



Hydrogen in Gas Grids

A systematic validation approach at various admixture levels into high-pressure grids

D7.1

Communication and awareness plan

Date 01 March 2020 (M3)
Grant Number 875091
Author(s) **Paola Lloret**¹, Teresa Villuendas¹, Laura Abadía¹, **Hans Rasmusson**², Vanesa Gil^{1,3}

- 1 Fundación para el Desarrollo de las Nuevas Tecnologías del Hidrógeno en Aragón (FHA)
- 2 European Research Institute for Gas and Energy Innovations (ERIG)
- 3 Fundación Agencia Aragonesa para la Investigación y el Desarrollo (ARAID)

Author printed in bold is the contact person

Status Started / Draft / Consolidated / Review / Approved / **Submitted** / Accepted by the EC / Rework [use bold style for current state]

Dissemination level:

PU Public

RE Restricted to a group specified by the consortium*

PP Restricted to other programme participants*

CO Confidential, only for members of the consortium*

*(including the Commission Services)



This project has received funding from the Fuel Cells and Hydrogen 2 Undertaking (FCH JU) under Grant Agreement no. 875091. The JU receives support from the European Union's Horizon 2020 research and innovation programme and Spain, Germany, Belgium and Switzerland.

Document history

Version	Date	Description
1.1	2020-02-24	First draft
1.2	2020-02-28	Final Version

The contents of this document are provided “AS IS”. It reflects only the authors’ view and the JU is not responsible for any use that may be made of the information it contains.

Table of Contents

Document history	2
Executive Summary	4
1 Objective	5
2 Description of work	6
2.1 Methodology	6
2.2 Target groups	6
2.3 Communication channels	7
2.3.1 Project website	7
2.3.2 Graphic material	9
2.3.3 Social media and professional networks	12
2.3.4 Public Relations	13
2.3.5 Showcase and visits	13
2.4 Dissemination activities	14
2.4.1 Synergies with ongoing projects	14
2.4.2 Publications and media impact	15
2.4.3 Conferences, Events and Fairs	16
2.4.4 Workshops	20
3 Conclusions	21
ANNEX 1. Templates	22
ANNEX 2. First press release	25

Executive Summary

The communication and awareness plan defines the communication strategy and tools to be developed and used towards a successful dissemination of the Project and its results. The project Grant Agreement, through the Description of Action, contained the draft of this plan as part of the measures to maximise the Project's impact. This document describes the dissemination goals, target audience and appropriate channels to provide a regular flow of information. The plan will be updated twice during the Project duration, followed by a final report on dissemination activities and materials by the end of the Project.

1 Objective

The communication and awareness plan aims at defining the tools and procedures to be carried out by the Project partners to maximise the impact of HIGGS developments.

This plan also takes into account dissemination activities targeted to different audiences, as workshops, conferences and fairs. It will be updated in D7.3 (M15) and D7.4 (M27) according to the Grant Agreement.

The document aims at defining the methodology, audience, tools, channels and relevant action so as to maximise the impact of the project and its results.

2 Description of work

2.1 Methodology

The dissemination and communication of HIGGS to stakeholders and target groups involved will be managed by the partners within Work Package 7, lead by ERIG and monitored by the Project Coordinator (FHA) to ensure the compliance of the Grant Agreement.

The communication and awareness plan will be updated in months M15 and M27 and summarized at the end of the project (M36) together with the exploitation and dissemination plan.

The consortia agrees to follow a basic set of rules of common understanding to help assure a good quality communication and dissemination in accordance with the Consortia Agreement (CA). These are:

1. The tasks of communications and dissemination of the project is understood as a task of common interest and due contributions and commitments from all partners applies. ERIG acts as the WP leader. In its role as project coordinator, FHA is the final resort in charge of all activities in the project and thus also regarding communication and dissemination.
2. The internal project page is the platform for all internal documentation and documents management. Using the templates and keeping a comprehensible versioning and communication is everybody duty
3. In order to plan, track and monitor communication and dissemination activities of the project as such, all partners reports these activities to ERIG and FHA. Upcoming activities are reported as soon as possible (and before submission, according to the Consortium Agreement) in order to help assure possible synergies or help avoid additional efforts. Each activity is reported to ERIG and FHA, after OK from FHA as project coordinator, each interested partner will send the communication and the event information to the rest of the Consortia prior to submission. Each activity approved will be incorporated in the communication and dissemination reporting by ERIG.
4. In addition, each partner that foresees a publication of own project results should inform the Consortia with sufficient ahead planning (based on the CA rules) to help ensure that results do not stand in conflict with potential commercial exploitation activities, confidentiality or legitimate interests of the partners.
5. Peer reviewed publications must be provided to open access according to the guidelines of the EU Horizon 2020 Manual: https://ec.europa.eu/research/participants/docs/h2020-funding-guide/cross-cutting-issues/open-access-data-management/open-access_en.htm

2.2 Target groups

A first assessment of the main target audiences that are expected to be influenced by HIGGS results is carried out in this section. Results from other tasks of the project related to the description of pathway towards integrating H2 in EU gas networks (WP6) will serve as additional input to detect new business cases and cases of study to focus better the dissemination efforts in the target groups reach.

Policy makers and regulatory bodies

HIGGS results may be a premise towards developing standards in hydrogen blends, according to technical, legal and regulatory conditions for safe operation and maintenance of the gas network at different H₂/CH₄ admixture levels. In the same way, the evaluation of potential markets and the assessment of the potential of water electrolysis to maximise the introduction of RE sources into the grid will be the main input for these organisms.

Renewable energy stakeholders and gas grid operators

HIGGS will impact directly on addressing the interaction on energy markets, first, by increasing the knowledge on impact on infrastructure, also by tackling the aspects from regulations codes and standards, and furthermore, directly considering as part of the pathway the cross border issues that are arising from the differences in gas quality, and that are already considered by the efforts towards the creation of a full internal gas market, where electricity and gas are coupled by means of electrolysis production of hydrogen.

The key message to be transmitted to these groups involves (1) the potential benefits of injection of hydrogen in terms of the potential of electrolysis technology for RE integration and transport of the H₂ produced in the gas grid, (2) the potential and needs to reach the EU goals on decarbonisation and specifically decarbonisation of gas usages, and (3) the results gathered during HIGGS trials will be shared in order to prove the feasibility of injecting hydrogen at different admixtures levels into the natural gas grid.

Technology providers/manufacturers

HIGGS trials are expected to increase industrial maturity and to reduce the integration/manufacturing costs. Lessons learned about product development, testing platform capabilities and potential new components will be shared among this target group, so new business models and business cases may be implemented to the market.

