D3.3

Report on public engagement activities

Under review

The project is supported by the Clean Hydrogen Partnership and its members.

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 the Clean Hydrogen Partnership. Neither the European Union nor the Clean Hydrogen Partnership can be held responsible for them.

www.hypop-project.eu

info@hypop-project.eu

#HYPOPPROJECT

D3.3	Report on public engagement activities
DELIVERABLE TYPE	Report
MONTH AND DATE OF DELIVERABLE	Month 26
WORK PACKAGE	WP 3
LEADER	IMI
DISSEMINATION LEVEL	Public
AUTHORS	Daniela Martin Dr Fanie van Rooyen
PROGRAMME	HORIZON EUROPE
GRANT AGREEMENT	101111933
START	June 2023
DURATION	28 months

Contributors

NAME	ORGANISATION
Daniela Martin	IMI
Dr Fanie van Rooyen	IMI

Peer Reviews

NAME	ORGANISATION
Diego Iribarren	IME
María José Sánchez	CNH2
Marianna Franchino	ENVI
Ilaria Schiavi	ENVI

Revision History

VERSION	DATE	REVIEWER	VERSION NOTES
1	25 June 2025	Diego Iribarren (IME)	Minor adjustments to charts
2	30 June 2025	Marianna Franchino (ENVI)	Minor adjustment to text
3	1 July 2025	María José Sánchez (CNH2)	Minor adjustment to text

Partners' short names

ENVI	Parco Scientifico Tecnologico Per L'ambiente Environment Park Torino Spa
IMI	Institute for Methods Innovation
IME	Fundacion IMDEA Energia
APRE	Agenzia per la Promozione della Ricerca Europea
CNH2	Centro Nacional Del Hidrógeno
RIGP	Regionalna Izba Gospodarcza Pomorza
CLUSTER TWEED	Cluster Tweed
BH2C	Balkanski Vodoroden Klaster

Index of Contents

Index of Tables

Index of Figures

Executive summary

This report documents the public engagement activities conducted under Work Package 3 of the HYPOP project, aimed at increasing public understanding of hydrogen technologies and supporting their societal acceptance. Between November 2024 and April 2025, six national co-creation workshops and two international webinars were implemented across Europe. These activities reached participants from diverse stakeholder groups, including students, researchers, public authorities, and industry representatives.

The national workshops held in Ireland, Belgium, Italy, Bulgaria, Spain, and Poland, enabled citizens to express their hopes, concerns, and expectations around hydrogen technologies. Using interactive formats such as facilitated discussions, co-created news articles, live polls, and scenario analysis, participants explored key issues including infrastructure, safety, affordability, and environmental integrity. Cross-national themes included strong support for sustainable mobility and job creation, paired with caution regarding costs, regulation gaps, and public trust.

Evaluation data show clear positive outcomes. Participant understanding of hydrogen's role in the energy transition improved, with increased agreement that hydrogen can be a clean, sustainable energy source. "Hands-on demonstrations and exhibitions" were identified as the most effective public engagement format, followed by social media campaigns and in-person Q&A sessions.

The international webinars complemented these findings, offering best practice case studies and lessons learned from HYPOP and peer projects. Participants emphasised the value of applied engagement tools and stakeholder co-creation to increase impact.

These findings will inform Deliverable 3.4: *Guidelines for public engagement on H_2 technologies' implementation*, ensuring future communication efforts are inclusive, evidence-based, and tailored to public expectations.

Introduction

This report documents a series of public engagement activities planned and delivered as part of **Task 3.2 Public engagement workshops** (M13-M24, amended to M28) of Work Package 3. These activities aimed to engage European citizens in discussions and activities related to hydrogen (H_2) technologies and foster greater public understanding and trust in their implementation. This goal aligns with the broader objectives of the HYPOP project, which is to promote acceptance of hydrogen as a clean energy source.

Between November 2024 and March 2025, six co-creation workshops were conducted across Italy, Poland, Spain, Ireland, Bulgaria and Belgium. These national workshops sought to engage citizens through interactive discussions and activities. In addition to the national workshops, two international webinars were facilitated in March and April. These events targeted individuals and projects aiming to improve their hydrogen or energy-related awareness campaigns, providing them with insights and tools to make their engagement more impactful. Expert speakers guided these sessions, aiming to share best practices and insights based on their experience.

