HyTechCycling

New technologies and strategies for fuel cells and Hydrogen Technologies in the phase of recycling and dismantling

Grant No. 700190

WP7 Dissemination & Exploitation

D7.2 Dissemination and awareness plan

Status: F

(D: Draft, FD: Final Draft, F: Final)

Dissemination level: PU

(PU: Public, CO: Confidential, only for members of the consortium (including the Commission Services))

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1.2	23/11/2016	FHA	

Executive Summary

The Dissemination and Awareness Plan (DAP) defines the communication tools to be developed and used towards a successful dissemination of the Project and its results. The Project Grant Agreement (GA), through the Description of Action (DoA), contained the draft of this plan as part of the measures to maximise the impact of the Project. The DAP describes the dissemination goals, target audience and appropriate channels to provide regular flow of information. The DAP will be updated twice during the Project duration, followed by a final report on dissemination activities and materials by the end of the Project.

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Abbreviations

AWE	Alkaline Water Electrolyser
CA	Consortium Agreement
CRM	Critical Raw Material
DAP	Dissemination and Awareness Plan
DOE	Department Of Energy
DoA	Description of Actions
EC	European Comission
EoL	End of Life
EU	European Union
FC	Fuel Cell
FCEV	Fuel Cell Electric Vehicle
FCH	Fuel Cell and Hydrogen
FCH 2 JU	Fuel Cells and Hydrogen 2 Joint Undertaking
FHA	Fundación para el desarrollo de las nuevas tecnologías del Hidrógeno en Aragón
GA	Grant Agreement
HYTECHCYCLING	New technologies and strategies for fuel cell and HYdrogen TECHnologies in the phase of reCYCLING and dismantling
ILSSA	Industrias López Soriano S.A.
JTI	Joint Technology Initiative
JU	Joint Undertaking
IMDEA Energía	Instituto Madrileño de Estudios Avanzados en Energía
LCA	Life Cycle Assessment
PC	Project Coordinator
PEMFC	Proton Exchange Membrane Fuel Cell
PEMWE	Proton Exchange Membrane Water Electrolyser
PGM	Platinum Group Metal
REE	Rare Earth Element
SETIS	Strategic Energy Technologies Information System
SOFC	Solid Oxide Fuel Cell
USA	United States of America
WEEE	Waste Electronic and Electrical Equipment
WHEC	World Hydrogen Energy Conference
WP	Work Package

1. Objectives

The objective of Deliverable 7.2 is to describe the planning for dissemination, communication and awareness activities and tools to be carried out so that HYTECHCYCLING can achieve an adequate level of visibility and impact over the society, both from scientific and general public points of view.

The document aims to define the general communication tools and methods to follow by the partners of the Project to ensure a proper dissemination of the results towards the main stakeholders addressed in the project and all the interest actors involved (public and private).

The dissemination and awareness plan is an important set of tools that has to be complementary to other Project developments, having the common goal of maximising the impact. It is important to remark that the final goal of HYTECHCYLING project is to serve as a basis for future implementation of the concepts arising from it, so it must be ensured all the dedicated guidelines and recommendations reach the key stakeholders and Fuel Cell and Hydrogen (FCH) actors.

Moreover, given that the intention is that the results of the Project are also market oriented, an exploitation strategy and business plan will be also developed throughout the project. Therefore, the plan definition and the following updates have to be also dedicated to maximise the impact to the interested stakeholders according to the studies on assessment of market potential and the strategic plans for commercial exploitation of the results.

Then, it can be considered that the main objective of the plan hereby documented has to be to describe the schedule, audience, methods and tools to maximise the impact of the Project and its results.

2. Introduction

HYTECHCYLING project (New technologies and strategies for fuel cell and HYdrogen TECHnologies in the phase of reCYCLING and dismantling) is part of the European Horizon 2020 program, The EU Framework Programme for Research and Innovation. Horizon 2020 is the biggest EU Research and Innovation programme ever done, with nearly €80 billion of funding available during 7 years (2014 to 2020).

Figure 1. Horizon 2020 logo.

By coupling research and innovation, Horizon 2020 emphasises on excellent science, industrial leadership and tackling societal challenges. The goal is to ensure Europe produces world-class science, removes barriers to innovation and makes it easier for the public and private sectors to work together in delivering innovation.

H2020 covers a large number of areas in which energy is included as a priority. The European Union has established the objective of the major "decarbonization" of its energy system by 2050. To reach this goal, fuel cells and hydrogen technologies are aimed to play a key role due to its properties of energy carriers. It will be possible to generate large quantities of “green” hydrogen from the excess energy from renewable sources for subsequent use in transport (fuel cells to power vehicles), in energy applications (re-electrification, powering stationary fuel cells in cogeneration systems, back-up systems, and the injection of hydrogen into gas systems) and industrial applications (generation of hydrogen mainly for the chemical industry).

