

“Improvements to Integrate High Pressure Alkaline Electrolysers for Electricity/H₂ production from Renewable Energies to Balance the Grid”



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Communication Plan

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(PU – Public, PP – Restricted to other programme participants, RE – Restricted to a group specified by the consortium, CO – Confidential)



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0 Executive Summary

The communication plan defines all communication tools to be utilised toward the successful dissemination of the project and its results. As defined in the Description of Work, the project workshops are the main tool to facilitate dissemination of the project. In addition presentations of the project results regarded suitable by the project consortium will be disseminated in other relevant events and technical or scientific conferences. The communication plan also includes a description of the main communication tools that will be used such as presentations, website, and print media will also provide an increased level of visibility to the activities of the ELYGRID project and project partners.

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List of abbreviations

FHa	FUNDACIÓN PARA EL DESARROLLO DE LAS NUEVAS TECNOLOGÍAS DEL HIDRÓGENO EN ARAGÓN
IHT	INDUSTRIE HAUTE TECHNOLOGIE SA
EMPA	EIDGENOESSISCHE MATERIALPRUEFUNGS- UND FORSCHUNGSANSTALT
Helion	HELION SAS
Jülich	FORSCHUNGSZENTRUM JÜLICH GMBH
VITO	VLAAMSE INSTELLING VOOR TECHNOLOGISCH ONDERZOEK N.V.
LAPESA	LAPESA GRUPO EMPRESARIAL
INYCOM	INSTRUMENTACIÓN Y COMPONENTES SA
INGETEM	INGETEM ENERGY SA
CEA	COMMISSARIAT A L ENERGIE ATOMIQUE ET AUX ENERGIES ALTERNATIVES
PC	Project Coordinator

1 Objective(s) of the report

The objective of this report is to describe the planned dissemination activities and tools to be used so that Elygrid project can achieve high level of visibility throughout Europe and abroad at all dissemination levels.

The report defines the procedures, means and methodologies for internal communication between partners, reviewing also the procedure which should be taken into account when the project is presented to a further audience outside the project consortium.

The report also attempts to define the general tools for communication that will be used to disseminate the project as well as the procedure to be followed by all partners, and particularly those involved in dissemination and distribution of project news and developments to stakeholders.

Task 6.5, *Market Studies*, must provide useful information so that the international workshops can be considered fruitful in order to provide stakeholders (final users, investors, energy companies) with a vision of the possibilities of this technology.

Task 6.6, *Dissemination of results towards hydrogen community and future customers*, will be leaded by FHA but all the partners will be involved in this task. The communication plan must be the guide in order to reach all the goals described in task 6.6.

2 Project Communication

The dissemination of the ELYGRID project to stakeholders outside of the project is mainly managed by the partners within the Work Package 6. Market Preparation and Dissemination.

All external communications must follow the procedure detailed in the Consortium Agreement point 4.4. described as following:

“Publications

No party shall have the right to publish or allow the publishing of any data which constitutes Foreground, Sideground, Background or Confidential Information of another Party, even where such data is amalgamated with such first Party's Foreground, Sideground, Background or other information, document or material. Any such publication without such other Party's written agreement justifies, in addition to any other available remedies, objection to the publication by the Party concerned in accordance with the GA.

A copy of any proposed publication in connection with or relating to the Project shall be sent to the Coordinator and by the Coordinator to the Parties at the earliest time possible and within 15 days of receipt. Any of the Parties may object to the publication within 30 days after receipt of a copy of the proposed publication on any of the following grounds:

- *(i) that they consider that the protection of the objecting Party's Foreground would be adversely affected by the proposed publication,*
- *(ii) that the proposed publication includes the Confidential Information of the objecting Party, or*
- *(iii) the publication of such information would adversely affect the legitimate academic or commercial interests of the objecting Party, provided such interests are well established in the objection.*

The proposed publication shall not take place until the expiry of the above period of 30 days. In the absence of any objection within the above mentioned period, it is deemed that the Parties agree to the proposed publication. Following the end of the above

mentioned period, the Coordinator shall inform the Parties whether or not any objection has been received.

