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FLExibilize combined cycle power plant through power-to-X solutions using non-CONventional Fuels

D8.2 – "Public communication materials"

Organisation name of lead contractor: European Turbine Network (ETN)

Project Contractual Details

Project Title	FLExibilize combined cycle power plant through power-to-X solutions using non-CONventional Fuels
Project Acronym	FLEXnCONFU
Grant Agreement No.	884157
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Project End Date	31-03-2024
Duration	48 months
Website	www.flexnconfu.eu

Deliverables Details

Number	8.2		
Title	Public communication materials		
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Deliverable responsible	ETN		
Contributing Author(s)	Ugo Simeoni		
Reviewer(s)	Alessandra Cuneo (RINA-C), Tommaso Orlandini (CNET)		
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Document History

Date	Version	Name	Changes
10/06/2020	1.0	FLEXnCONFU – Deliverable 8.2 rev. 0	Pictures added

[1] PU = Public
CO = Confidential, only for members of the consortium (including Commission Services)

Executive Summary

The present document is a deliverable of the FLEXnCONFU project, funded under the European Union's Horizon 2020 research and innovation programme (Grant Agreement No 884157).
It reports on the creation of the FLEXnCONFU public communication materials (i.e. leaflet, roll-up, poster). The document presents the sections, features and technical specifications of the FLEXnCONFU public communications materials.

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Abbreviations

CC – Combined Cycle
EU – European Union
GHG – Green House Gas
GT – Gas Turbine
H_2 – Hydrogen
NH_3 – Ammonia
P2X2P - Power-to-X-to-Power

1. Introduction

The current deliverable (D8.2) is entitled "Public communication materials (i.e. logo, leaflet, poster)" and is a public document of the FLEXnCONFU project, produced in the context of WP8, Task 8.1 "Dissemination and communication activities".
The objective of WP8 is to maximise FLEXnCONFU's impact by connecting research and innovation activities to the public and professional audience.
Its objective is to present and describe the scope of the project communication material: a promotional project leaflet, a general project poster and a roll-up. These are used as means of communication activities which are undertaken to support dissemination activities and promote objectives and findings. The leaflet and poster are oriented to raise awareness and provide visibility for the large non-specialist community as well as the community of relevant stakeholders.
Last but not least, the development of a project poster and leaflet enhances the project visual identity and public image and hence, allows an easier identification by the public, ensuring visibility and recognition. The aforementioned material will be properly displayed and distributed to the project related conferences, exhibitions and workshops.
Dissemination activities are undertaken from the beginning of the project and aim, in a first instance, at raising interest in the proposed technology of relevant stakeholders. In a second instance, exploitation-oriented dissemination activities aim at promoting the novel technology that is developed throughout the project, along with the benefits it can provide, towards potential target end-users/adopters, to speed up its adoption and take-up. As it is necessary to disseminate the importance of flexible back up power plants for the stability and affordability of the EU energy scenario, the project partners need to promote FLEXnCONFU technologies – both through communication and dissemination activities – as the perfect environmental-friendly fossil fuel technology solution, to be coupled with RES. Hence, the distribution of the communication material is foreseen as an effective solution of promoting the concept and results of FLEXnCONFU.
In particular, this report aims at making FLEXnCONFU communication and dissemination promotional material available for:

- Project partners, so that they can use both the leaflet and the poster to raise awareness about FLEXnCONFU at scientific conferences and trade fairs.

- Event organisers, so that they can understand the main concept of the project and help the partners to promote it in the best way.

2. Project leaflet

The project's leaflet has been designed in order to achieve the following objectives:

1. To promote the project.
2. To promote the technologies that will be developed within the project.
3. To convey the project's objectives and the scope in a clear and visually appealing way.
4. To encourage European local authorities and other potential end-users to contact the project coordinators and get involved in the project as potential demonstrators.

This leaflet will be printed for all partners' use at conferences, events and workshops where FLEXnCONFU will be presented.
Leaflets will be updated throughout the project's implementation phase, as more results and outcomes will be achieved.

2.1. Internal part of the leaflet

The internal part of the leaflet will contain the following information split over three columns.