General public

The dissemination efforts towards the general public will be focussed on the benefits of hydrogen and power-to-hydrogen solutions for RE integration and CO₂ reduction aiming a high decrease of fossil fuel dependence and highlighting the potential for local economy. Furthermore, emphasis will be laid on hydrogen technologies safety and European competitiveness.

2.3 Communication channels

Communication activities in HIGGS are linked to a wide spectrum of communication channels to reach all the target audiences detailed previously. They will support the dissemination of results and activities for creating awareness.

2.3.1 Project website

The project's website (under construction) aims to become the central place for the communication of all the information related to the project. It will be used as a tool for partners and to show project advances and deliverables. This channel will be addressed at all target groups.

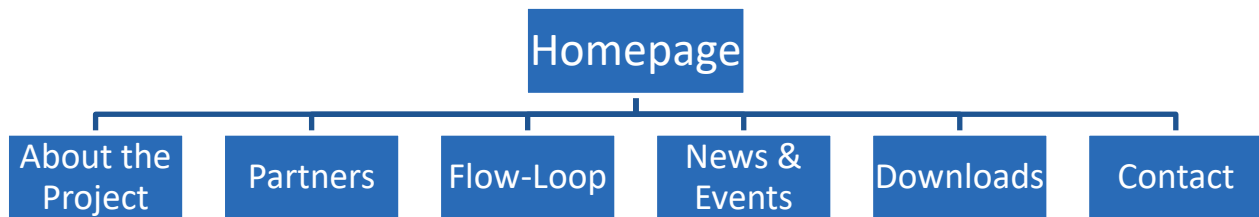


Figure 1. Web map scheme.

The website will be designed to provide a general impression of the project and will be maintained for 2 years after the finalization of HIGGS project. Its maintenance will be responsibility of ERIG.

The **About the Project** section will include all the necessary specifications of the project for a complete understanding of its goals and procedures.

The **Partners** section will provide a description and background of all the organizations and companies involves, including links to their websites.

The **Flow-Loop** section will explain the demo-site.

The **News & Event** section will include all the press releases sent as well as other articles about the development, events and achievements of the project.

The **Downloads** section will serve as the main hosting page for all the public content generated by the project: deliverables, presentations, reports, publications, etc. Flyers, press kits and other corporate documents will also be available here.

A **Contact** section will be included in order to provide a contact point for any person wishing to reach HIGGS' project. It will include a contact form that will automatically send the information to the project coordinator (FHA).

The **Login** button will redirect to the consortium private section, managed by ERIG.



Figure 2. Screenshot of the draft design of the website.

2.3.2 Graphic material

A visual identity will be developed for the project, comprising a logo, document templates, a press kit, a set of factsheets, posters and flyers. All the communication and visual identity materials will be available in the web of project in several formats. They will be developed considering the updates of this plan.

The main graphic materials developed within HIGGS are or will be:

- **Logo and Colour Schemes**

D7.1 Communication and awareness plan

Selected by the Consortium on M1 the chosen logo establishes the basic lines for the project’s documents visual appearance.








Figure 3. Logo of the HIGGS Project.

By the development of the design of the Logo for HIGGS the overarching approach has been to have a simple, yet expressive logo with clear relation to the content of the project. Since HIGGS in itself as acronym does not clarify anything about the topic of concern, it was decided from the start to include the short title “Hydrogen in Gas Grids” to ensure that the content of the project comes across whenever the logo is displayed.








For the pictorial representation of the project and as an immediate eye-catcher, the design of the “G”s in the acronym are protruded up to the right and thereby visualises the object of attention in the project, namely the high pressure gas grids in the form of “pipe-lines”.

Several colour combinations for the logo were drafted and in the end the decision fell on the simple version with two colours. The colour transition throughout the Logo in blue and green shows how hydrogen (blue) can help make high pressure natural gas grids get greener (green). Both “G”s are turned towards each other and the cross bars in the form of arrows indicate the positive interaction between pure hydrogen and the natural gas grids in symbiosis. It also underlines that this interaction between hydrogen and the gas grids is at the centre of attention in the project.

In addition to the colours included in the logo, further colours are defined to be part of the project identity of HIGGS. These colours are identified to fit with the two main colours represented in the logo and will be used for different purposes in the project documents i.e. in diagrams, presentations etc. For convenience the colours are also predefined in the project templates (Word, Excel, PPT).

	Logo Blue: 41,107,183 (RBG)
	Logo Green: 150,193,60 (RGB)
	Text White: 255, 255, 255 (RGB)
	Text Black: 0, 0, 0 (RGB)
	Background light: 238, 236, 225 (RGB)

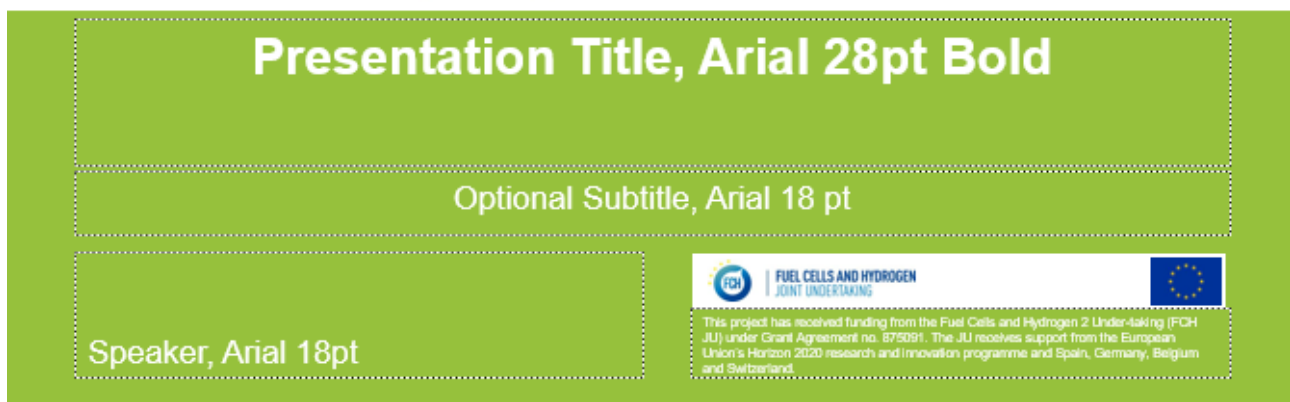
D7.1 Communication and awareness plan

	Background dark: 31, 73, 125 (RGB)
	Accent 1: 255, 207, 40 (RGB)
	Accent 2: 255, 207, 40 (RGB)
	Accent 3: 204, 64, 67 (RGB)
	Accent 4: 105, 48, 138 (RGB)
	Hyperlinks un-used: 41, 107, 183 (RGB)
	Hyperlinks used: 105, 48, 138

The font that has been selected for project documents is Arial.