In the event that an objection is raised on any of the above defined grounds within the above period of 30 days, the Party proposing the publication and the Party objecting shall seek in good faith to agree a solution on a timely basis whereby such objection is resolved.

Disclaimer and marking of Confidential Information provided to the FCH JU

In addition to the provisions of the GA:

- *(a) all information provided to the FCH JU, publications and press releases shall have a disclaimer saying: "The information in this document is provided "as is", and no guarantee or warranty is given that the information is fit for any particular purpose. The user uses the information at its sole risk and liability."; and*
- *(b) Confidential Information provided to the FCH JU will be marked, stating the information is confidential and may be used only for information purposes by European Community Institutions to whom the FCH JU has supplied it."*

Therefore, FHA, as project coordinator, will be in charge of dissemination, but all partners can and should work in dissemination tasks according to the described in the Consortium Agreement and the Project Steering Committee agreements.

For tracking the project dissemination, FHA has sent to all partners an Excel file in order to fill it by each partner when a communication is sent to a conference, an event is attended or a press release is distributed. FHA will ask for this Excel file each 6 months in order to update it with the contribution of all partners.

3 Target Groups

The ELYGRID project aims to engage a number of stakeholders at different dissemination levels.

The target groups are defined as follows:

- **Energy production and distribution companies**, can consider that hydrogen can be used as energy vector for grid management or as means of energy storage
- **Industrial companies** that use the hydrogen for their process: chemical, food, etc. the driver here is if the cost of hydrogen produced is more competitive, in a Total Cost of Ownership (TOC) basis.
- **Public Authorities:** Each project partner is able to take initiative in engaging local and national authorities that prove instrumental to the achievement of the project objectives towards a smooth commercialization of the technology, as well as more general awareness raising on the energy challenge.
- **FCH-JU Stakeholders:** making use of the Communication Strategy of the FCH-JU

As commented before, task 6.5 must provide the necessary information in order to identify conveniently the target groups and the individuals belonging to.

4 Communication Tools

The beneficiaries shall, throughout the duration of the project, take appropriate measures to engage with the public and the media about the project and to highlight the FCH JU financial support. Unless the FCH JU requests otherwise, any publicity, including at a conference or seminar or any type of information or promotional material (brochure, leaflet, poster, presentation etc), must specify that the project has received FCH JU research funding emanating from the Union and display the FCH JU logo and the European emblem. When displayed in association with another logo, the FCH JU logo and the European emblem should be given appropriate prominence.

This obligation to use the FCH JU logo and European emblem in respect of projects to which the FCH JU contributes implies no right of exclusive use. It is subject to general third-party use restrictions which do not permit the appropriation of the emblem, or of any similar trademark or logo, whether by registration or by any other means.

Under these conditions, beneficiaries are exempted from the obligation to obtain prior permission from the FCH JU to use its logo and from the Commission to use its emblem. Further detailed information on the EU emblem can be found on the Europa web page. Any publicity made by the beneficiaries in respect of the project, in whatever form and on or by whatever medium, must specify that it reflects only the author's views and that the FCH JU and the Union are not liable for any use that may be made of the information contained therein.

All communication tools have to display thirteen logos of the ELYGRID project: the FCH JU, the European flag and all the partners. These logos are uploaded in the Document Management System (MyDMS) in WP6 folder.

There are two possibilities for the positioning of the logos:

1.



2.



Each partner must inform to the coordinator if their logo changes in order to make the necessary changes in the communication tools.