In order to accelerate the development of these technologies in the most efficient way, the European Union has joined forces with European industry and research institutes in a public-private partnership, the Fuel Cells and Hydrogen Joint Technology Initiative (JTI), who supports numerous projects such as HYTECHCYCLING. This project has received funding from the Fuel Cells and Hydrogen 2 Joint Undertaking (FCH 2 JU) under agreement No 700190.

Figure 2. FCH JU logo

The topic of the FCH 2 JU in which HYTECHCYLING project is framed is **FCH-04.1-2015 Recycling and Dismantling Strategies for FCH Technologies**. The expected commercial FCH technologies are not prepared for full deployment in what regards to recycling and dismantling stage. Specifically, these devices still involve significant amounts of critical, expensive and scarce materials (e.g. platinum group metals or rare earth elements) and novel dedicated recycling processes for these FCH technologies could be applied. On the other hand, it is critical the involvement of FCH manufacturers to deliver designs

looking for compatibility with new recycling processes and allowing full recovery of critical materials (this is, redesign for material compatibility at recycling and dismantling). Furthermore, there is a lack of End of Life (EoL) strategies devoted to reuse and remanufacture FCH technologies to save these materials and take advantage of still valuable components and subsystems. In this field, it is especially important to involve not only manufacturers but also end users to ensure collaboration and provision of FCH products for reverse logistics processes.

The main goal of HYTECHCYCLING is to deliver reference documentation and studies about existing and new recycling and dismantling technologies and strategies applied to fuel cells and hydrogen technologies, paving the way for future demonstration actions and advances in roadmaps and regulations.

In order to achieve the main goal, the Project must meet the following objectives:

- Identification of critical materials and components in hydrogen technology products.
- Mapping of existing and new recycling technologies applicable to these materials and components, taking into account the experiences of the different Member States in selecting the most appropriate strategies.
- Analysis of the challenges to be addressed, bearing in mind the limitation of the current situation in terms of recycling and dismantling hydrogen technology products.
- Development of new strategies and a roadmap for the implementation of recycling and dismantling of the critical materials and components of hydrogen technology products.
- Quantification of the impact of introducing these new strategies and technologies, through lifecycle analysis of a wide range of hydrogen technology products with applications in the fields of energy and transport.
- Evaluation of the needs of the different existing actors in terms of implementing these new strategies and technologies. Re-adaptation of existing recycling centres, and the organisation of demonstration events and exhibitions at a recycling centre.
- Ordering, aligning and standardising the new strategies and technologies by means of guidelines and recommendations for their introduction for all actors involved in the service life of hydrogen technology products.
- Creation of a business model to facilitate widespread implementation.

The technologies addressed in the project are Alkaline Water Electrolyser (AWE), Proton Exchange Membrane Water Electrolyser (PEMWE), Solid Oxide Fuel Cell (SOFC) and Proton Exchange Membrane Fuel Cell (PEMFC).

3. Dissemination and Awareness Plan Descriptions

The DAP, included in Work Package 7 (WP7), is one of the first documents of the Project, aimed to ensure its impact, at every level and with different focus of interest of the Project results. Once the plan for communication, awareness and dissemination is developed, it will be periodically updated according to the Plan and the DoA of the Project. The document as first DAP aims to answer the questions of "WHO?", "WHAT?", "HOW?" and "WHEN?". It therefore includes a description of the Project communication methodology (a mythological answer to "HOW?"), target groups (answers to "WHO?" and "WHAT?"), a set of communication tools (a technical answer to "HOW?") and a list of possible activities (answer to "WHEN?").

3.1 Communication management methodology

The dissemination and communication of HYTECHCYCLING to stakeholders and audiences outside the project is managed by the partners within the WP7 of the Project. Besides, all the external communication activities are monitored by the Project Coordinator (FHA), to ensure that the communication activities and methodology are in compliance with the provisions of the agreements. As a general rule, the GA will apply, but some specific provisions are agreed in the Consortium Agreement (CA).

About the dissemination of own results, the partners are committed to inform the consortium about planned publications with enough time to ensure that the results to be published are not in conflict with potential commercial exploitation activities, confidentiality and legitimate interests of the partners. In any case, the objection to any communication activity related to publication, has to be clearly justified and followed by necessary modifications to allow and not block, if possible, the publication and dissemination of results.