- **Document templates**

A set of document templates are being developed in order to ensure unified communications. Document templates for deliverables, minutes, agenda and power point presentations will be distributed among project partners. Template versions can be found in Annex 1.



www.HIGGSproject.eu

Figure 4. Power-Point presentation draft screenshot.

D7.1 Communication and awareness plan

- **Press kit**

A press kit is being developed and distributed among partners (distribution expected during M3) and journalists. It will be available for download on the project website.

This document will help partners draft their press releases and journalist in their job of writing about HIGGS. It will include a summary of the project, pictures, FAQs and tweetable facts.

This document is thought to homogenize the communication approach and to promote the chosen project image.

- **Factsheets and flyers**

As a way to promote the project at selected events, at least one factsheet or flyer will be produced with the goal of providing general information and preliminary result, addressing both technical and non-technical public.

Yearly updates of this material will be released with progress of the project and aiming to a wider public at EU level. It will include a general presentation of the project, at first. On latest versions, it will gather the main impacts on society and the environment.

The factsheet(s) will also be uploaded to the website and available for download. The printable versions will be uploaded in the document sharing platform of the project, as they will also serve as support documents for the partners attending to fairs, congresses, forums and workshops.

- **Posters**

At least one poster will be developed during the life of the project. In the same way as the fact-sheet/flyer, the post will serve as a support material for special events where HIGGS will be presented.

- **Video**

An explanatory video will be issued in the second half of the project with the main communication messages to reach a wider public at EU level. The idea is to combine real images with infographics so as to better explain the socio-economic and environmental benefits of the project, impact on EU decarbonisation as well as recommendations at EU level (policies, targets).

All project partners will upload the video to their YouTube channel once it's ready.

2.3.3 Social media and professional networks

The use of social media and professional networks will be also a key communication tool to disseminate information about the project. **Partners will use their own accounts** in the social/professional networks in order to contribute to the project dissemination. Regarding social media, the coordinator of the project (FHA) and the partner in charge of WP7 (ERIG) will encourage the use of a dedicated hashtag (#HIGGS).

Social media

Main social media channels considered for the dissemination of the project and recommendations on how to use each of them are detailed below:

- **Twitter:** Used to reach the general public (target group 4). Partners will echo the project events, news and press releases through a brief message or tweetable fact in the account holder language and also in English, linking to the article or piece of news published in the project website.
- **Facebook:** Used to reach the general public (target group 4). Partners will echo the project events, news and press releases through a more detailed message in the account holder language and also in English, linking to the article or piece of news published in the project website.
- **LinkedIn:** Used to reach renewable energy stakeholders and gas sector companies (target group 2), technology providers/manufacturers (target group 3) and the general public (target group 4). Partners will echo the project events, news and press releases through posts in their company profiles, in the account holder language and also in English, linking to the article or piece of news published in the project website. Moreover, a template text explaining the project will be created and shared with the partners so as to facilitate that every person involved in the project can post said template under the 'Project' section in their profiles.

A call to action (link, question, etc) is advised to be included in every social media post.

Professional networks and related projects cooperation

Networking opportunities allow project partners to learn from each other, discuss common issues and get feedback on their work. The kinds of meetings also provide a great chance to carry out an effective communication of the project inside and outside the Consortium.

In this sense, but also with the idea to maximize the impact of the project and the FCH 2 JU and H2020 resources, HIGGS will identify other projects and initiatives. More information on section 3.4.1.

2.3.4 Public Relations

Several press releases will be sent during the life of the project, directly linked to important events, achievements or milestones of the project, such as the project kick off meeting. The press kit described in 3.3.2 will help the Public Relations (PR) activities carried out by HIGGS project partners.

The first press release was sent by FHA on January 16th (see Annex 2).

2.3.5 Showcase and visits

A showcasing event will be organized at the demo-site of HIGGS (FHA facilities).

Linked to the educational and awareness activities carried out by the FHA, open visits to the demo-site will be encouraged. Information about these visits will be available on HIGGS website.

2.4 Dissemination activities

2.4.1 Synergies with ongoing projects

Identification of similar projects funded in recent years and relevant initiatives will be carried out during the whole project lifecycle in order to find synergies and coorganise common activities and exchange, according to the Task 7.3.2 defined in the Grant Agreement.

The assessment of the collaboration will be studied case by case taking into account the objectives of each project and partners involved, but a preliminary list of possible synergies is summarised hereafter.

HyDeploy (2017-2020)

The HyDeploy project is the UK's first practical project to demonstrate that hydrogen can be safely blended into the natural-gas distribution system without requiring changes to appliances and the associated disruption.

Partners involved: ITM Power, HSE, Keele University, Cadent, Northern Gas Network, Progressive Energy.

HyDeploy is structured into three distinct phases:

- First phase consists on an extensive technical programme to develop the initial evidence base that hydrogen can be blended (at 20 mol%) into a UK operational natural-gas network without disruption to customers and without prejudicing end users safety.
- The second phase comprises the construction of the electrolyser and grid entry unit to allow H₂ to be mixed and injected into the Keele University gas-distribution network.
- The third phase is the demonstration itself, which will last 10 months and will have as overarching objective to understand the performance implications introducing a H₂ blend across a wide range of appliances, as well as to understand the limit of operability (H₂ content) for a select number of appliances.

A 0.5-MW electrolyser supplied by ITM Power will be used in HyDeploy as H₂ production method which will be inject using a hydrogen grid entry unit (H₂GEU) supplied by Thyson Technologies.

FenHYx (2018-2020)

This project is based on the design of a demonstrator whose purpose is to define the technical, economic and regulatory conditions for injecting hydrogen and decarbonised gases into the gas infrastructure.

The FenHYx platform in particular aims to reproduce the features of gas transmission networks, taking into account compression and expansion processes, measurement, analysis, injection loop, among others. Trials at different pressures and concentrations of hydrogen and methane, will be used to test, assess and certify innovative processes for producing new gases including hydrogen as well as innovations in equipment.

The platform will be built in 2020 by the GRTgaz Research and Innovation Center for Energy (RICE) to carry out hydrogen R&D.

D7.1 Communication and awareness plan

THyGA (2020-2023)

The objective of THyGA project (Testing Hydrogen Admixtures for Gas Appliances) is to study the impact of hydrogen blends in natural gas on residential and commercial gas appliances. This assessment will take into account technical, safety, lifetime and environmental performance.

