



# **H2GEO**

**New technology for hydrogen and geopolymer composites  
production from post-mining waste**

## **Deliverable 1.1**

### **Communication and Dissemination Plan**

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Deliverable 1.1 The Communication and Dissemination Plan

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## Deliverable 1.1 The Communication and Dissemination Plan

### 1. Introduction

The Communication and Dissemination Plan for H2GEO (CDP) facilitates the coordination, synchronization of dissemination and communication activities in order to achieve the best possible awareness of the project activities and results.

The CDP identifies the communication channels and tools according to the needs and capacities of the different stakeholders/users' groups. It also guarantees that the dissemination activities are highly targeted, in content and method, to achieve the highest possible impact. In addition, this CDP establishes guidelines for efficient internal communication between Partners to foster the successful implementation of the project.

The dissemination and communication activities of H2GEO will make the project and its results visible to the target audiences, establishing a cross-link with public authorities, the scientific community, and EU. The CDP guides project's public activities to guarantee that a coherent of messages is delivered among the different target groups.

The CDP of the H2GEO project is a living document that will be continuously updated accordingly to the project flow to reach the widest possible audience, create a framework for knowledge transfer between regions, and correct the errors in communication and dissemination activities that may appear.



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### 2. Project information

“New technology for hydrogen and geopolymer composites production from post-mining waste” (H2GEO) is a RFCS-2022 project funded by the European Commission for 36 months. The project has officially started on the 1-st of July 2023.

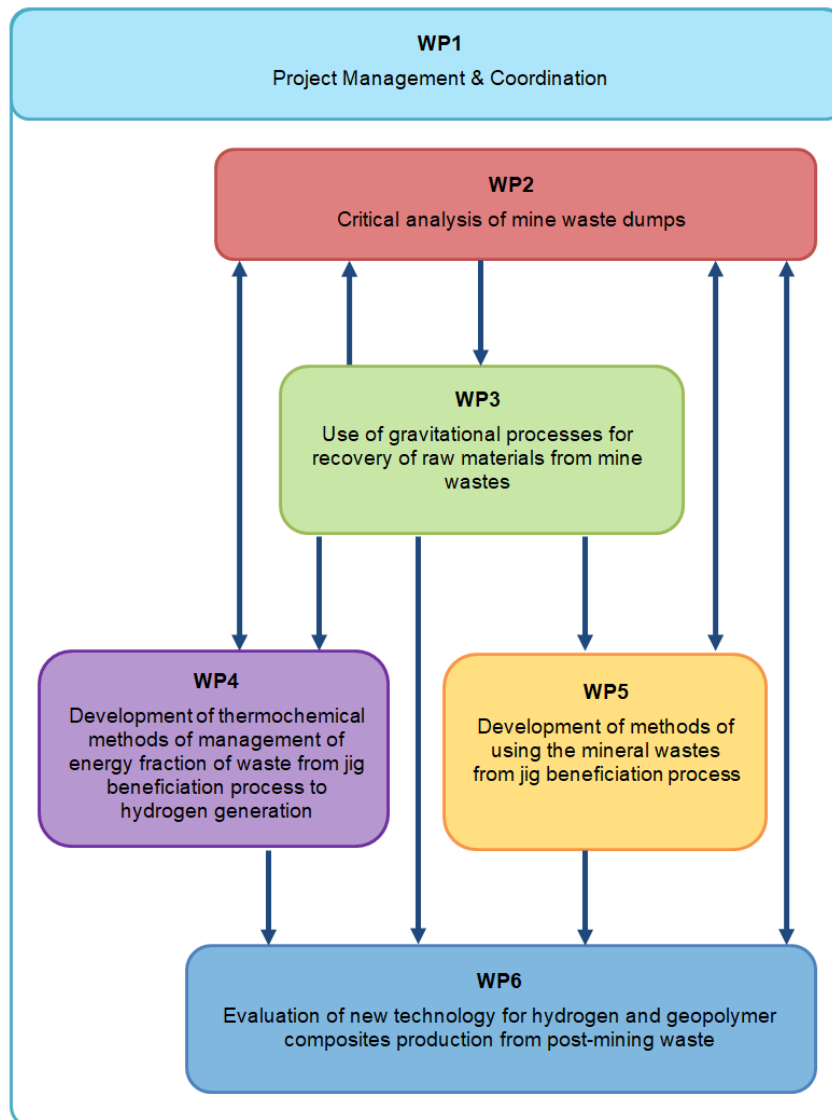
H2GEO project Consortium is composed of seven partners: Instytut Techniki Górniczej Komag (KOMAG), Poland; Główny Instytut Górnictwa (GIG), Poland; Institute of Construction and Architecture Slovak Academy of Sciences (USTARCH), Slovakia; Instytut Technologii Paliw i Energii (ITPE), Poland; VSB - Technical University of Ostrava (VSB), Czechia; Politechnika Wroclawska (PWR), Poland; Haldex S.A. (HDX), Poland.