Besides, the Consortium is committed to cooperate in the submission, preliminary evaluation and publication of any dissertation or Master thesis related to the Project, subject to the provisions of the CA.

The tasks related to communication and dissemination in the Project involve all the members of the Consortium, so all the partners should work and contribute to dissemination tasks according to the agreements and the DoA. Nevertheless, FHA, as Project Coordinator, is the final element in charge of the dissemination, being invested in elaborating and contributing the dissemination plan, promoting the collaboration of all the partners and finally monitoring and compiling the dissemination and communication activities of the Project.

3.2 Target groups

The following section includes the total amount of the target audiences that are expected to be influenced by the development of the Project and its results. All the stakeholders and FCH actors must be identified and classified, establishing a characterization of their needs and concerns in the design of the most suitable strategy for each of them. In addition, a communication strategy must be developed for the wider public. For each of them it has been specified a series of key messages that will have to be successfully addressed during the development of the Project, always based on the rules of the GA and the CA. Figure 3, at the end of this section, shows, in a very schematic way, the existing relations among target groups in HYTECHCYCLING project.

FCH technology providers and manufacturers

This will be the first group of all actors involved in the life cycle of the FCH products. All the information and results that are susceptible to be public recycling and dismantling technologies and strategies will be shared.

However, among these technologies and strategies developed, those including the reduction and replacement of critical materials from the phase of design, reverse logistics and redesign for material compatibility and materials and components separation; they will have a special interest for the FCH providers and manufacturers.

Authorized FCH distributors and logistic companies

In a very similar way to the manufacturers, all the information and results susceptible to be public will be shared. However, the scope of action of FCH logistic companies will be more limited, not so sensitive to the new technologies but to the new strategies and the proper way to implement them. It will be important also to allude to the key role of logistic sector to achieve reusing and remanufacturing FCH technologies and to engage them in the process.

Recycling centres

All the public information and results regarding recycling and dismantling technologies and strategies for each component and subsystem of the technologies addressed, they will be shared. This will be shown by means of a range of dissemination events and showcases at ILSSA recycling center.

Additionally, results about business models for recycling centres and guidelines for re-adaptation will be shared. The key messages to be transmitted involve the benefits that the FCH technology recycling and dismantling can introduce to new business models related to the recycling sector.

End users of FCH products

The main goal for this target group will be to engage them to participate in reverse logistics strategies fostering reuse, remanufacturing and recycling of FCH technologies and close collaboration with distributors and manufacturers

Policy makers, regulator and public bodies

The evaluation of potential markets linked to massive deployment of FCH technologies involving sector as recycling and dismantling in the near term, along with the analysis of the European standards and national regulations will be the main input for these organisms.

All the info and results generated must aim to create awareness in needed regulation to promote FCH technologies and include specific codes or guidelines on recycling issues.

General public

The communication efforts towards the general public will be focused in showing the benefits of participating in the strategies fostering reuse, remanufacturing and recycling of FCH technologies, in a very similar way to FCH products end users. The additional goal at this point is to reduce the existing resistance to these new technologies and motivating early adopters.

Results from additional tasks of the Project, related to the assessment of the market potential and identification and analysis of business cases will serve as additional input to detect new target groups or stakeholders or to focus better the dissemination efforts to reach the target groups.

Furthermore, the information obtained through the continuous monitoring of the external projects will also serve as feedback to define specific stakeholders from the different groups.

Post graduate/graduate students and FCH workforce

They will be addressed as a potential group sensitive to be moved to one of the main FCH technology direct actors (manufacturers, distributors, end users or/and recyclers). Apart of the general presentations and publications, specific training sessions in ILSSA facilities will be offered for them.

Moreover, the participation in the communication events and activities promoted by the FCH 2 JU will be of key importance to reach these stakeholders.