The project consortium is composed of French energy company Engie as coordinator and eight more European partners including laboratories, gas companies and manufacturers representing different applications. The consortium will identify and recommend the adequate codes and standards needed for addressing the new challenges linked to these activities.

This identification will be performed by:

- Screening and segmenting the portfolio of appliance technologies in the domestic and commercial sectors and assessing the impact of hydrogen admixtures.
- Testing up to 100 residential gas appliances to provide a generic protocol that can be adapted for virtually any appliance.
- Developing a validated certification protocol for different levels of H₂ in natural gas
- Making recommendations for manufacturers and decision makers along the gas value chain for appliance design, manufacture and certification.

A first contact with the project coordinator has already been made by ERIG and FHA and knowledge exchange on regular basis has been suggested.

NETZlabor Wasserstoff-Insel (2019-2023)

This is a pilot project funded and carried out by Netze BW which aims to demonstrate that hydrogen amounts of up to 30% are already today technically possible in large parts of the gas supply.

The facilities are located in Öhringen (Hohenlohe, Germany) at the network operator's office and the adjacent streets with about 20 residential buildings. The selected area of the natural gas network is decoupled from the surrounding supply infrastructure and operated as a so-called island network.

The project is characterised by two different stages:

- Phase 1: Demonstration of successively increasing hydrogen amounts of up to 30% vol. in Netze BW's own property
- Phase 2: Demonstration of successively increasing hydrogen amounts of up to 30% vol. in neighboring streets and houses.

2.4.2 Publications and media impact

Scientific papers (relevant journals and conference proceedings) and other communications

Publications in high-impact scientific journals are foreseen, as well as diffusion in dedicated journals, magazines and associations like Hydrogen Europe, HYER and ERIG.

D7.1 Communication and awareness plan

Several scientific publications are foreseen during the time of HIGGS' development. For all participants on the Horizon 2020 program, it is necessary to meet a number of requirements related to the diffusion of any result of the project. These include ensuring open access to all peer-reviewed scientific publications, and trying to provide open access to other types of publications, such as monographs, books, reports, etc. (See also chapter 2.1 Methodology)

General media impact

As stated on 3.3.4, the HIGGS project will carry out some Public Relations (PR) actions and several press releases will be distributed. Several articles, interviews or pieces of news are expected to be published in general media during the life of the project.

Media impact results of the first press release include:

1. **20 minutos:** [Aliaga subraya que HIGGS es un proyecto clave para impulsar la descarbonización en Europa y que Aragón puede liderar](#) (Alexa Rank in Spain 56, aprox 64,5 million monthly visits).
2. **Heraldo:** [Aragón lidera desde Walqa un proyecto clave para la descarbonización en Europa](#) (Alexa Rank in Spain 317, aprox 8,7 million monthly visits).
3. **EuropaPress:** [Aliaga subraya que HIGGS es un proyecto clave para impulsar la descarbonización en Europa y que Aragón puede liderar](#) (Alexa Rank in Spain 187, aprox 7,8 million monthly visits).
4. **El Periódico de Aragón:** [Aragón lidera un proyecto para descarbonizar la economía](#) (Alexa Rank in Spain 403, aprox 3,2 million monthly visits).
5. **Diario del Alto Aragón:** [Arturo Aliaga asiste en Huesca a la presentación del proyecto HIGGS de la Fundación Hidrógeno](#) (aprox 2,62 million monthly visits)
6. **Energy News:** [HIGGS, un proyecto de hidrógeno clave para impulsar la descarbonización en Europa](#) (No public traffic data available)
7. **PV Magazine:** [La Fundación Hidrógeno Aragón coordina un proyecto para impulsar la descarbonización en Europa](#) (No public traffic data available)
8. **Interempresas:** [El proyecto HIGGS, de la Fundación Hidrógeno Aragón, presentado en sociedad](#) (No public traffic data available)
9. **APPICE:** [HIGGS, un proyecto de hidrógeno clave para impulsar la descarbonización en Europa](#) (No public traffic data available)
10. **Aragón Hoy:** [Arturo Aliaga asiste a la presentación del proyecto HIGGS de la Fundación Hidrógeno](#) (No public traffic data available)

2.4.3 Conferences, Events and Fairs

HIGGS partners will show the results obtained during and after the project at conferences, fairs and events related to the targets stated on section 3.2.

For highest possible impact towards the major stakeholders, High Pressure Grid Operators, the project targets European and national events featuring targeting the Natural Gas Grid Operators. The consortium wishes to present the project in the following events:

National and European Events targeting Gas Grid Operators

By targeting the major national events of the Gas Grid Operators, a substantial higher impact to the core technology stakeholders could be achieved, than what would be the case by only addressing European events. First priority will be on the nationalities represented via the consortium. Furthermore, if other national events allow for presentations in English, ERIG will try to address those as well. I first orientation is given here:

D7.1 Communication and awareness plan

Gat | Wat in Berlin will be the leading congress of the German gas and water industry and it will focus on the strategic and political leading congresses for the gas and water industry, top-class panel discussions, and in-depth specialist articles. Next edition: 17-18 November 2020, Berlin (Germany) – This is deemed to be a high priority event and ERIG are in exchange with the organisers to arrange HIGGS participation and possibly room for interaction with other identified relevant projects.

SVGW/VSG Research Day – contacts with the Swiss association SVGW has proven that the best impact can be generated in Switzerland by participating in the a special dedicated research day that is currently in the planning – preliminary date is the 3rd September 2020

The Spanish Association for Gas, SEDIGAS, is also approached to check the possibility for a similar arrangement. Already one event is foreseen with presentation of the project:

- Renewable Gas Day: Hydrogen, a key piece for a decarbonised energy future – 4th March in Madrid

And also a further event in Spain:

- GASNAM –Green Gas Mobility Summit 2020 – 1st – 2nd April in Madrid

On European level, exchange and planning activities are especially prioritised to take place with ENTSOG, Eurogas and Gas Infrastructure Europe and Marcogaz.

