



D7.3 HYIELD video

inveniam  . .



PROJECT INFORMATION

GRANT AGREEMENT NUMBER	101137792
PROJECT TITLE	A novel multi-stage steam gasification and syngas purification demonstration plant for waste to hydrogen conversion
PROJECT ACRONYM	HYIELD
FUNDING SCHEME	Horizon Europe
START DATE OF THE PROJECT	01/01/2024
DURATION	48 months
CALL IDENTIFIER	HORIZON-JTI-CLEANH2-2023-1
PROJECT WEBSITE	https://hyield.eu/

DELIVERABLE INFORMATION

DELIVERABLE N° & TITLE	D7.3 HYIELD video
WP NO.	WP7 Communication and dissemination
WP LEADER	INV
DELIVERABLE CREATOR	INV
CONTRIBUTING PARTNERS	All
AUTHORS	L. Mencia Trinchant
REVIEWERS	Magtel
CONTRACTUAL DEADLINE	31 December 2024
DELIVERY DATE TO EC	3 January 2025
DISSEMINATION LEVEL	Public

DOCUMENT LOG

VERSION	DATE	AUTHOR	DESCRIPTION OF CHANGE
V1.1	17/12/2024	L. Mencía	Complete version ready for review
V1.2	17/12/2024	J.J. Romero and A. Sánchez	Magtel feedback
V1.3	03/01/2025	L. Mencía	Final approved version / Ready for submission

DISCLAIMER



**Co-funded by
the European Union**



The HYIELD project has received funding from the European Union's HORIZON-JTI-CLEANH2-2023-01-05 programme under grant agreement N° 101137792. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or CINEA. Neither the European Union nor the granting authority can be held responsible for them.

Content

1. Introduction.....	5
2. Video	6
2.1. The script	6
2.1.1. Screenshots.....	7

Figure index

Figure 1. Screen shots of HYIELD's video.....	8
---	---

Consortium Partners

	Country	Country	Short name
1	MAGTEL OPERACIONES	ES	MAG
2	CEMEX ESPAÑA OPERACIONES	ES	CMX
3	VEOLIA (ACES)	ES	ACES
4	WASTE-TO-ENERGY ADVANCED SOLUTIONS	ES	WTE
5	H2SITE	ES	H2S
6	MINCATEC	FR	MIN
7	FUNDACIÓ EURECAT	ES	EUT
8	SINTEF AS	NO	SIN
9	ARISTENG	LU	ARI
10	SYNHELION	BE	SYN
11	CETAQUA-CENTRO TECNOLÓGICO DEL AGUA, FUNDACIÓN PRIVADA	ES	CET
12	INVENIAM GROUP	ESE	INV
13	LA FARGA	ES	FAR
14	ARCELORMITTAL	DE	ARC
15	ENAGAS	ES	ENG
16	CONSEJO SUPERIOR DE INVESTIGACIONES CIENTÍFICAS	ES	CSIC

1. Introduction

This document provides an overview of the HYIELD project in a presentation video mode. The video is structured to be easily understandable, unfolding like a story that the audience can follow. It begins with the current energy status in Europe, followed by the energy needs of the industry, waste generation, and management. It then introduces HYIELD and its mission to transform waste into green hydrogen.

The HYIELD presentation video offers a visual depiction of these topics, including a clear description of the project's goals, activities and technology, and main outcomes, engaging the audience in layman's language.

Designed to inform stakeholders, policymakers, and the general public, the video emphasizes the project's contributions to transitioning towards a diversified, clean energy landscape.

2. Video

In today's digital age, video is one of the most effective media formats for distributing a project's activities to a broad and diverse audience. Our dissemination efforts aim to reach not only the general public but also communities, expert groups, stakeholders, and end-users, with the goal of fostering a dedicated community centred around the project. The video will be presented in English with a voice-over and subtitles to ensure inclusivity. In the web, it will be placed just below the initial project description, on the landing page.

The purpose of the video's dissemination is to achieve the following goals:

- **Increase awareness:** Make the project's work known to a wider audience.
- **Share insights:** Communicate the motivations behind the HYIELD project and highlight the significant outcomes achieved.
- **Simplify communication:** Provide an accessible way to explain the project to various audiences.

Here is a link to the video which is available in the webpage: [web](#), [YouTube](#)

2.1. The script

Here as follows, it is the latest version of the script:

Structure	Script
Context (import dependency)	Energy moves our world, powering everything from our homes to our economies. Yet in 2022, the European Union imported 62.5% of its energy needs, leaving our industries vulnerable to forces beyond our control. With natural gas imports at 88%, we have an urgent need for clean, diversified and secure energy sources.
Context (emissions)	The urgency for clean energy is particularly acute in our industrial sectors, the backbone of our economy. In 2022, the industrial sector consumed a quarter of the EU's final energy and was responsible for a similar share of fossil carbon emissions. Heavy industries like cement and steel need innovative clean energy solutions.
Context (Waste)	Meanwhile, across our cities and communities, Europe generates 300 million tons of waste annually, nearly 500 kg per inhabitant. We also need a paradigm shift to turn this problem into an opportunity.
Solution: RES	So, how can we address it?
Green hydrogen	The answer lies with green hydrogen, a clean carbon-free energy carrier. Green Hydrogen holds the potential to decarbonize energy-intensive industries and provide long-term energy storage.
Issues	However, integrating hydrogen into our energy system presents its own obstacles, including high costs and technical challenges.
Final solution	That's where HYIELD steps in, offering a dual solution to our energy and waste challenges. Here's how HYIELD transforms waste into clean energy:

(Waste management & supply) Organic waste streams, like green waste or organic MSW is collected, dried, and prepared for conversion.

(Multi-stage gasification & gas cleaning) The dried waste is then transformed in a steam gasification process into syngas, which is then cleaned and filtered.

(Water-Gas Shift membrane reactor) After cleaning, the syngas enters a water-gas shift reaction where steam increases the hydrogen yield. The hydrogen is then separated using a palladium-based membrane.

(Metal hydride hydrogen storage) The hydrogen is stored in metal hydrides, which safely absorb and release it when needed.

(Cement kiln) Finally, the purified hydrogen is used in cement kilns, replacing fossil fuels and reducing emissions.

By transforming waste into a valuable energy resource, HYIELD addresses multiple European challenges: it strengthens our energy security of supply, equips industries with an affordable clean fuel alternative, and eases the strain on landfills.

By 2040, HYIELD aims to significantly impact our environment and economy. We plan to transform substantial amounts of waste into green hydrogen, drastically cutting greenhouse gas emissions and lowering hydrogen production costs.

These advancements dovetail with the EU's REPowerEU plan, accelerating our transition to a diversified, clean energy landscape. With HYIELD, we're building a sustainable and self-sufficient future for Europe's energy needs.

2.1.1. Screenshots

A series of screenshots are taken from the video to illustrate with images the strategy elaborated in order to make HYIELD's message understood by the general public. Here is a link to the video which will be available in the webpage:





Figure 1. Screen shots of HYIELD's video.