Column 1
Concept/Challenges
The main goal of the FLEXnCONFU project is to develop and demonstrate in a real combined cycle (CC) power plant an innovative, economically viable and replicable Power-to-X-to-Power (P2X2P) solution that enables the operation and design of an integrated power plant layout to un-tap CC potential flexibility. Within FLEXnCONFU project, to level the CC load, the electricity production could be converted in Hydrogen (H_2) or Ammonia (NH_3) as carbon free fuels via P2X2P application, to be in turn locally re-used in the same power plant to respond to varying demand.

Project Pillars
1) Pillar 1: use of non-conventional carbon free fuels in gas turbine combined cycles for increased flexibility and sustainability
2) Pillar 2: integration and demonstration of P2X2P technologies in existing power plants
3) Pillar 3: development of proper grid oriented control strategies
4) Pillar 4: promotion of a hydrogen and ammonia energy society

Column 2-3
Specific and quantitative objectives:
1) **Power to Hydrogen:** Development, integration and demonstration of power to hydrogen solution (TRL7) to increase the EDP Gestão da Produção de Energia's Ribatejo combined cycle power plant flexibility and efficiency, while decreasing the GHG emissions and the use of natural gas.

Target: 1000 operating hours for the Power to Hydrogen solution connected with the combined cycle power plant.

2) **Power to Ammonia:** Demonstration of power to ammonia solution at lab scale (TRL 6) in a small-scale ammonia reactor for NH_3 synthesis
   Target: Power to Ammonia system working at T<300˚C and p<35bar.
3) **Gas Turbine fuel flexibility:** Design, development and test a gas turbine combustion system able to burn hydrogen and/or ammonia.
   Target: 30%H2 and 100%NH3 in combustion test for representative heavy duty gas turbines; 100% NH3 in modified micro gas turbine.
4) **Advanced Control System:** Development of control algorithms focusing on flexibility enhancement and power grid interoperability that will be implemented and tested in both power to ammonia and power to hydrogen systems.
   Target: computational duration reduction up to 25%
5) **Economic, Safety and Environmental Sustainability:** Demonstration of economic and safety feasibility, social viability and environmental sustainability of the novel solutions.
   Target: GHG reduction up to 20% – Pay Back Period up to 8 years – 3 Feasibility studies performed