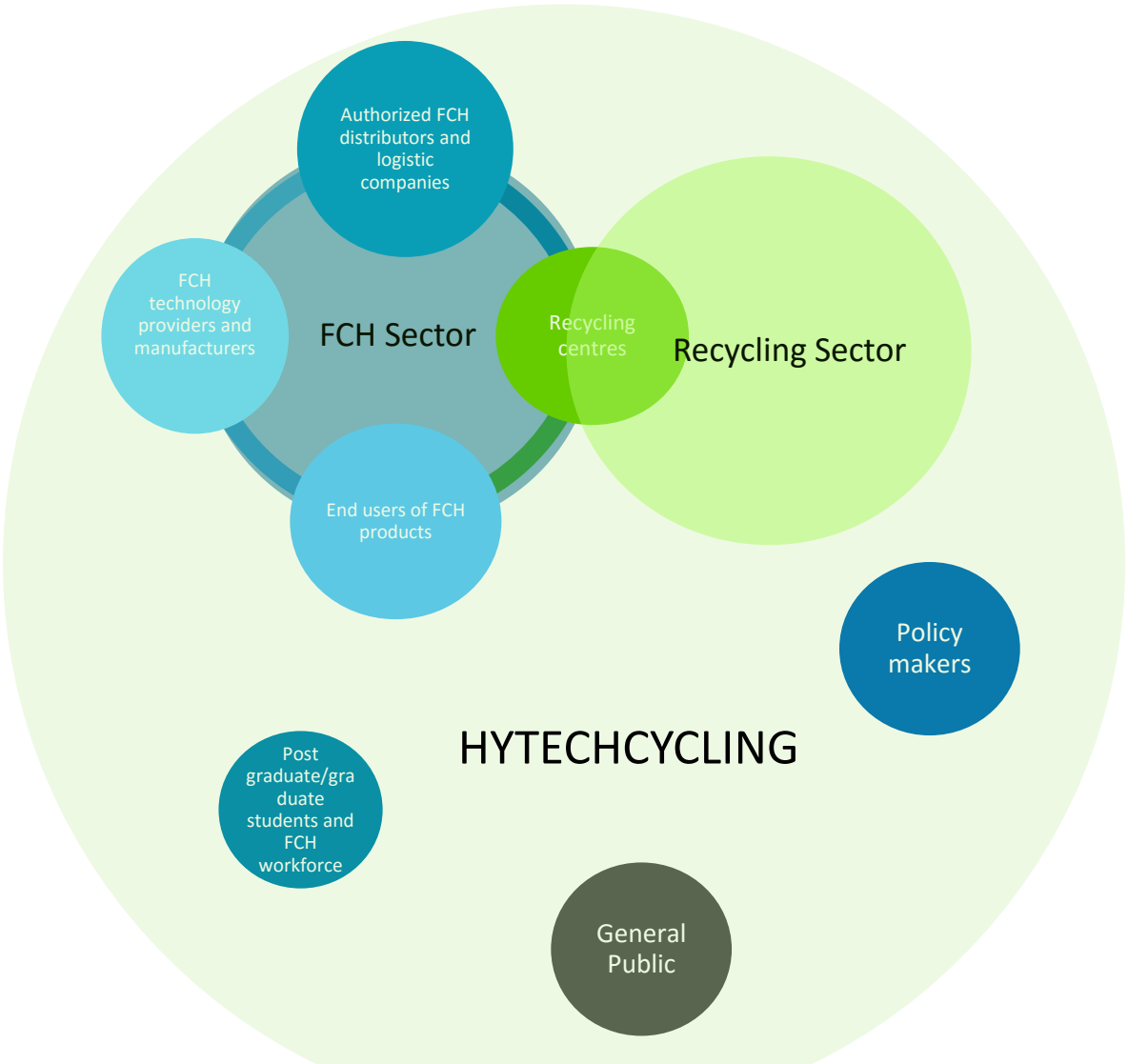

Figure 3. Radial structure of HyTechCycling target groups

3.3 Communication tools

The following section describes the necessary tools to develop an efficient communication from HYTECHCYCLING Consortium to reach the expected impact towards the target groups established above. These tools involve all the graphic material that will be used for the several congress and fairs that are planned to be attended (as well as for the workshop to be celebrated) and also the digital material, understood as the website and the communications performed through social networks.

3.3.1 Project website

The Project website (www.hytechcycling.eu) aims to become the central part for the diffusion of all the information related to the Project. The website has been designed to provide a general impression of the HYTECHCYCLING's mission through the main page (Figure 4), by showing into three different paragraphs a brief description of its main topic, the partners involved in the Project and funding by the European commission.

Figure 4. HyTechCycling website homepage

For a more detailed view at the characteristics of the project, a number of sections have been implemented to provide the information in an organized way. The "Project" section continues with the development of the Project description briefly introduced at the main page, now introducing all the necessary specifications for a complete understanding of its background, objectives, procedures and other important facts.

The "Partners" section (Figure 5) provides a complete description and background of all the companies, research centres and universities involved, including also links to their websites.