Development of a comprehensive technology for the management of mine waste dumps is planned within the H2GEO project. The main idea of the project is to use the separated mineral fractions and fly ash to produce geopolymer composites. It is planned to use CO<sub>2</sub> as a process carrier in the production of composites. Another important aspect of the project is to determine a possibility of obtaining hydrogen from the gasification of energy fractions.

High-quality raw materials for the production of geopolymers and hydrogen will be ensured by the use of an innovative mobile separator for processing of mine waste.

H2GEO project will enable the creation of environmentally friendly and economically justified installations using material from a post-mining waste landfill. Achieving the final goal will be possible thanks to the implementation of the partial goals set in the project, including the development of technologies dedicated to the production of geopolymers and hydrogen.

H2GEO Project Partners will realize their tasks within six work packages. The scheme of overall structure of the work plan in the project and collaboration is presented below.



**Fig. 1. Overall structure of the work plan**

### 3. Communication and dissemination goal

The document 'The Communication and Dissemination Plan' (CDP) is the first planned deliverable (D.1.1) of the project prepared by KOMAG. It is an element necessary for proper and effective H2GEO project management. CDP has been designed based on GRANT AGREEMENT Project 101112386 — H2GEO, which correlates to Annotated Grant Agreement (EU Funding Programmes 2021-2027): Article 17 and Annex 5, as well as according to guidelines set in the publication 'Communicating and raising EU visibility: Guidance for external actions' – 2022.

The CDP will be continuously updated in line with the project results in order to reach the widest possible audience, develop a framework for knowledge transfer and correct errors in any communication and dissemination activities that may arise.



## Deliverable 1.1 The Communication and Dissemination Plan

Communication and Dissemination Plan is a document that contains information including:

- objectives of the dissemination,
- subjects of dissemination,
- target audience ,
- dissemination methods,
- rules for planning and performing of dissemination activities.

This plan will ensure information about H2GEO project's objectives and results are effectively disseminated to relevant audiences and to promote the use of project results by the relevant industry.

This document will enable and facilitate also the following:

- present a project in the European Research Area,
- engage with interested stakeholders and new audience groups,
- communicate project results to academics, industry, end-users and society,
- build partnerships for future research and activities beyond the project lifetime.

The goal of communication is to increase the visibility of the project, the Consortium, and the research program. The dissemination activities carried out should encourage people to use the project results, increasing the chances of their implementation.

Most significant dissemination activities will take a place in a final stage of the project (last six months of the project) when the outcomes of the H2GEO and its potential impacts will be disseminated to industry and scientific community.

One of the basic goals of dissemination activities of the H2GEO project is to make awareness of the H2GEO project concept, objectives and its main results to different target groups and to obtain useful feedback from stakeholders that will be interested in herein in exploitable results, and, above all, the use of mine waste for processing into new high-quality products, including hydrogen and geopolymers.

Dissemination activities should be address multiple audiences (beyond the action's own community), including the media and the public, in a way that can be also understood by non-specialists.