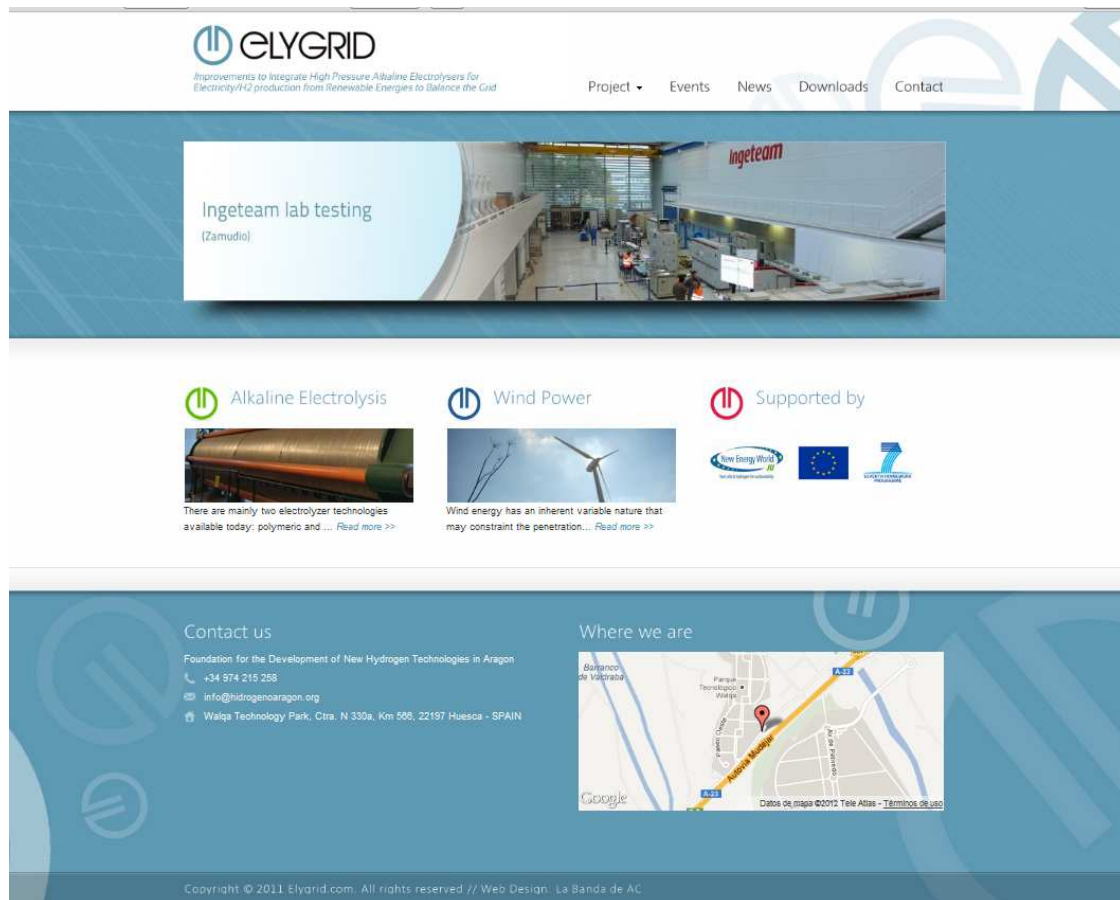
The communication tools should be reviewed before publication by the PC and must be approved by Project Steering Committee.

All Communication tools should be uploaded in the Document Management System (MyDMS) in WP6 folder.

4.1 Digital Media

4.1.1. Website

The project website will be the main portal for dissemination of the ELYGRID project. It has been developed by the FHA, and points to the domain name, www.elygrid.com.



As seen in the above website screenshot, it has a basic menu with the following options:

- Home: Brings user back to the www.elygrid.com
- Project: brief description of the project
- Objectives: section for each work package with the main objectives
- Partners: All partner logos and links to their homepages
- Events: Events at which ELYGRID will be present and other events that may be of interest
- News: in this section shall include relevant industry news. Partners must send relevant news to the coordinator in order to upload in the website.
- Downloads: in this section will be included the logo of the project, press releases, brochure of the project.
- Contact: Contact information of Project Coordinator

FHA will be in charge of the website update if there are changes in the partners information, events, news or it is necessary upload a new document. FHA will update the website at least every 3 months.

The website contains fixed information (project, objectives, partners) which will be only updated if there are important changes and the other sections (events, news, download) will be updated frequently according to the dissemination activities of the project.

4.1.2. Print Media

4.1.2.1. Brochure

FHA will prepare a brochure type of project with basic information. The brochure will be uploaded in the Document Management System (MyDMS) in WP6 folder so that partners can print it and use it when they attend events or conferences.