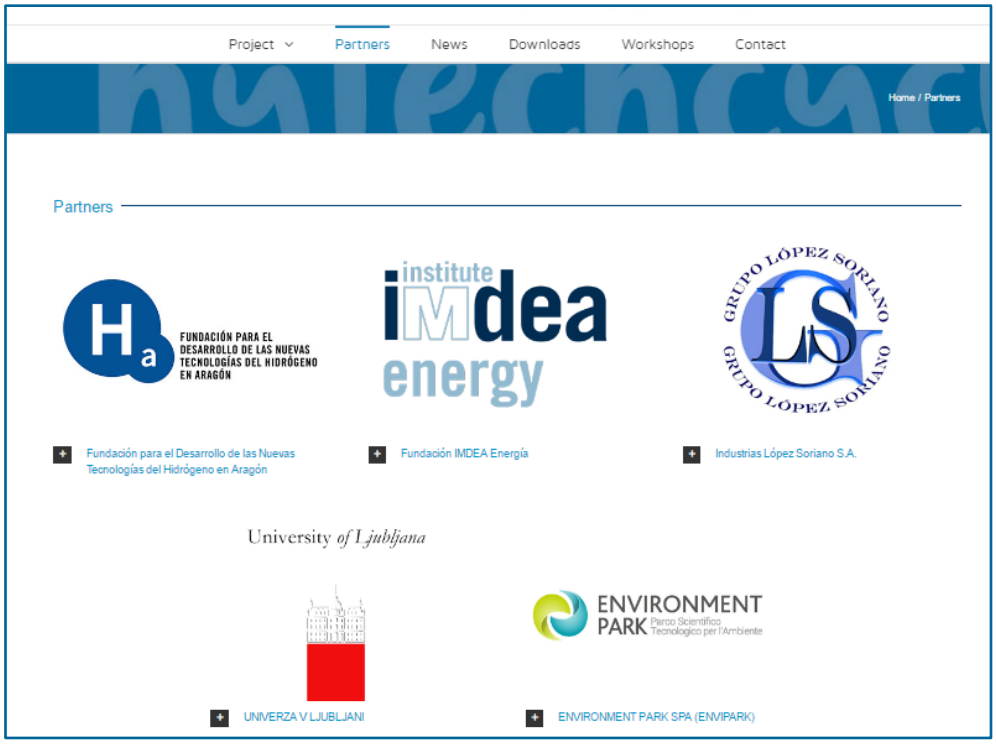

Figure 5. HyTechCycling website, "Partners" section snapshot

The website is completed with the sections "News" and "Downloads". The first of these sections will include all the press notes and main events related to the Project information, as well as important announcements. The 'Download' section (Figure 6), in the other hand, will serve as the main hosting page for all the public content generated by the Project, i.e. deliverables, presentations, reports, publications, etc. as well as flyers, press kits and other corporate documents.

Figure 6. HyTechCycling website, "Downloads" section snapshot

Finally, a 'Contact' section has also been implemented to make it as easy as possible the exchange of information between the user and the Project partners. This section includes a contact form that once

fulfilled automatically sends an email to the Project coordinator (FHA), as well as main contact information of the coordinator, like address, telephone number and main webpage.

3.3.2 Graphic material

The visual identity and graphic material of the Project will be developed according to the identity manual of the Project. Both the logo and corporative colours have been selected in line with the H2020 visual guidelines.

Corporative colours and fonts

The corporative colours of HYTECHCYCLING are green [Pantone 802C R102/G204/B0] and blue [Pantone 801C R0/G153/B204 and Pantone 3015C R0/G102/B153] (Figure 7). The font that has been selected for corporative graphic material is Olivier for corporative graphic material and Arial for the documents.

Figure 7. HyTechCycling corporative colours

Logo

The chosen logo stablishes the basic lines for the visual appearance of the documents of the Project. It has been simultaneously developed a Corporate Identity Manual, where it is defined how the logo must be used within HYECHCYCLING official documents (such as reports, letters, cards, etc.). This Corporate Identity Manual will be distributed among the partners of the Project.

The logo is composed by three overlapped circles with the corporative colours, followed by the name of the Project "HyTechCycling" (Figure 8). Both the chosen colours and the overlapping of the circles aim to represent the FCH technology integrated with the environment. The circular designs are intended to transmit a feeling of dynamism and to be associated with the Circular Economy vision, a concept which will guide the Project thorough all its lifetime.