ENTSOG will host 3 workshops in March 2020 with stakeholders on the Roadmap 2050 for Gas Grids recommendations, on the following dates:

- 10 March - Workshop 1: EU Gas Market for New Gases
- 17 March - Workshop 2: Innovative Regulatory Approach for the Energy Transition - Sector Coupling & Regulatory Sandbox
- 26 March - Workshop 3: Principles for EU Gas Qualities, handling of Hydrogen and CO₂ Transportation

European Utility Week

As an annual conference for the energy community, this event has previously focused on electricity but gradually pushed on to include more cross energy vector alternatives. This is also one of the highest ranking European events that addresses the grid operators in Europe. ERIG is in regular contact with the organisers and it is the ambition to place the project in the relevant hub-sessions and fora's. Previous years, there has been a special stage for Horizon 2020 projects and a further alternative would be to co-organise a hub-session specially dedicated to the general topic of "Synergy of Hydrogen in Natural Gas Infrastructure". ERIG is currently investigating the possibilities for participation with highest impact.

Next event will be on the 27th-29th October, Mailand, Italy.

World Hydrogen Energy Conference (WHEC)

WHEC is considered as the most well-known conference with several accompanying events in the field of hydrogen energy, under the auspices of the International Association for Hydrogen Energy (IAHE), hosts more than several thousands of attendees from more than hundred countries and of-

D7.1 Communication and awareness plan

fers numerous opportunities for participants, exhibitors and sponsors to exchange scientific and market information with global leaders in business, governments and scientific communities.

Relevant topics for HIGGS during next edition (July 5-9 Istanbul, Turkey):

- Hydrogen Strategies, Policies, and Roadmaps
- Hydrogen transportation / Hydrogen safety
- Pipelines / Hydrogen Infrastructure / Distribution / Filling Stations
- Renewable Hydrogen Technologies and Applications
- Sectoral Hydrogen Applications

World Hydrogen Technologies Convention (WHTC)

WHTC is alternating with WHEC and one of the most prestigious conferences focusing on hydrogen. Next event will take place in 2021 in Montreal, Canada and the HIGGS Consortia will strive to participate to relevant topics for HIGGS. Here is a pre-selection based on last event in Tokyo:

- Hydrogen Materials
- Hydrogen Energy System
- Regional Hydrogen Energy Society
- Dissemination Strategy for Hydrogen Society
- Codes, Standards & Regulation

European Hydrogen Energy Conference (EHEC)

The European Hydrogen Energy Conference (EHEC) is the Europe's conference of reference in the field of hydrogen energy.

EHEC provides an excellent framework for updates on hydrogen and fuel cell technologies and represents the best setting to show the latest advances in research, projects and products. It will bring the latest breakthroughs in the research and business sector to the public eye. Moreover, the conference will facilitate the presentation of cutting edge hydrogen and fuel cell science and technology.

Next edition: 4-6 November 2020 Madrid, Spain

Hannover Fair H2FC

Hannover Messe Fair is the Europe's largest hydrogen and fuel cells exhibition 2020.

Exhibition topics:

- Hydrogen generation
- Hydrogen storage and transport
- Fuel cell systems and applications: Stationary, automotive, mobile, special markets

D7.1 Communication and awareness plan

- Components and supplying technology
- Fuel cell and battery testing
- Stationary batteries

Next edition: 20-24 April 2020 Hannover, Germany and the consortia are currently investigating how a participation can be arranged. As this is an annual major European fair, this is something the consortia will address also in the coming project years.

Hydrogen & Fuel cells energy summit

Hydrogen & Fuel Cells Energy Summit, organized by ACI will take place in Lisbon, Portugal on the 4-5th March 2020. The two day event will bring together key industry stakeholders from all facets of the hydrogen industry to discuss the required economical and infrastructural innovations for a sustainable future energy carrier. The key discussions will involve monetisation, latest technology implementations, material optimisation, production and transportation with case studies presented from across Europe. The project currently foresees a participation via FHa.

Power2gas conference

Power2gas conference brings together major stakeholders from the industry to explore the latest developments related to this technology. Last edition was celebrated in October 2019 in Marseille, France.

Key topics: EU regulatory and support framework / Examination of running projects – practical case of studies / P2G economics - reducing CAPEX & OPEX / Latest technological advancements / Convergence of power and gas infrastructures / Hydrogen storage improvements and safety issues / Scaling up opportunities and challenges / P2G for mobility and chemical sector / Building partnerships.

Iberconappice

Under the name of Iberoamerican Congress on Hydrogen and Fuel Cells (Iberconappice), the Spanish Fuel Cells Association organizes a series of conferences with the aim of facilitating dissemination of the progress made in Hydrogen and Fuel Cell technology from different areas (e.g. university, research centres, technology centres, companies and governments). Despite its original national character, it has been an increase in the participation at international level, providing the opportunity to establish valuable partnerships beyond Spain and its borders.

Next edition is expected to take place in 2021 in Spain.

International Hydrogen Symposium

To show the great potential of hydrogen and to highlight the leading role of Northern Germany in this context, the IHK Nord e.V. (Association of North German Chambers of Commerce and Industry) and the Wasserstoff-Gesellschaft Hamburg (Hydrogen Society Hamburg) jointly organised the International Hydrogen Symposium in Hamburg.

The next International Hydrogen Symposium will take place in 2021.

Energy Transition World Forum

D7.1 Communication and awareness plan

This event consists on one-day specialist forum bringing together the major stakeholders in the decarbonisation of industry, transport and the connected energy system. Part of Flame, Europe's leading Gas and LNG conference.

It will take place on 13 May 2020 in Amsterdam (Netherlands)

Other significant events related to gas sector

Other events to take into account are upcoming editions of the World Hydrogen Congress and the World Hydrogen Fuel Summit. The HIGGS consortium will evaluate other possible events to attend to. This list will evolve and will be updated in following versions of this plan.

2.4.4 Workshops

HIGGS will organize at least two workshops further to the project kick-off. They will be especially dedicated to target the key stakeholders of the topic such as the high-pressure natural gas grid operators. Efforts have been made to join forces with other related projects to the topic. Foremost with THyGA, as complementing project to HIGGS mentioned in the FCH JU-call, but also with other projects. The objective hereby is to raise the attractiveness for the target group and thus raise impact.

- M3: Project public presentation. It is foreseen to organize a public presentation of HIGGS during the first months of the project in order to present it to relevant stakeholders.
- M23: HIGGS first results' workshop. The exploitation plan (D7.2) will provide the first results available for dissemination.
- M33: HIGGS final results workshop

Dates of these workshops are indicative, as they were determined during the project's Kick-Off meeting, and they may vary depending on the development of the project. Dates will adapt to the availability of results.

3 Conclusions

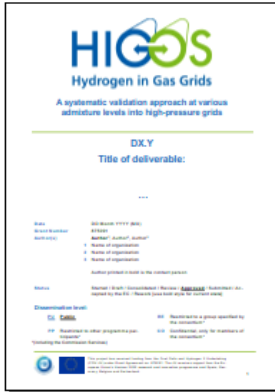
The present document describes the goals, target groups, channels and individual approaches for particular partners providing a regular flow of information. It contains information about target groups, the message to be transmitted to them and the communication tools to get it. All activities will be approved according to the provisions set in the Grant Agreement and the Consortium Agreement.

