



## CLEAN HEAT AND POWER FROM HYDROGEN

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## DELIVERABLE REPORT

<b>D6.3: PLAN FOR DISSEMINATION AND EXPLOITATION INCLUDING COMMUNICATION ACTIVITIES (PDEC)</b>		
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<b>DISSEMINATION LEVEL</b>		
<b>PU</b>	Public	<b>X</b>
<b>SEN</b>	Sensitive, limited under the conditions of the Grant Agreement;	
<b>NATURE OF THE DELIVERABLE</b>		
<b>R</b>	Document, report	<b>X</b>
<b>DEM</b>	Prototype demonstrator	
<b>DEC</b>	Website	
<b>DMP</b>	Data management plan	
<b>OTHER</b>	Software, algorithms, models	

<b>SUMMARY</b>	
<b>Keywords</b>	<i>Communication, Dissemination, Exploitation</i>
<b>Abstract</b>	<i>This plan for dissemination and exploitation including communication activities, provides a catalogue of planned dissemination, exploitation, and communication measures tailored to the various target audiences.</i>
<b>Public abstract for confidential deliverables</b>	<i>As above</i>

<b>REVISIONS</b>			
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# PLAN FOR DISSEMINATION AND EXPLOITATION INCLUDING COMMUNICATION ACTIVITIES (PDEC)

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## 1. INTRODUCTION

In order to maximise the impact of the CLEANER project, results will be disseminated to key target groups with the aim of assisting industrial green hydrogen providers and fuel cell manufacturers on how the industry-quality hydrogen can be utilized in impurity tolerant fuel cells supporting stationary, port and aviation infrastructure, as well as influencing standards development and future research areas.

## 2. OBJECTIVES

The objective of the dissemination activities is to ensure the widespread distribution of the useful results and project outputs to a diverse range of key stakeholders. This will be achieved through effective communication of the project's results via a set of refined project messages and more general public messaging.

The CLEANER consortium intends to deliver key messages to the target audiences, and will cover specifically the following messages:

- The economic viability to use fuel cells for clean stationary power and heat in the MW range for:
  - Efficient supply of electricity and heat to heavy-duty applications in the industry and/or critical infrastructure such as ground power supply and cold ironing (idling) of ships in ports
  - Resilient for stabilizing electrical grids with a high penetration of intermittent renewables, thus contribute to the decarbonization of the energy sector
  - secure back-up power or off-grid power production
- The feasibility of long-term operation of PEM fuel cell systems running on industrial quality hydrogen.
- Europe as a market leader in hydrogen technology.
- The importance of standardization of hydrogen quality, as well as established regulations for trade and use.

As the project evolves these messages will be reviewed and defined further, based on the key learnings.

## 3. DISSEMINATION STRATEGY

### 3.1 Target groups

The CLEANER partners will in a first place target the scientists and engineers in industry and academia, regulatory bodies and policy makers, Clean Hydrogen JU, science and society education channels. Moreover, to accelerate the technology uptake, the CLEANER consortium will also target some specific groups who will benefit from the impacts of this project :

- Potential end users, (eg power production for critical infrastructure) to widespread use of PEMFC for stationary power generation and heat.
- Hydrogen pipeline operator and allowing PEMFC systems to operate on hydrogen quality from pipelines promotes utilization, and an extension of the pipeline grid, from a local up to a pan-European level.
- Fuel cell manufacturers and component suppliers

### 3.2 Dissemination channels

Measures for dissemination identified by the consortium are described below:

- **Presentations at international conferences:** in industrial and scientific conferences and workshops, exploiting the project results to inform academics of the key conclusions of the project and increase the knowledge and engagement in utilization of low-quality hydrogen as fuel in stationary fuel cells.
- **Open Access peer-reviewed scientific publications:** The academic partners participation will guarantee high impact scientific dissemination of CLEANER results. According to the EC requirements, CLEANER publications will be Open Access through green open access option (self-archiving) or through gold open access by publishing in OA journals.
- **Contribution to EC/Clean Hydrogen JU Programme Review Days (annually).** The CLEANER coordinator will present the project's objectives, status, outcome and impact when invited to do so, and will comply with any requests by the Project Officer for additional information to contribute to establishing status at programme level. In addition, CLEANER will present a poster of its results at this annual event.
- **CLEANER stakeholder forum.** CLEANER throughout the project in the form of a webinar, targeted stakeholders including a focus on handling and use of industrial quality hydrogen, will have the opportunity to participate in a discourse with the project partners via presentations, participation in a Q&A session, and the exchange of contact details and interesting results for further research.
- **Standard Development Organisations interaction** – Several project participants are members of ISO TC 19 197 WG27 and CEN TC268 WG5 and will contribute with scientific input from the project in regular meetings.
- **Social Media:** LinkedIn posts for dissemination towards professional audience.