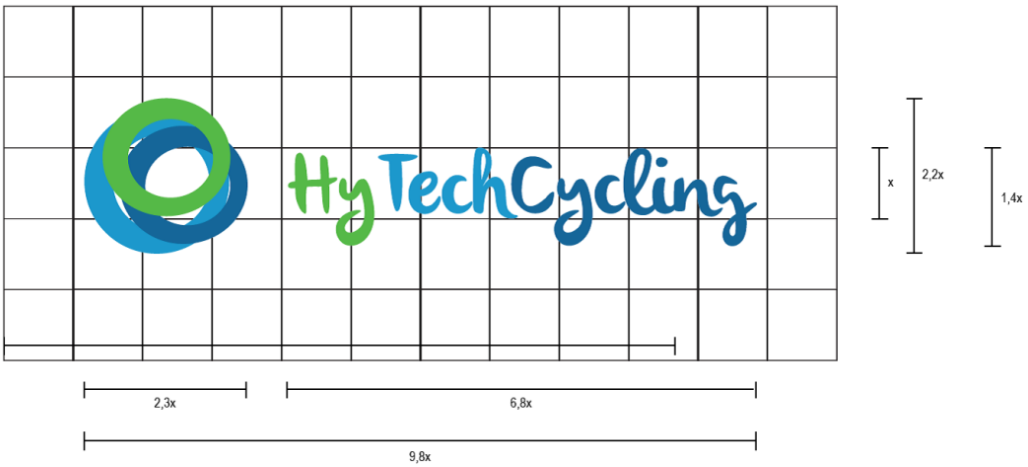

Figure 8. HyTechCycling logo, dimensions

Press kit

In order to help partners in the elaboration of their press releases, a press kit will be developed and distributed among them. By means of this press kit, it will be possible to homogenize all the communication and dissemination activities made into the same style and procedures, thus promoting the desired project image.

Video

A final explanatory video with the main results, showcases, messages and impacts of HYTECHCYLING will be released during the final stage of the Project. This video will be shared through press release and it will be posted at the Project main website. The purpose of the video will be to serve as the global final message of the Project, and to provide a general view of the work performed.

3.3.3 Social and professional networks

The use of social media and social and professional networks will be also a key communication tool to disseminate information about the Project, events and Project results. Partners will use their own accounts in the social/professional networks to contribute to the Project dissemination and to create open debates and detect future industrial investors from other cities in Europe. The main social networks considered for the dissemination of the Project communications and recommendations on how to use each of them according to their unique characteristics are detailed below:

LinkedIn: A template of the Project will be created and shared with all the partners. Each participant on the Project of every partner will be able to post said template, under the 'Project' section available on their profiles, linking it to the other members of their teams.

Twitter: The partners will echo the Project events and press releases through a brief message or tweetable fact in the account holder language and also in English, redirecting to the main press release, linking to the new or event published in the Project website.

Facebook: The partners will echo the Project achievements in the same way as in the twitter case, although the platform characteristics will allow posting a more detailed message for each communication.

YouTube: The channels of the partners involved in the Project will be useful to make a better diffusion of the promotional videos made during the development of the Project (like the final video regarding the results obtained) as well as of any appearances of the partners on television.

3.4 Communication activities

3.4.1 Identification of ongoing projects for Project coordination

Possible paths of collaboration in public workshops and seminar will be explored by the Consortium when it is considered suitable and of interest for the Project and the partners. The assessment of the collaboration will be studied case by case taking into account the goals of the Project and partners involved. Moreover, once the Project is concluded, the partners will be encouraged to show the results obtained at conferences, fairs and events related to the Project targets. The identification for Project coordination is challenging due to the almost non-existence of ongoing projects specifically focused on FCH recycling and dismantling. Therefore, the scope must widen till some of the main topics treated on HYTECHCYCLING such as FCH technologies life cycle and political framework analysis or metal and

Waste Electronic and Electrical Equipment (WEEE) recycling. There is listed below some ongoing projects that could be related with HYTECHCYCLING in some of their aspects.

Fuel Cell Recovery project (funded by Innovate UK) The project aims to create knowledge on PEMFCs recovery from FCEVs at their EoL. The objectives of the project are: develop new design guidelines for FC recovery, new remanufacturing and recycling process design to facilitate recovery and new 'circular' business models.

CERTIFHY (funded by FCH 2 JU) The development of hydrogen as an energy carrier will be dependent upon the capacity of the market to offer low-carbon or carbon-free hydrogen to end-users and consumers. The objectives of the CertifHy project are to assess the necessary market and regulatory conditions, develop the complete design and initiate a unique European framework for green hydrogen guarantees of origin. It includes a Life Cycle Assessment (LCA) of hydrogen producing process from green energy sources, thus using electrolysers and including technological factors and regulatory framework in the assessment.

CRMRecovery project (funded by LIFE 2014) Each year around 9.9 million tonnes of WEEE is generated in the EU. Due to poor collection and recycling rates and processes that can only recover a small number of materials, many critical and valuable materials are lost from the system.

The Critical Raw Material Recovery project is working to ensure that a wider range of mineral and metals are recovered during recycling of WEEE in Europe. The project will fund a series of WEEE collection and reprocessing trials, and deliver a European policy and infrastructure plan.