Dissemination activities should also be carried out in terms of the impact of the project results on everyday life, including: job creation, development of new technologies, better quality of products, better lifestyle.

### **4. Communication and dissemination strategies**

Communication and dissemination strategy will follow principles and best practices successfully evaluated by the H2GEO Partners in other projects.

#### **4.1. Internal Communication**

The aim of the internal communication strategy is to organise the information flow within the H2GEO project Consortium to ensure the effective management of the project, and efficient communication between the project Partners through a regular exchange of emails, calls and

meetings. Effective management and execution of the project is contingent on organising a strategic communication between the project Coordinator and the Partners, as well as between the Partners themselves. Keeping members informed of common actions, administrative and financial obligations, as well as monitoring and evaluation activities and results will aim to overcome any issues that may arise during the execution of the project and should help achieve its objectives.

In order to ensure effective management of the H2GEO project, a Steering Committee will be appointed, composed of representatives of the members of the project Consortium. The Steering Committee will be responsible for monitoring the progress of works under the project and their coordination in terms of achieving the project's main goals, as well as analyzing potential threats.

The tasks of the Committee members will include substantive supervision over the implementation of the H2GEO project between cyclical meetings (at least every 6 months) and prepare progress reports of the work performed. Teams members will communicate with each other on an ongoing basis as part of working meetings. Research teams will be responsible for carrying out activities in accordance with the plan in order to achieve the assumed results and indicators of the project, analyzing and archiving the obtained data and informing the R&D Manager about the research progress. Continuous control of the implementation of the assumed milestones and deliverables will be extremely important as part of the tasks carried out equally.

Different Lead Beneficiaries will be responsible for the implementation of individual work packages (Table.1.).

**Table. 1. H2GEO project Work Packages information**

WP no	Work Package name	Lead Beneficiary	Start Month	End Month
1	Project Management & Coordination	KOMAG	1	36
2	Critical analysis of mine waste dumps	GIG	1	36
3	Use of gravitational processes for recovery of raw materials from mine wastes	KOMAG	4	24
4	Development of thermochemical methods of management of energy fraction of waste from jig beneficiation process to hydrogen generation	ITPE	13	30
5	Development of methods of using the mineral wastes from jig beneficiation process	GIG	10	30
6	Evaluation of new technology for hydrogen and geopolymer composites production from postmining waste	KOMAG	25	36





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## 4.2. External Communication and Dissemination

The primary objective of communication strategy is to increase the impact and transferability of the H2GEO project by disseminating the results, engaging target audiences as well as creating and maintaining the project's constant visibility. Project Partners will activate synergies and ensure a cohesion between the actions planned at different levels to effectively disseminate project activities and results to target groups and stakeholders, including public authorities, industry, scientific communities and the EU.

The Communication and Dissemination Plan include a basic communication toolbox that will support project participants in their work and foster the identification with the project.

Communication tools include:

- H2GEO project logo which reflecting the project idea;
- project website for a comprehensive presentation of the project and the Consortium, which will be updated on an ongoing basis;
- project rollups as a promotional element during events containing the most important information about the project (action, goals, logo, participants, contact details, sources of financing, etc.);
- social media notes, incl. Facebook, LinkedIn, where information about the H2GEO project will be shared, such as the goal, activities and results to reach a wide audience;
- conferences presentation, press releases, flyers;
- EU visual identification on document templates, i.a. reports, articles, presentations and posters (more in 4.3. EU Visibility);
- presentations at promotional meetings e.g. for Enterprises, Local Authorities, State Treasury Companies.

Planned activities to disseminate the project results will make them available to a wide range of recipients, including the scientific community, policy-makers, and industry.

The most important dissemination and exploitation will include:

- publications of scientific articles as a basis for dissemination;
- presentations during scientific conferences and seminars;
- patents as a result of project results;
- organization of meetings and events with representatives of science, industry, policy makers and the local community

### 4.3. EU Visibility

Strategic communication and visibility are very important parts of all EU programmes which implement the EU political priorities ('Communicating and raising EU visibility: Guidance for external actions' – 2022).