Dissemination activities (publications, conference presentations) will be continued after the project to foster exploitation of CLEANER results.

## 4. COMMUNICATION STRATEGY

The communication activities will be tailored to ensure that key messages are widespread and that audiences beyond its own community are connected with the project. The communication strategy will depend on the efforts of the partners in maximising all occasions to promote the

project and its results. Efforts will be made to engage the involvement of the earlier-stage CLEANER researchers in the communication activities.

## 4.1 External Communication

### 4.1.1 Targeted audiences

Target groups are the public, academic and industrial research communities, energy and hydrogen technologies research funding agencies, energy and hydrogen strategy policy developers.

### 4.1.2 Communication channels

- **Visual identity package** - The project communication is unified along a common visual entity with a coherent visual chart (colours, fonts, designs) derived from the project logo. This visual identity will be used throughout the project, creating a distinguishable "branding" that will be recognised by the various communities.
- **CLEANER website**: a project website has been designed and online since M4. It provides non-confidential information on the project, public deliverables, Open Access publications and presentations. Its aim is to reach non-specialised readers, programme managers at funding agencies (e.g., clean transport-focussed JUs, EC, equivalent agencies internationally), the scientific community and stakeholders to further develop the project results.
- **Annual Newsletter**: An annual newsletter will describe and promote the project highlights, progress and outcomes mainly towards a professional audience. These will be available through a direct link on the project website as well as on social media (LinkedIn), with an updates subscription option on the project website.
- **Non-academic forums and industry trade shows**: The industrial partners will use their stands and displays at technology trade shows (three planned) to communicate to other industry professionals, energy and hydrogen technologies energy agencies, representatives of energy policy at local and regional government level.
- **Press releases**, firstly to promote the project and make its existence known, mainly through the industrial partners' websites and social media and also when important outcomes and milestones are achieved.
- **Interaction with the Programme Office communications services** by establishing contact with the Clean Hydrogen JU communication officer and providing them with information (social media posts, project newsletters) that they can relay through their own channels. This is very effective in broadening communication of project news.
- **A final project report** will be published presenting the main findings regarding development and use of impurity tolerant fuel cell systems, as well as the next steps for future research. SINTEF will lead the work in close collaboration with the other partners.
- **Factsheets or flyers or leaflets** to be used as informative tools

### 4.1.3 Internal Communication

A Project Shared Workspace provided by SINTEF to provide a restricted access platform for project partners, allowing sharing, decentralised and secured archiving of documents.

## 5. EXPLOITATION

### 5.1 Exploitation by project partners

- **Widespread use of PEMFC for stationary power generation and heat** – By developing fuel cells capable of operating on lower-cost industry quality hydrogen, the project will contribute significantly to increased use of large stationary FC, amongst them also cold ironing of ships and ground power supply in (air)ports.
- **Increase the use of industrial quality hydrogen** – CLEANER will develop and demonstrate long term operation of PEMFC system on industry quality hydrogen, and thus promote the use of already available hydrogen at industrial sites.
- **Development of the future research agenda** – guiding future research project activities related to impurity tolerant fuel cell technology and hydrogen quality standardization, as well as catalyst and catalyst support research, and accurate carbon corrosion research.
- **Enhance end user and consumer confidence** – by proving the technical and economic viability of using industrial (low-cost) quality hydrogen for stationary applications.

Partners will patent promising technology and material developments if not covered under their existing patents.

## 6. FUTURE UPDATES AND MONITORING

The PDEC will be updated at M18 and M36. KPIs, including number of CLEANER website visits, journal articles, invitations to lecture at conferences, press releases, social media posts and their sharing and "likes", will be used to monitor progress 6-monthly, and define contingency measures if necessary. Partners will also contribute to maximising the use of all existing communication and dissemination channels.