Projects developed by ElectroCat (funded by USA Department of Energy - DOE) The Electrocatalysis Consortium (ElectroCat) are an initiative to accelerate the development of catalysts made without PGM for use in automotive fuel cell applications. It is co-led by Argonne National Laboratory and Los Alamos National Laboratory.

ElectroCat aims to bring together a network of enduring tools and expertise across the National Laboratory network (USA) under a streamlined, single point of contact interface that makes it easy for industry and academic partners to quickly gain access to the Consortium.

3.4.2 Publications

Scientific papers

The target set for this project is to publish a minimum of 4 publications in scientific journals including OpenAIRE during the time of its 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.

For this reason, in the case of any participant that wants to publish a paper under a scientific journal, the procedure to follow will be as explained below:

- The corresponding authors will be in charge of the selection of the scientific journal to publish their work. This journal will necessarily have to offer an Open Access option for the publication of selected articles.

- The publication of the work will preferably be made under a 'Green Open Access' policy, which will allow any user to access the work after the embargo period of the journal has ended. Embargo periods are different depending on the journals, but this period won't be able to exceed 6 months for any publication. It is the responsibility of the author to find a journal that fulfils these characteristics.
- In the case of an article being published in a journal with longer embargo periods, the partners involved shall cover the 'Gold Open Access' fee to the publication.

Magazines

It is expected the publication of at least 6 publications in regular magazines, newspaper, webzines, etc. informing about the development of the Project and the milestones achieved.

Press releases

It is planned to produce a number of different press releases linked to the most important milestones of the Project, such as, but not precluding: launching of the Project, general progress announce by Midterm Review meeting, dissemination of the different workshops organized and final Project announce and general results. The Project coordinator will be the partner in charge of the main dissemination of the press note, including any event being attended by the partners of the Project.

3.4.3 Identification of Conference, Events and Fairs

World Hydrogen Energy Conference, WHEC - Biennial- Being considered the world's most well-known conference in the field of hydrogen energy and fuel cells applications of the International Association for Hydrogen Energy (IAHE), WHEC (World Hydrogen Energy Conference) was first held in Miami, Florida in 1976. Since then, it has been held every two years at different locations around the world, corresponding the next edition to Rio de Janeiro in 2018.

WHEC 2018 will be an opportunity to share and exchange scientific information among participants, exhibitors and sponsors who are global leaders in businesses, governments, and scientific communities.

Group Exhibit Hydrogen + Fuel Cells + Batteries Hannover Messe (DE) - Yearly - The Group Exhibit Hydrogen + Fuel Cells + Batteries is Europe's largest and most important H2+FC+BAT exhibition dating back to 1995. It will take place from 24 to 28 of April 2017 in the Energy trade fair of HANNOVER MESSE setting the participants at the centre of the world's largest event for industrial technology.

Through more than 150 exhibitors from 25 countries (e.g.: International corporations, SMEs and research institutions), it showcases the full spectrum of hydrogen and fuel cell-related technology and batteries, becoming the primary location for finding top manufacturers, distributors, consultants, developers and suppliers.

World Hydrogen Technology Convention, WHTC - Biennial- The 7th World Hydrogen Technologies Convention (WHTC), a leading technical and commercial event for the global hydrogen energy and fuel cell community, will be held in Prague from 9 to 12 of July 2017, and hosted by the Czech Hydrogen Technology Platform (HYTEP).

Iberconappice (ES) –Biennial- 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.

Symposium of Life Cycle Assessment Spanish Network. The 3th edition of the symposium of the Spanish network of LCA (esLCA) was held in the Escuela Técnica Superior de Ingeniería Agronómica y del Medio Natural (Universitat Politècnica de València) in Valencia, on 4th November 2016. esLCA is intended to enhance synergies between all groups who work on life cycle assessments, making a qualitative leap that will address effectively the outstanding challenges in LCA.

HYTECHCYCLING project has already contributed to the symposium with a poster titled "Towards a robust life cycle assessment of end-of-life strategies for fuel cells and hydrogen technologies", and it is expected the collaboration in the following editions.

International Electronics Recycling Congress, IERC -Yearly- IERC is the recycling industry's most important event, bringing together over 500 producers, recyclers, equipment manufacturers, recycling associations, refurbisher, standards bodies, NGOs, regulators and many more. The international experts use this platform to discuss the latest recycling technologies, regulations, manufacturing processes and value of raw materials.

The 16th edition will be held in Salzburg, Austria, from 17 to 20 of January 2017. It will focus on: challenges of the Circular Economy; reuse and refurbishment; best available recycling technologies; supply chain transparency; which standards, compliance regulations and controls support or fail the industry; recycling of hazardous components such as batteries, lamps, LCDs, mercury, etc.; and safety standards for transportation.

