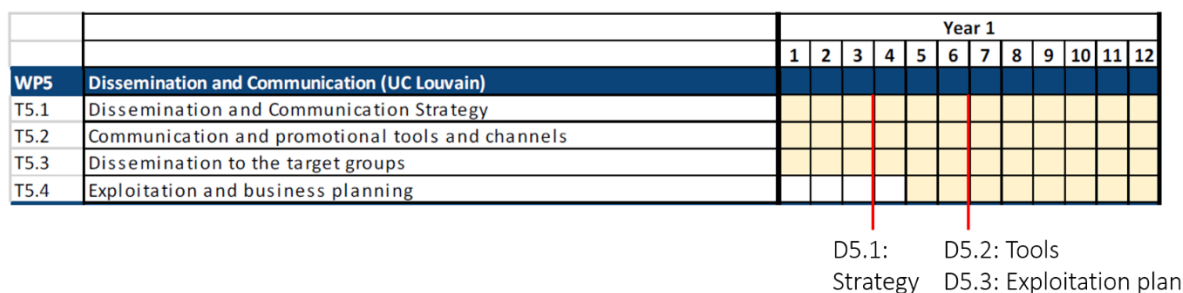


Figure 4. Gantt chart of the Dissemination and Communication WP of the ENDURE project (Year 1). All Tasks are active throughout Years 2 and 3 (not shown here).

Concerning the dissemination tools described here, and with respect to the timing of the present deliverable (dissemination tools ready by M6), some remarks are necessary:

- According to our Dissemination and Communication Strategy (D5.1), the following tools are up and running at the end of M6: logo (Section 2.1.1), website (Section 2.1.2) and linkedin page (Section 2.1.4).
- As specified in Section 2.1.2, the full version of our website is not yet available due to a lack of manpower at the beginning of the project. The problem is now solved and the fully constructed website will be available in autumn 2024.
- The ENDURE project is not yet advertised on the Horizon Results Platform (Section 2.1.9), contrarily to our original planning in D5.1. The goal here is to express our produced results as physical products for target investors, partners and politicians. After some internal discussions, we concluded that it is simply too early to express our results as a physical product. We will thus wait until the development within ENDURE is mature enough to use this platform.
- The Horizon Results Booster tool (Section 2.1.7) will most likely be completed in the second half of the project, as a critical mass of results and a fully defined exploitation plan are necessary to complete it.
- Tools from the other sections (2.1.3, 2.1.5, 2.1.6, 2.1.8, and part of 2.1.9) do not require to be set-up at a certain time by the consortium, as these are widely available tools that will be punctually used by the consortium when judged as relevant.

3 Conclusions

The dissemination tools of the ENDURE project – which were defined ahead of schedule, and already listed in M3 with D5.1 – are fully described in the present deliverable. The tools that required set-up by the consortium (logo, linkedin page and website) are up and running. Part of the tools described here will only make sense in more advanced phases of the project timeline. However, the tools that could be activated early were indeed activated. As more tools will be activated, the present deliverable will be updated. We also have set-up an internal document that collects all the project outcomes for easier dissemination (see Annex 1). Each project member is responsible for updating this document regularly.

With the exception of the project website which needs more time to be fully constructed, the objectives of the present deliverable are reached without further delays.

Annex 1 – Tables for collection of dissemination data

ENDURE dissemination data

1. Scientific and technical publications

| List of published articles | | | | | | | |
|----------------------------|-------|-------------------|---------|------|-----|---|-----------------|
| No. ¹ | Title | Partners involved | Journal | Year | DOI | Open access (if yes: type) ² | Repository link |
| 1 | | | | | | | |
| 2 | | | | | | | |
| 3 | | | | | | | |
| 4 | | | | | | | |
| List of planned articles | | | | | | | |
| P | | | | | | | |
| P | | | | | | | |
| P | | | | | | | |

1: P = planned; 2: gold, green, diamond, etc.

2. Participations to scientific and technical events

| List of performed event activities (conferences, workshops, fairs, etc.) | | | | | | | |
|--|-------|-------------------|--------------------------------|---------------------------------|------|----------------------------|---------------|
| No. ¹ | Title | Partners involved | Contribution type ² | Title and location of the event | Date | Audience type ³ | Audience size |
| 1 | | | | | | | |
| 2 | | | | | | | |
| 3 | | | | | | | |
| 4 | | | | | | | |
| List of planned event activities (conferences, workshops, fairs, etc.) | | | | | | | |
| P | | | | | | | |
| P | | | | | | | |

| | | | | | | | |
|---|--|--|--|--|--|--|--|
| P | | | | | | | |
|---|--|--|--|--|--|--|--|

1: P = planned; 2: talk, poster, flyer, stand, etc.; 3: general, academia, industry, policymakers, etc.

3. Communications to the public and policymakers

| List of performed public communication activities (press articles, conferences, workshops, fairs, etc.) | | | | | | | |
|---|--------------------------|-------|-------------------|--|-------------------|----------------------------|------------------|
| No. ¹ | Description ² | Title | Partners involved | Title and location of the event ³ | Date ³ | Audience type ⁴ | URL ³ |
| 1 | | | | | | | |
| 2 | | | | | | | |
| 3 | | | | | | | |
| 4 | | | | | | | |
| List of planned public communication activities (press articles, conferences, workshops, fairs, etc.) | | | | | | | |
| P | | | | | | | |
| P | | | | | | | |
| P | | | | | | | |

1: P = planned; 2: news article, interview, networking events, social media, etc.; 3: if applicable; 4: general, academia, industry, policymakers, etc.