The EU emblem is the single most important visual brand used to acknowledge the origin and ensure the visibility of EU funding. All H2GEO project Partners will use the EU emblem in their documents to acknowledge the support received under EU programme and contribute to the visibility of the EU. The EU emblem will be accompanied by a funding statement mentioning the EU's support. The funding statement 'Co-funded by the European Union' shall always be spelled out in full in the operational language of the EU programme and relevant local languages and be placed next to the emblem (Figure. 2).

EU emblem and funding statement information in H2GEO project will be placed in: publications, newsletters, project reports, flyers, on banners produced as a backdrop for special events (seminars and conferences), documents digital assets e.g. webpages, visuals and videos.



**Fig. 2. The EU emblems and the funding statements**

According to H2GEO GRANT AGREEMENT:

Any communication or dissemination activity related to the action must use factually accurate information. Moreover, it must indicate the following disclaimer (translated into local languages where appropriate):

'Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or [name of the granting authority]. Neither the European Union nor the granting authority can be held responsible for them'.

The beneficiary that intends to disseminate should give the other beneficiaries advance notice (together with sufficient information on the intended dissemination). Any other beneficiary may object to dissemination if it can show that it would suffer significant harm (in relation to its background or results). In this case, the results may not be disseminated — unless appropriate steps are taken to safeguard the interests at stake.



## 5. Communication and dissemination activities / channels

Communication, dissemination and exploitation activities will be realized during and after the H2GEO project's implementation, in order to show the project's results to the wider public audience. Communication, dissemination and exploitation of the results of the H2GEO project will be an integral part of this project and the tasks planned to be carried out. All project Partners will be involved in these activities at all stages and in all parts.

The information about the existence of the H2GEO project will be spread since the early stage of the project, in order to increase its visibility. Therefore, the main dissemination and communication tools used in this stage will be H2GEO project website, social network tools and short project presentations e.g. at the scientific conferences, seminars, and workshops. Most significant dissemination activities will take a place in second and third year of project realization, when the H2GEO project outcomes and its potential impacts will be disseminated to industry and scientific community.

The information channels around which the strategy has been developed range from mass media to mass mailings, from print media to electronic media, from telephone contacts to face-to-face contacts.

The most important distribution channels of project results and outcomes that will be used are described below.

### 5.1. H2GEO website

Electronic media will play a very important role in the communication and dissemination of the project. Project Leader (KOMAG) will develop a H2GEO project website informing about all project activities. It will contain general information about project scope, concept, structure, timeline, Consortium Partners, as well as project progress and action, results of research carried out under the project, events and news. Scientific publications, conference materials, publishable reports and reviews and deliverables achieved within the H2GEO project will be posted there. Project web page will serve three main functions: dissemination of ideas and communication within H2GEO partners (restricted access zone), provision of source of information and as entry point for information for stakeholders and end users not participating in the consortium (public zone).

### 5.2. Public reviews and annually e-newsletters

It is planned to prepare comprehensive public reviews of the H2GEO project, the first – at the end of 2023, the second one – at the end of the project realisation (M35). The reports will be available to all interested parties on H2GEO website.

The implementation of communication and promotion tasks will be evaluated every 6 months in the form of Communication and Dissemination Report. Annually e-newsletters written in English and national languages of the project Partners will referee actual results obtained under the H2GEO project.



### **5.3. Social networks**

The general communication and dissemination of the H2GEO project is planned throughout Partners' networking channels: social media (e.g., Facebook, LinkedIn, X) as well as Partners' webpages. These actions will be addressed to different audiences and are expected to bring different results, such as public and investor interest and broad dissemination of the concept and perspectives. It is planned to continuously inform about the H2GEO project, its assumptions, goals, and the project results, news, and events related to its implementation.

### **5.4. Print media**

Project Partners will be responsible for publishing papers in national and international scientific/technical journals and magazines. The results will be disseminated as research papers in journals from the JCR database under an open-access agreement, for which fees are included in the project budget. It is planned to prepare at least two papers referring to the H2GEO project results. The project results will also be disseminated through posters at scientific conferences and seminars, as well as through conference proceedings and information leaflets.