Going Green – CARE INNOVATION -Biennial- The Going Green – CARE INNOVATION 2018 conference and exhibition on Electronics and the Environment will take place in Schoenbrunn Palace Conference Centre Vienna (Austria) from 26 to 29 of November 2018. This Symposium is the main platform for presenting the up-to-date progress on sustainable development and the development of eco-efficient electronic and automotive products.

The conference will provide a platform to discuss the latest progress on: Resource Efficiency and Circular Economy; Beyond Legal Compliance and Global Harmonization; Sustainable Products and Services and Leading Edge Technologies; Corporate Social Responsibility and Management; and Energy-efficiency and Climate Change.

All companies in the electronics, automotive, solar and PV, chemical and recycling industry, power suppliers, electricity generators and distributors, contract manufacturers, material and component suppliers, service and logistic companies, collective systems, academia, consulting and public authorities (local, regional, international) are invited to attend and contribute.

World Congress and Expo on Recycling –Yearly- The 4th edition of World Congress and Expo on Recycling will take place during July 27-29, 2017 in Rome. It will be based on the theme "Recycle today for a better tomorrow" which extensively covers all aspects on scientific and technical advances in the field of recycling and its allied areas from the integration of instruments, methodologies and technologies to their use environmental engineering and other sciences. The event will target thorough recycling

associations recycling associations, industries and researchers; business entrepreneurs; environmental academia's; ecologists; training institutes; chemical engineers; environmental engineers; and waste management associations

3.4.4 Workshops

A showcase is planned to take place in ILSSA facilities during the final four months of the Project. Listed below there are the activities included and confirmed in the showcase, although it is possible that the future revisions of the DAP detect more possibilities.

- 2 training sessions for general public in Months 33 and 35 in which the partners involved will be FHA and ILSSA. Each session will last one day and will include the following content:
  - Introduction to FCH technologies.
  - Environmental and economic benefits of FCH technologies and potential penetration.
  - EoL of products.
  - Recycling and dismantling of FCH technologies according to HYTECHCYCLING technologies and strategies.
  - Visit to the recycling centre.

- 2 training sessions for students, FCH workforce and other stakeholders in Months 34 and 36 in which the partners involved will be FHA, IMDEA and ILSSA. Each session will last one day and will include the following content:
  - Techno-economic and environmental benefits and opportunities of FCH technologies.
  - Regulation, codes and standards regarding recycling and dismantling of FCH technologies.
  - New technologies for the phase of recycling and dismantling: detail on the specific processes followed at recycling centre level.
  - New strategies at end of life stage: (a) replacement of critical materials, (b) reverse logistics and (c) redesign for material compatibility and eco-design criteria.
  - Visit to the recycling centre identifying the path followed by FCH components and systems in the case of recycling/dismantling.

4. Conclusions

The present document constitutes the main guide to be followed for any communication activity related to the HYTECHCYLING project. It contains all the necessary information in relation to the target groups, how to reach them and which are the necessary tools to perform these tasks, as well as a selection of potential partners within Europe and conferences, congress and fairs that are suitable for the dissemination of the results of the Project.

The main target groups identified are the public regulator bodies, the hydrogen technology actors: manufacturers, distributors and end user; the recycling centers and, of course, the general public too. The ways of reaching these audiences are different for each of them, but in any case, the website of the Project is meant to be the central point of information related to the project, as it will contain all the public documents generated during the Project, as well as a 'News' section to gather all the important updates on the Project. During the time of execution of the Project, the partners will have to make use of their institutional accounts in social networks (Twitter, Facebook, LinkedIn, etc.) to promote the work performed in the Project.

A set of graphic materials has been prepared to unify the corporate image of any work performed under HYTECHCYLING and to help the diffusion of the Project and its presence in fairs, congress, etc. These include the logo and a press kit, between other materials. Overall, they serve as the main support material to introduce the Project to both technical and non-technical audiences.

At the same time, a search between other European projects has resulted in a selection of ongoing projects approaching any of the main topics addressed by HYTECHCYCLING, in a more or less detailed level. Collaborations with some of the participants of these projects might ensue in the near future.

The report also includes an extensive list of many congresses and fairs to be celebrated in Europe during the time of execution of the Project that will serve as scenarios for the showcasing of the Project, as well as very good networking opportunities.

Finally, the list of planned workshops is introduced. These workshops are planned to be carried out close to the ending of the Project, targeting both the general public and more specific audiences that will have more interest in the Project results.

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