4.1.3. Power Point Presentation

A customized Power Point presentation of ELYGRID project (see Annex 1) has to be used by all partners taking into account that it describes general information about project (mainly information based on website) and therefore it should be used for non technical forums or conferences related to the topics of alkaline electrolyzer, renewable energy, hydrogen and fuel cells.

FHA has sent the presentation to all the partners and it is uploaded to MyDMS in WP6 – Dissemination folder. FHA will update this presentation each 6 months, if necessary, with the developments achieved which can be considered public by Parties involved.

On the other hand, members who attend conferences as speakers or poster presentation should upload the PPT or poster in the Document Management System (MyDMS) in WP6 folder, presentations folder.

4.1.4.Press Releases

Press Releases as a dissemination tool will be sent to all stakeholders to announce significant milestones of the project and events. At least 4 press Releases will be sent to announce the launch of project, the end of project and the 2 coordinated workshops. Other press releases may be decided upon suggestion of Project Coordinator.

Each partner should disseminate press releases if an important milestone has been achieved in order to increase the impact in their business environment.

5. Key Dissemination Events

Various events are sought after to increase the visibility of the project. Presentation of the project will vary accordingly to the event and coordinating organisation. Impact may range from dissemination of printed material or distribution to oral or poster presentations in Seminars or Workshops, and also to attendance of project partners in exhibition events.

Events sought for project visibility may consist of Hydrogen and Fuel Cell Industry, international, European or national events corresponding with the topics of hydrogen, renewable energy, energy efficiency, and other related events hosted by organizations of strategic partnerships.

Attendance to events should be facilitated by all members of the ELYGRID project team. Each partner will play a role as “Promoters” of the project and its activities.

All partners must suggest the events which will be attended by each partner or they have in mind to attend. All partners are free of attending an event they consider important but the agreements and rules of Consortium Agreement must be followed.

For the moment, the events defined for ELYGRID team are:

- Hannover Messe 2013, Hannover, Germany. Presentation and promotion.
- Power Expo 2013 in Zaragoza, Spain. Presentation and promotion.
- WHEC 2014, Korea. Presentation and promotion.

6. Annual Workshops

The most integral part of the dissemination of the project will be conducting two stakeholder workshops during the duration of the project. The indicative timing of the workshops is expected to be in two sets: the first in month 30 and the second in month 36. In any case, the workshops could be organized in different dates if their impact is considered more important. For instance, the workshops could be planned linked to well know international conferences or events or to specific meetings for the target groups.

The goal of these workshops is to provide stakeholders (final users, investors, energy companies) with a vision of the possibilities of this technology, not enough known up to date.

Topics to be covered in the workshops include consequences of RES coupling for AE system components, return of experience and main advantages / drawbacks identified, and market perspective analysis, sharing points of views from different RES and different countries.

Scheduling of workshops will involve identifying suitable events with the project partners to attract more target audience participation.

Stakeholder groups will be notified of the upcoming workshops approximately one month prior to date. Notification will consist of electronic invitation and follow up telephone calls to high profile stakeholders.

In any case, depending on the progress, results of the project, market studies or target groups identified, the coordinator and partners will decide about the best option or format of these communications. These workshops could be changed by meetings with personal invitation sent to a few potential customers identified in advance or even by personal visits to each potential user identified. This decision could be taken during second year of the project.

ANNEX 1: General Project Presentation

ELYGRID

Improvements to Integrate High Pressure Alkaline Electrolyzers for Electricity/H2 production from Renewable Energies to Balance the GRID

PROJECT: ELYGRID
FUNDED BY:
PARTNERS:
COORDINATOR:

Grant n° 278824

Slide 1.

ELYGRID – MOTIVATION

- Need new clean energy technologies
- Interest in hydrogen production by means of renewable energy sources
- New developments are necessary to match renewable electricity production with its intermittent nature
- No available technology developed for partial load or intermittent operations within that range of electrolysis power (3-4 MW)
- Current technologies must be redesigned to achieve higher efficiencies and to be reliable, robust and competitive with capacity factors lower than 25%.

PROJECT: ELYGRID
FUNDED BY:
PARTNERS:
COORDINATOR:

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Slide2.