### **5.5. Meetings and events**

High efficiency of the communication process and dissemination of the project can be achieved through personal contacts like face-to-face and on-line meetings (teleconferences, telephone contacts). Internal Communication within the H2GEO project was detailed described in Subsection 4.1.

Project Partners will also present results obtained during H2GEO project on national and international scientific or/and technical conferences – at least two during project lifetime.

It is planned to participate and disseminate the project results (oral presentations or posters) at scientific conferences regularly organized by ITG KOMAG (e.g. KOMTECH, KOMEKO). The topics of these conferences in recent years have concerned the green transformation in the area of mining and activities for the environmentally friendly industry.

It is planned to organize final international seminar either as a standalone event or as a special day to an existing conference. During this seminar, all H2GEO project results and achievements will be presented. Seminar materials will be published on H2GEO project website.

The H2GEO project's final international seminar will be open to stakeholders from different backgrounds expressing interest in mine waste dumps recultivation, such as scientists, policymakers, and European, national, regional, and local authorities.



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## 6. Dissemination subject

The following general subjects of communication and dissemination have been identified:

- H2GEO project itself, i.a. general scope and goals, structure, timeline;
- information about Consortium Partners and programme;
- project results relates to development of the full chain technology concept of hydrogen and geopolymers production from mine waste dumps;
- economic, environmental, social and legal assessment of hydrogen production technology and geopolymer composites from mining waste dumps;
- project deliverables (Table 2.) and milestones (Table 3.).

**Table 2. Deliverables list of H2GEO project**

No	Deliverables name	Beneficiary	Dissemination Level	Planned achievement date
D1.1	The communication and dissemination plan	KOMAG	PU	M3
D1.2	Webpage created and initiated	KOMAG	PU	M6
D1.3	The comprehensive public overview of the project	KOMAG	PU	M6
D1.4	Publishable Report	KOMAG	PU	M36
D2.1	Rank of dumps as regards their use in jig beneficiation process and hazards to environment and man	GIG	PU	M12
D2.2	Analysis results of testing raw mine wastes	ITPE	PU	M12
D3.1	Results of laboratory tests of mine wastes of jig beneficiation	KOMAG	PU	M15
D3.2	Physicochemical and mechanical analyses results of the separation products	GIG	PU	M21
D3.3	Analysis of possibilities of using selected fractions from mine wastes for recovery of rare trace elements and power production	ITPE	PU	M21
D4.1	Evaluation of data from operational tests of the plasma gasifier	VSB	SEN	M24
D4.2	Set of parameters for H <sub>2</sub> separation by PSA method	ITPE	SEN	M30
D4.3	Development, evaluation and validation of the computational model against the operational data obtained during the CBF gasification tests	ITPE	SEN	M30
D5.1	Determination of mineral part properties in terms of thermal processing parameters	ITPE	SEN	M30
D5.2	Determination of geopolymers properties	USTARCH	SEN	M30
D5.3	Development of methods of using mineral fractions in new building materials and in agriculture	GIG	SEN	M30
D5.4	Development of the method for recovery of minerals and chemicals with initial evaluation of its profitability	GIG	SEN	M30
D6.1	Final concept of H2GEO technology	KOMAG	PU	M34
D6.2	Results of economic analyses	ITPE	PU	M36
D6.3	Results of Market, Social, legal aspects and LCA Analysis	PWR	PU	M34



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**Table 3. Milestones list of H2GEO project**

No	Milestone name	Means of Verification	Planned achievement date
1	Creation of the database system	Map of mine wastes vs. chemical and physical parameters vs. logistic	M36
2	Transfer of coal (CBF) and mineral fraction samples to project partners for testing in WP4 and WP5	Protocol on handing over the samples	M10
3	Technical documentation of the prototype of mobile system for separation of mine wastes	Technical documentation prepared by KOMAG with all drawings in Polish	M24
4	Design of plasma gasifier operating parameters and their subsequent validation	Complete set of validated experimentally, proces data disseminated to Partners	M24
5	First demonstration of the continuous longterm gasification of the coal-containing fraction	Data logs from SCADA system confirming 72 h of continuous operation of the PDU-scale FB gasifier	M30
6	Geopolymer concrete compressive strength	Compressive strength: 20MPa	M30

## 7. Target audience of the project dissemination

Dissemination process will be carry between two main kinds of audience: within project Partners and beyond project Consortium Members. In Table 4. is presented segmentation of H2GEO project audience.