A search of synergies with other European projects has been performed aiming a knowledge exchange between the project advisory board and other relevant projects with same HIGGS mission. Hence, common workshops may be organised in the near future as a measure of maximizing HIGGS impact. Similarly, it is proposed a list of conferences and events to attend as dissemination activities within communication work package of HIGGS.

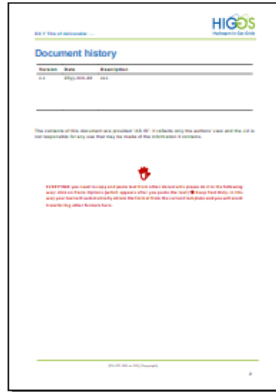
A more detailed plan will be updated each year through deliverables D7.3 and D7.4 in M15 and M27 respectively.

ANNEX 1. Templates

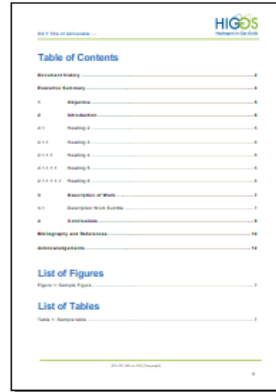
Deliverables



1



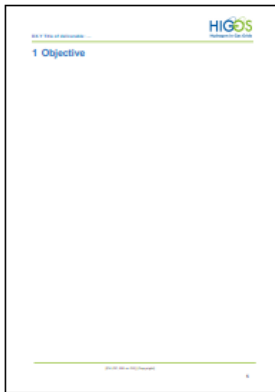
2



3



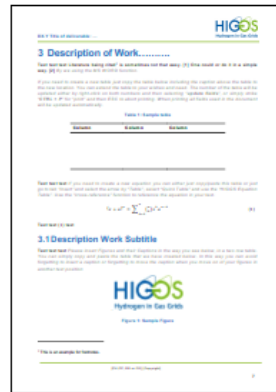
4



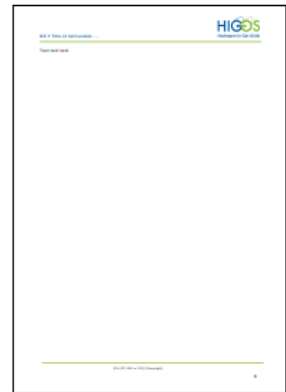
5



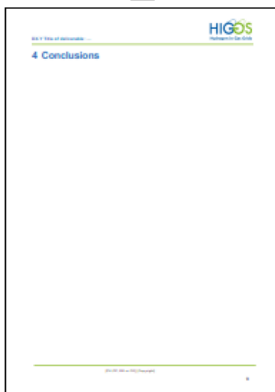
6



7



8



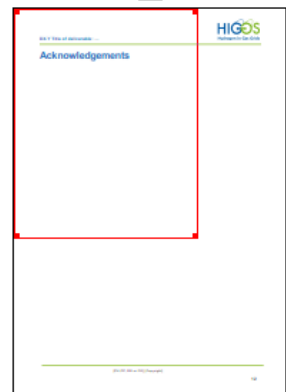
9



10



11



12

Agenda/Minutes of Meetings



HIGGS: KICK OFF MEETING

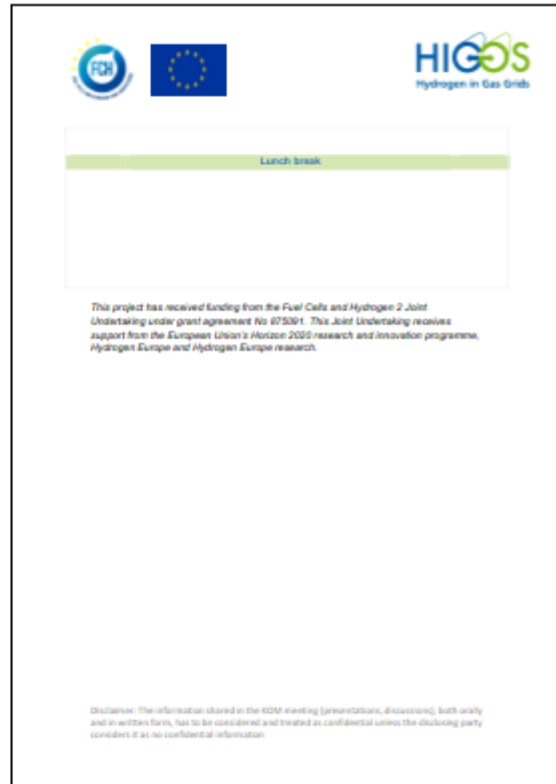
DATE	Thursday 10th January 2020
VENUE	Aragon Hydrogen Foundation Parque Tecnológico Walqa Ctra. N-330P, Km. 566 22157 Huesca (Spain)
ATTENDANTS	(FHA) Vanesa GE, Manuel MUNIESA, Laura ABADIA, Rodrigo PEREZ, Teresa VELLENDAS, Javier SANCHEZ, Rubén CANALEJAS, Paola LLORET, Pedro CASERO (DivGW) Michael WALTER (TECNALIA) Pablo BENVIGURA, Ekan FERNANDEZ, Virginia MADINA (HSR) Markus FRIEDL (REDEXIS GAS) Maria Dolores STORCH DE GRACIA CALVO, Marcos LOPEZ-BREA, Agustín PASCUAL, Alberto CEREZO (ERG) Hans RASMUSSEN

AGENDA|MINUTES:

Topic	Presented by
TOP 1 Title of the topic	N/A (Comp.)
TOP 2	Consent
TOP 3	
Coffee break	
TOP 4	Background, roles and expectations
TOP 5	

Disclaimer: The information shared in the KDM meeting (presentations, discussions), both orally and in written form, has to be considered and treated as confidential unless the disclosing party considers it as no confidential information.

1



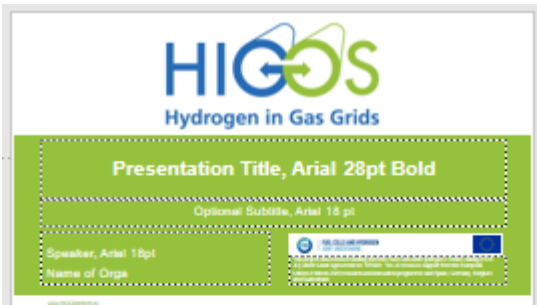
Lunch break

This project has received funding from the Fuel Cells and Hydrogen 2 Joint Undertaking under grant agreement No 875391. This Joint Undertaking receives support from the European Union's Horizon 2020 research and innovation programme, Hydrogen Europe and Hydrogen Europe research.