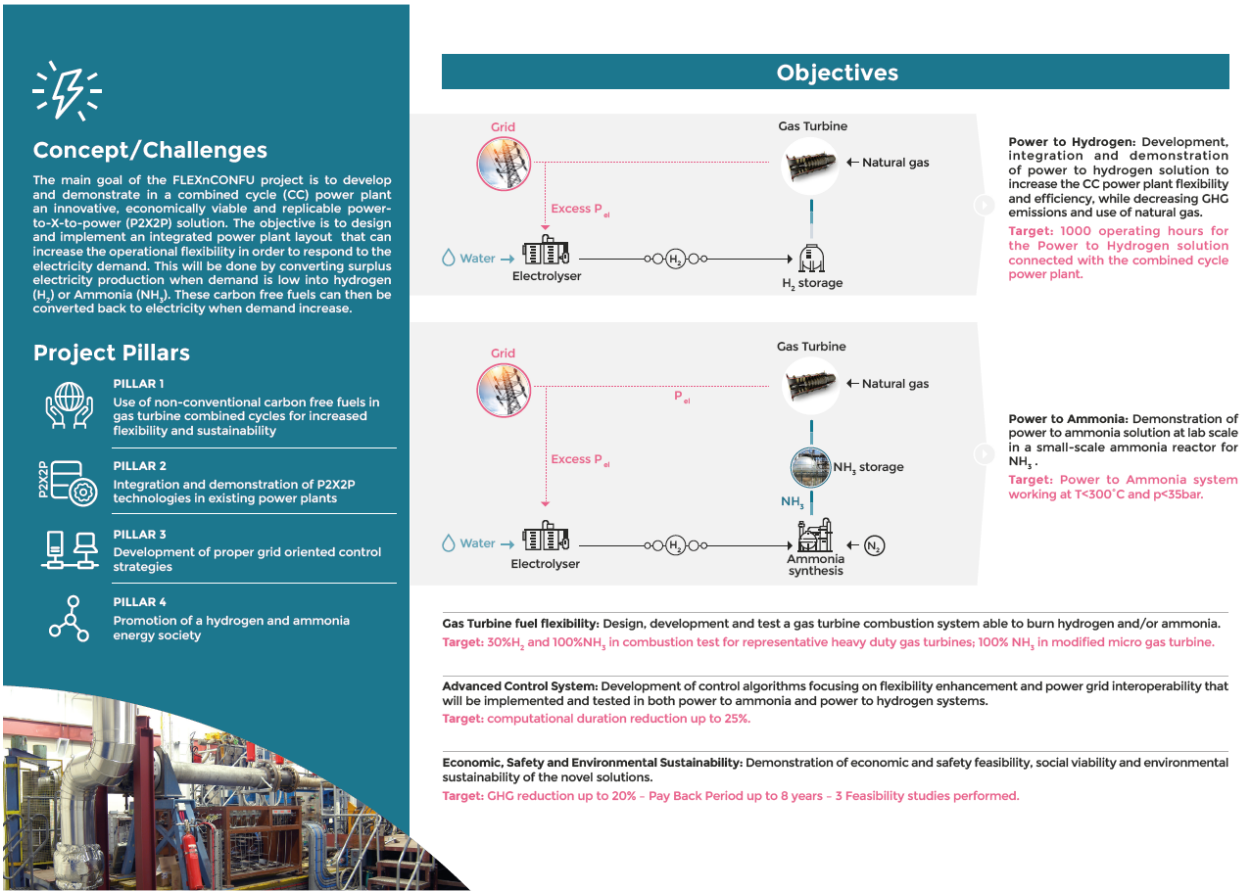

Figure 1 - FLEXnCONFU leaflet – internal part

2.2. External part of the leaflet

The external part of the leaflet contains the following information split among three columns.

Column 4

1) Contribution to a smart, secure and more resilient power system through the integration of energy storage in fossil fuel power generation.
2) Increase the flexibility of fossil fuels power plants at optimal efficiency and environmental performance
3) Better adaptation to an energy system that will increasingly be dominated by intermittent renewable energy.

Column 5

Consortium - map with partners logo

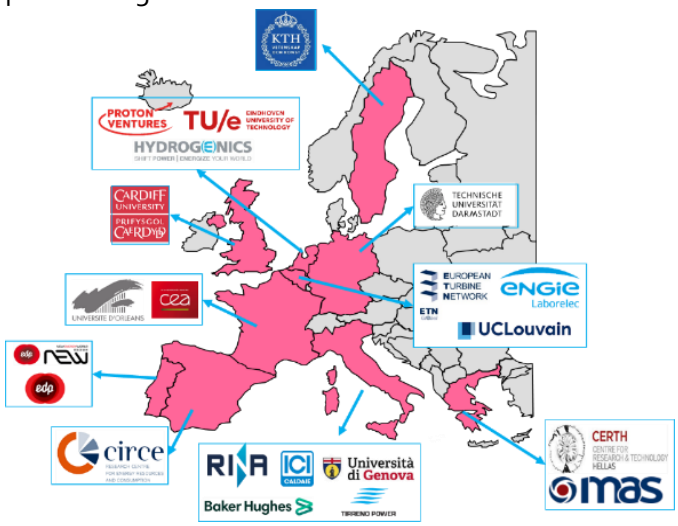

Figure 2 - FLEXnCONFU consortium map

Details of the project - Funding: €9,887,141.39; duration: 4 years (April 2020 – March 2024)
Website: www.flexnconfu.eu
Info: info@flexnconfu.eu
Twitter: @FLEXnCONFU
LinkedIn: https://www.linkedin.com/company/65299956

Column 6

Acronym: FLEXnCONFU
Full name of the project: FLEXibilize combined cycle power plant through Power-to-X solutions using non-CONventional FUels
Logo project:

Figure 3 - FLEXnCONFU logo

Logo EU:

Figure 4 - EU logo

Next to the logo EU it will be added the following sentence: "*This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 884157*";

Figure 5 - FLEXnCONFU leaflet - external part

3. Project Poster

The project poster is a useful communication tool that can be posted permanently at the FLEXnCONFU partners' premises, as well as displayed during public events.