ELYGRID – GOAL OF THE PROJECT

ELYGRID Project aims at contributing to the **reduction of the total cost** of hydrogen produced via electrolysis coupled to renewable energy sources (mainly wind turbines), and focusing on **mega watt size electrolyzers** (from 0,5 MW and up).



MAIN IDEAS:

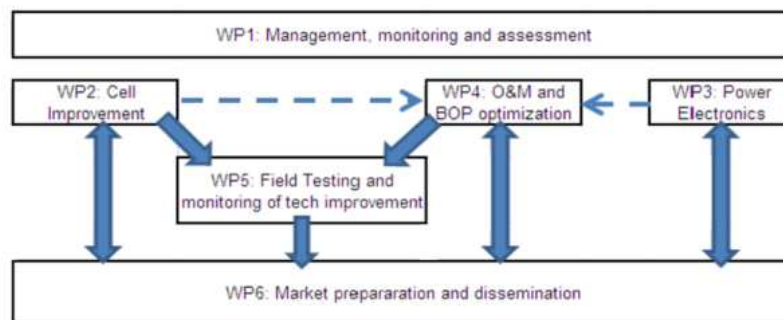
- Big size alkaline electrolyzers
- Leitmotiv: reduction of Total Cost of Ownership (TCO)
- Prototyping and testing with intermittent feeding
- Industrialization and market oriented approach



Slide3.

ELYGRID – WP STRUCTURE

-Well balanced team of academic, research and industrial partners



Slide 4.

ELYGRID – WP 2

Cell Improvement: Advanced materials development and characterization

- Development (synthesis) of advanced materials for electrolysis cell's diaphragms/membranes and electrodes to be used for field testing.
- Research to improve efficiency by increasing operation temperature and electrolyte concentration.
- Research to improve materials, components and systems durability and reliability in order to reduce lifetime costs while optimizing production processes through design optimization.
- Identification of the critical factors for the membrane efficiency



Slide 5.

ELYGRID – WP 3

Power electronics

- Study the effect of the electric power supply topology on the electrolyzer efficiency at full and partial loads.
- Analysis of different topologies of power supplies (electronics and intermediate short-term storage)
- Technical requirements to build an electrolyzer power supply emulator/prototype able to match renewable energy electricity
- Goal is to reduce the electricity energy consumption (10%), because this represents the greatest part of the cost of the hydrogen produced by large (>500 kW) electrolyzers.



Slide6.

ELYGRID – WP 4

O&M and Balance Of Plant optimization

- Identify technical improvements related to Balance of Plant (BOP)
- Improvements most of the regular O&M actions, alarms and failures.
- Modeling and optimization all subsystems (pressure management, gas drying, water conditioning, thermal management, safety and control system)
- Re-design BOP with the objective to reduce the total cost with better functionality.



Slide 7.

ELYGRID – WP 5

Field Testing and Monitoring of Technology Improvement

- Implementation of field trials for electrolyzers integrated with RES
- Two different installations will be used, for different stack sizes: 130 mm and 1.600 mm



Electrolyzer (1600mm) in FHA facilities



Slide 8.

ELYGRID – WP 6

Market Preparation and Dissemination

- Development of business cases
- Identification of potential uses and specifications
- Standardization and identification of barriers to commercialization
- LCA, RCS and homologation
- General dissemination
- Conveying the marketing message to the potential users.



Slide 9.

ELYGRID – PARTNERS



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



Industrie Haute Technologie S.A.



Materials Science & Technology
Eidgenössische Materialprüfungs- und Forschungsanstalt



Helion S.A.S.



Forschungszentrum Juelich GmbH



Vlaamse Instelling voor Technologisch Onderzoek N.V.



Slide 10.

ELYGRID – PARTNERS

lapesa

Lapesa Grupo Empresarial

Inycom

Instrumentación y Componentes S.A.

Ingeteam

Ingeteam Power Technology S.A.

cea

Commissariat à l’Energie Atomique et aux Energies Alternatives



Slide 11.



ELYGRID

Improvements to Integrate High Pressure Alkaline Electrolyzers for Electricity/H2 production from Renewable Energies to Balance the GRID

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Slide 12.