Disclaimer: The information shared in the KDM meeting (presentations, discussions), both orally and in written form, has to be considered and treated as confidential unless the disclosing party considers it as no confidential information.

2

Power-Point



HIGOS
Hydrogen in Gas Grids

Presentation Title, Arial 28pt Bold

Optional Subtitle, Arial 18 pt

Speaker, Arial 18pt
Name of Orga



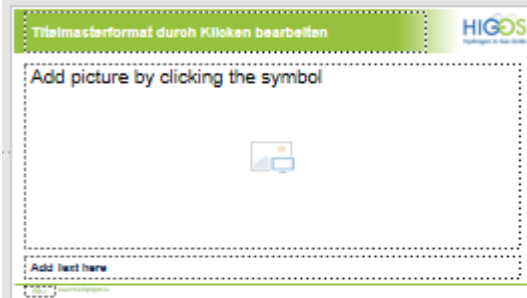
Titelmasterformat durch Klicks bearbeiten

- First level, Arial 18pt
- Second level, Arial 18pt
- Third level, Arial 18pt
- Fourth level, Arial 13pt
 - Fifth level, Arial 13pt




Titelmasterformat durch Klicks bearbeiten

1. First level, Arial 18pt
 - a) Second level, Arial 18pt
 1. Third level, Arial 18pt
 1. Fourth level, Arial 13pt



Titelmasterformat durch Klicks bearbeiten

Add picture by clicking the symbol



Add text here



Titelmasterformat durch Klicks bearbeiten

Add subtitle here

- First level, Arial 13pt
- Second level, Arial 13pt
- Third level, Arial 13pt
- Fourth level, Arial 13pt
 - Fifth level, Arial 13pt

Add subtitle here

1. First level, Arial 13pt
 - a) Second level, Arial 13pt
 1. Third level, Arial 13pt
 1. Fourth level, Arial 13pt



Titelmasterformat durch Klicks bearbeiten

Add subtitle here

Formalvorlagen des Texteditors bearbeiten





Titelmasterformat durch Klicks bearbeiten

Add subtitle here

- First level, Arial 13pt
- Second level, Arial 13pt
- Third level, Arial 13pt
- Fourth level, Arial 13pt
 - Fifth level, Arial 13pt

Formalvorlagen des Texteditors bearbeiten




Titelmasterformat durch Klicks bearbeiten

Add subtitle here

1. First level, Arial 13pt
 - a) Second level, Arial 13pt
 1. Third level, Arial 13pt
 1. Fourth level, Arial 13pt

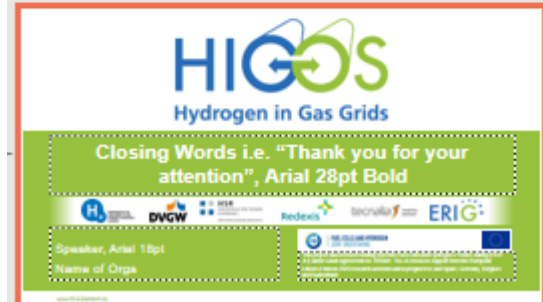
Formalvorlagen des Texteditors bearbeiten




HIGOS
Hydrogen in Gas Grids


Introducing a new section to the presentation, Arial 28pt Bold

Optional Subtitle, Arial 18 pt



HIGOS
Hydrogen in Gas Grids

Closing Words i.e. "Thank you for your attention", Arial 28pt Bold



Speaker, Arial 18pt
Name of Orga

ANNEX 2. First press release

English version



HIGGS, a key project to promote decarbonisation in Europe coordinated by the Aragon Hydrogen Foundation

The Vice President of the Government of Aragon (Spain), Arturo Aliaga, has participated in the kick-off meeting to launch an European cooperation initiative that for 36 months will study the possibilities of injecting hydrogen into existing natural gas networks as a way to reduce CO₂ emissions.

The new European directives on energy and the environment are clear: the continent's economy must be decarbonized, and efforts must be intensified in order to reduce contaminating emissions with an horizon of a 45% reduction by 2030. This requires a comprehensive strategy that includes an increase in energy production from renewable sources, decarbonization of the heating and cooling systems –still largely based on fossil fuels– a significant reduction in emissions from transport as well as greater integration, flexibility and Independence of European energy markets.

In this context, hydrogen originating from renewable resources can play an important role as an energy vector that helps to meet the aforementioned objectives in areas and sectors that are difficult to electrify, which requires careful planning to bring it from where it is produced to where it is going to be used. And the current natural gas networks can be an excellent option for doing so.

This is precisely the objective of the HIGGS project (*Hydrogen In Gas GridS: a systematic validation approach at various admixture levels into high pressure grids*) which is now launching with the aim of analysing the existing potential and requirements of the infrastructure, its components and its management – that involves injecting hydrogen into the current high pressure natural gas transport networks, something that will undoubtedly contribute to decarbonising gas uses.

The Foundation for the Development of New Hydrogen Technologies in Aragon, located in the Walqa Technology Park in Huesca (Spain), has hosted the kick-off meeting of this Project. The event has been chaired by the president of the Foundation and Vice President of the Aragon Autonomous Community, Arturo Aliaga, who has welcomed the partners of HIGGS. [REDEXIS](#) (Spain), [DVGW](#) (German Association for Gas & Water, Germany), [TECNALIA](#) (Spain), [HSR](#) (University of Applied Sciences of Rapperswill, Switzerland) and [ERIG](#) (European Research Institute for Gas and Energy Innovation, based in Belgium) are the partners of this project coordinated by the Foundation.

D7.1 Communication and awareness plan

The HIGGS Project has a duration of 36 months and a budget of 2 million Euros from European funding. To evaluate how different degrees of natural gas and hydrogen mixture behave in relation to the transport infrastructure, simulating different operating conditions by varying the flow, composition and quality of the gas, a testing platform will be developed at the facilities of the Aragon Hydrogen Foundation where all the elements will be tested at high pressure. Among them, a novel gas separation system developed within the framework of the Project that is based on membrane technology.

The HIGGS Project has received funding from the Fuel Cells and Hydrogen 2 Undertaking (FCH JU) under Grant Agreement no. 875091. The JU receives support from the European Union's Horizon 2020 research and innovation programme and Spain, Germany, Belgium and Switzerland. The FCH JU is the main public-private partnership in Europe supporting research, technological development and demonstration activities in the field of hydrogen and fuel cell technologies.