**Table 4. Segmentation of H2GEO project audience**

Type of audience	Audience description
<b>Project Partners</b>	<p>Communication with in the H2GEO project should ensure an orderly flow of information, efficient communication within the Consortium in order to ensure effective project management.</p> <p><i>Main communication channels:</i> e-mails, telephone calls, tele- and videoconferenes, meetings.</p>
<b>Academic and research community</b>	<p>This group is aimed at all research communities interested in project results and innovations that can benefit their own research activities.</p> <p>The scientific value of H2GEO will be of particular interest to researchers working on technologies related to hydrogen and geopolymers production, as well as gravitational mineral raw materials separation processes.</p> <p><i>Main communication channels:</i> publications, scientific conferences, H2GEO project website, newsletters, mass and social media, etc.</p>
<b>Industrial sector</b>	<p>Entrepreneurs potentially interested in implementation of developed technology for the management of mine waste dumps .</p> <p><i>Main communication channels:</i> open events, meetings, seminars, mass and social media, H2GEO project website, etc.</p>
<b>Local Authorities, Enterprises, State Treasury Companies</b>	<p>This is a group encompassing local, regional authorities, Ministries, and Public Administrations at national and international level. The main goal that should be promoted is sup-porting strategic decision-making for the equitable transformation of post-mining regions.</p> <p><i>Main communication channels:</i> meetings, seminars, mass and social me-dia, newsletters, H2GEO project website, etc.</p>
<b>Public community</b>	<p>Public community shall be aware of the H2GEO project objectives and progresses. The main reason is to inform them on how public funds are spent for the benefit of the EU community; the second reason is because many of H2GEO results will have a strong impact at environmental and social level.</p> <p><i>Main communication channels:</i> mass media, open events (exhibitions, fairs), H2GEO website, etc.</p>




## 8. Report on activities undertaken and achievements of communication and dissemination

This chapter will be a summary of communication activities, dissemination and exploitation implemented during the H2GEO project. It will be replenished on a regular basis.

Activities undertaken and achievements are presented in the table below (Table 5.)

**Table 5. Report on Activities Undertaken and Achievements**

No	Date	Description	Lead Partner
1	24.08.23	H2GEO project presentation on ITPE websites: <a href="http://www.itpe.pl/en/2023/08/24/new-technology-for-hydrogen-and-geopolymer-composites-production/">http://www.itpe.pl/en/2023/08/24/new-technology-for-hydrogen-and-geopolymer-composites-production/</a>	ITPE
2	24.08.23	H2GEO project presentation on Facebook including: project summary, list of participants, European flag and funding statement	ITPE
3	24.08.23	H2GEO project presentation on LinkedIn: <a href="https://www.linkedin.com/feed/update/urn:li:activity:7102277727252025345">https://www.linkedin.com/feed/update/urn:li:activity:7102277727252025345</a>	ITPE
4	21.09.23	H2GEO project presentation on KOMAG websites: <a href="https://komag.eu/nauka/projekty-miedzynarodowe/2847-h2geo-fundusz-badawczy-wegla-i-stali">https://komag.eu/nauka/projekty-miedzynarodowe/2847-h2geo-fundusz-badawczy-wegla-i-stali</a>	KOMAG
5	27.09.23	H2GEO project LOGOTYP 	KOMAG
6	planned 05.10.23	H2GEO project presentation on Facebook including: project summary, coordinator contact details, list of participants, European flag and funding statement and H2GEO logo.	KOMAG