The design of the poster has been created in order to achieve three main objectives:

1. To promote the project.
2. To convey the project's objectives and scope in a clear and visually appealing way.
3. To encourage European local authorities and other potential end-users to contact the project coordinators and get involved in the project potentially as demonstrators.

In light of this, the ETN team has worked closely with professional graphic designers experienced in communication and dissemination campaigns of EU funded projects in the energy sector. As a result, a project poster in the format Ao has been created.

- The poster follows the same reading logic as the leaflet, though using a different order:
- Project logo, acronym and long title
- Key technologies that will be developed within the project
- Demosites studied in FLEXnCONFU
- Contacts
- Reference to EU funding and to grant agreement number
- Partnership logos

The design is captivating, with images and infographics aimed to catch the attentions of potential stakeholders during the poster sessions at scientific events.

As for the project leaflet, the contacts of FLEXnCONFU technical coordinator, the website and the social media pages are carefully highlighted in order to drive traffic to the official project channels.

This poster will also be printed for all partners' use at conferences, events and workshops where FLEXnCONFU will be presented. According to the project's further developments and needs, the design may be updated by ETN into future versions, to advance new promotional campaigns.

4. Project roll-up

In order to present the project also during public events, a roll-up is created following the same logic and structure of the poster.

As mentioned for the poster, the roll-up design also has three main objectives:

1. To promote the project.
2. To convey the project's objectives and scope in a clear and visually appealing way.
3. To encourage European local authorities and other potential end-users to contact the project coordinators and get involved in the project potentially as demonstrators.

The roll-up follows the same reading logic as the poster. The roll-up will be used during the international events in which ETN as dissemination leader will have a booth to promote the project.

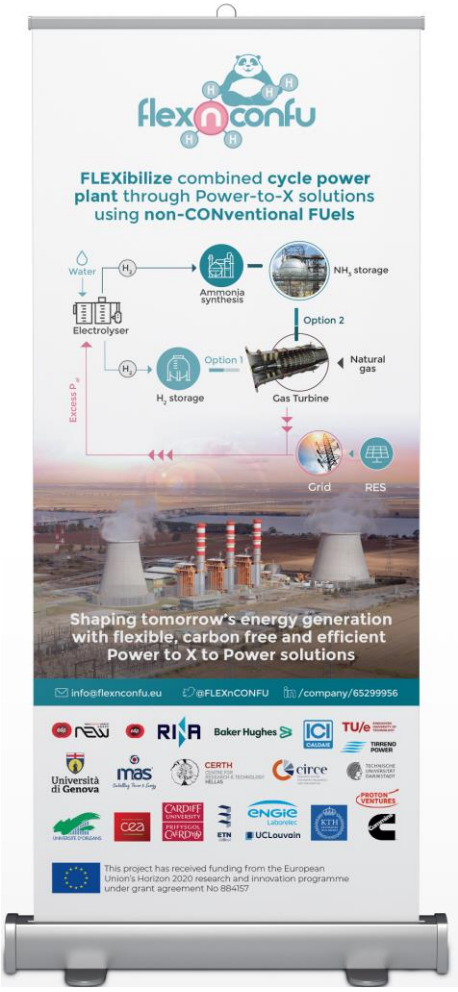

Figure 6 - FLEXnCONFU roll-up

Conclusions

In accordance to the previous deliverables defining the project dissemination strategy, this deliverable provides the project leaflet, poster and roll-up of the FLEXnCONFU project which will be used by the consortium as means of raising general awareness of the large non-specialist community, as well as the community of relevant stakeholders.

With all these measures, including a graphically appealing, easy text formats and well-structured contents, ETN and the other Consortium partners have laid the ground for an appealing dissemination campaign that attracts many visitors and will redirect to the main communication channels (website/social media).
The structure of the printed material is similar and effectively connected to the main concepts that the project would like to promote.

ETN will further update the contents of leaflet and posters according to progress updates and status and also under the feedback received by the other partners. Only by keeping the material updated and addressing audience to an up-to-date website, it is possible to ensure a maximum outreach potential for the project communication and dissemination.