About the Aragon Hydrogen Foundation

The Foundation for the Development of New Hydrogen Technologies in Aragon is a private non-profit organization created more than 15 years ago. Based in the Walqa Technology Park in Huesca (Spain), it has a Board of Trustees composed of 75 members, most of them private companies of reference in their respective sectors.

With a team of 25 people, the Foundation carries out the organisation, management and execution of all types of actions to generate, store and transport hydrogen for its use in fuel cells and in transport application, both distributed energy generation and production of synthetic or alternative fuels (Power-to-gas/Power-to-fuel). It also encourages research, technological development, industrial adaptation and the implementation of sustainable energy-based projects that make technological innovation possible & promote energy and environmental sustainability.

In recent years, the Aragon Hydrogen Foundation has intensified its activity in initiatives that address the challenge of energy transition and contribute to the decarbonization of transport and the energy sector, challenges in which hydrogen is called to play an important role for its sustainability, versatility and cross-cutting component, in line with what the main strategies and institutions at European and global level are advocating.

Spanish version

HIGGS, un proyecto clave para impulsar la descarbonización



en Europa coordinado por la Fundación Hidrógeno Aragón

El vicepresidente del Gobierno de Aragón Arturo Aliaga ha asistido en Huesca a la reunión de lanzamiento de esta iniciativa de cooperación europea que estudiará durante 36 meses las posibilidades de inyectar hidrógeno en las actuales redes de gas natural como vía para reducir las emisiones de CO₂ en sectores difíciles de electrificar.

Las nuevas directivas europeas en materia de energía y medioambiente son claras: la economía del continente tiene que descarbonizarse y hay que intensificar los esfuerzos para reducir las emisiones contaminantes, con el horizonte de un descenso de hasta el 45% para 2030. Esto requiere una estrategia integral que incluya un aumento de la producción de energía de origen renovable, descarbonizar los sistemas y equipos de calefacción y refrigeración -basados todavía mayoritariamente en combustibles fósiles-, disminuir notablemente las emisiones derivadas del transporte y una mayor integración, flexibilidad e independencia de los mercados europeos de la energía.

En este contexto, el hidrógeno que tenga su origen en recursos renovables puede jugar un importante papel como vector energético que ayude a cumplir los mencionados objetivos en áreas y sectores difíciles de electrificar, lo que exige una cuidada planificación para llevarlo desde donde se produce hasta donde se va a utilizar, y las actuales redes de transporte de gas natural pueden ser una excelente opción para hacerlo.

Ese es precisamente el objetivo del proyecto HIGGS (*Hydrogen In Gas GridS: a systematic validation approach at various admixture levels into high pressure grids*) que ahora se pone en marcha con el objetivo de analizar el potencial existente y los requerimientos sobre la infraestructura, sus componentes y su gestión que conlleva inyectar hidrógeno en las actuales redes de transporte de gas natural a alta presión, algo que sin duda contribuirá a descarbonizar los usos del gas.

La sede de la Fundación para el Desarrollo de las Nuevas Tecnologías del Hidrógeno en Aragón ubicada en el Parque Tecnológico Walqa de Huesca ha acogido la primera reunión de este proyecto, un encuentro presidido por el presidente de la Fundación, vicepresidente y consejero de Industria, Competitividad y Desarrollo Empresarial del Gobierno de Aragón, Arturo Aliaga, quien ha dado la bienvenida a los socios de HIGGS, iniciativa que coordina la Fundación y en la que también participan REDEXIS (España), DVGW (Asociación alemana de gas y agua), TECNALIA (España), HSR (Universidad de Ciencias Aplicadas de Rapperswil, Suiza) y ERIG (Instituto de Investigación Europeo para el gas y la innovación energética, con sede en Bélgica).

El proyecto HIGGS tiene una duración de 36 meses y un presupuesto de 2 millones de euros que proceden de financiación europea. Para evaluar cómo se comportan en relación con la infraestruc-

D7.1 Communication and awareness plan

tura de transporte distintos grados de mezcla de gas natural e hidrógeno, simulando diferentes condiciones de operación al variar el caudal, la composición y la calidad del gas, se desarrollará una plataforma de testeo en las instalaciones de la Fundación Hidrógeno Aragón en la que se probarán a alta presión todos los elementos. Entre ellos, un sistema novedoso de separación de gases desarrollado en el marco del proyecto y basado en tecnología de membranas.

El proyecto HIGGS ha recibido financiación de la Fuel Cells and Hydrogen 2 Joint Undertaking (FCH JU) en virtud del acuerdo de subvención no 875091. La Fuel Cells and Hydrogen 2 Joint Undertaking recibe el apoyo del programa de investigación e innovación Horizonte 2020 de la Unión Europea y España, Alemania, Bélgica y Suiza. La FCH JU es la principal agrupación público-privada que apoya en Europa con el respaldo de la Comisión Europea, las empresas del sector y la comunidad científica, las actividades de investigación, desarrollo tecnológico y demostración en el campo de las tecnologías del hidrógeno y las pilas de combustible.

Sobre la Fundación Hidrógeno Aragón

La Fundación para el Desarrollo de las Nuevas Tecnologías del Hidrógeno en Aragón es una entidad sin ánimo de lucro de naturaleza privada creada hace más de 15 años con sede en el Parque Tecnológico Walqa de Huesca y un [Patronato](#) compuesto por 75 miembros, la mayor parte de ellos empresas privadas de referencia en sus respectivos sectores.

Con un equipo humano integrado por 25 personas, la Fundación lleva a cabo la organización, gestión y ejecución de todo tipo de actuaciones a fin de generar, almacenar y transportar el hidrógeno para su utilización en pilas de combustible y en aplicaciones de transporte, de generación de energía distribuida y de producción de combustibles sintéticos o alternativos (Power-to-gas/Power to Fuel). También propicia la investigación, el desarrollo tecnológico, la adaptación industrial y la implantación de proyectos basados en energías sostenibles que hagan posible la innovación tecnológica y promuevan la sostenibilidad energética y medioambiental.

En los últimos años, la Fundación Hidrógeno Aragón ha intensificado su actividad en iniciativas que afrontan el reto de la transición energética y contribuyen a la descarbonización del transporte y del sector energético, retos en los que el hidrógeno está llamado a jugar un importante papel por su sostenibilidad, versatilidad y transversalidad, en línea con lo que las principales estrategias e instituciones de ámbito europeo y mundial están propugnando.