This report documents and discusses the public engagement activities and their impact as evidenced by evaluation surveys. In conjunction with the state-of-the-art review (WP1), these results will be used to develop deliverable D3.4 *Guidelines for public engagement on H_2 technologies' implementation* (due M28).

National co-creation workshops

The required tasks for WP3 included hosting one public engagement co-creation workshop per country (six in total) to involve citizens in the project. These nationally focused workshops sought to engage citizens through interactive discussions and activities. Each workshop was expected to accommodate 10 to 30 participants, with the final duration and structure determined by the audience and focus. Table 1 provides the schedule and attendance recorded.

Table 1. National co-creation workshops schedule

Country	Date	Participants
Ireland	28 November 2024	28
Belgium	27 January 2025	42
Italy	5 February 2025	20
Spain	27 February 2025	21
Bulgaria	17 February 2025	30
Poland	23 March 2025	36
	Total event participation:	**177**

The six national co-creation workshops aimed to raise awareness, showcase the environmental benefits of hydrogen, share success stories, and foster collaboration among industry and academic partners. The agenda for national workshops included a mix of plenary sessions and breakout group activities, providing participants with a clear understanding of the HYPOP project and hydrogen technologies. Interactive discussions addressed common myths and misconceptions, while activities like writing fictional newspaper articles encouraged participant engagement and co-creation. The indicative agenda for these workshops can be found in the table below.

Table 2. Agenda for online public engagement workshops[1]

Introduction (15 min) (Plenary)
- Welcome and introduction.
- Brief overview of the workshop's objectives and agenda.
- Icebreaker activity: Quick poll on participants' initial thoughts on hydrogen systems. Starter questions should be based on the country-specific fact sheets. Example of starter questions: Do you believe hydrogen is a safe energy source? Can hydrogen significantly impact our future energy needs? Are hydrogen technologies environmentally friendly?

Understanding hydrogen technologies (20 min) (Plenary)
- Brief intro to HYPOP project and H_2 technology context.
- How hydrogen systems work: A simple explanation.
- Benefits and challenges of hydrogen as an energy source.
- Country-specific facts: an overview of perceptions, policies and current projects.

Debunking myths vs facts (20 min) (Breakout groups)
- *Introduction to the activity:* Participants will share their perceptions, concerns, and questions about hydrogen systems.
- Facilitators address common myths and misconceptions (based on WP1 results and participants' inputs).

Break (10 min)

Future perspectives on hydrogen technologies (20 min) (Breakout groups)
- *Introduction to the activity:* Participants will write a short fictional newspaper article on hydrogen technologies, highlighting potential, challenges, and relevance to Europe and/or their local context.
- Provide each group with country-specific fact sheets, statistics, etc.
- Allow groups to brainstorm, draft, and finalise their articles.

Discussion and feedback (10 min) (Plenary)
- Groups share their articles.
- Facilitate a discussion on the different perspectives and angles presented in the articles.
- Provide feedback and highlight key takeaways.

Q/A and open discussion (15 min) (Plenary)
- Q/A session
- Recap the main points discussed during the workshop.
- Share resources for further reading (HYPOP website, etc.).
- Encourage participants to share their knowledge with their communities.
- Distribute the feedback form (survey link).
- Thank participants for their time and engagement.

To support the planning and delivery of the co-creation workshops, IMI established a dedicated resource hub. Each project partner had its folder containing necessary material for these workshops, such as a fact sheet, recruitment messaging templates, a newspaper article template for breakout

[1] This agenda has an approximate length of 115 minutes. Partners could adjust activities as needed to fit within the 90 to 120-minute timeframe.

sessions, worksheet templates, a slide deck template, and a comprehensive planning document. Partners in each country were responsible for translating the workshop materials, recruiting participants, promoting the workshop, and facilitating the session in their respective regions. Additionally, once translated, IMI set up the registration and feedback forms, ensuring a consistent and accessible process across all national workshops.

An internal training session with all project partners was held in November 2024, laying a solid foundation for these efforts. The session covered the timeline, target audiences, recruitment strategies, and an overview of the workshop agenda and format. Instructional slide decks and all workshop preparation materials were distributed to partners, and the session was recorded and shared to ensure consistency. Ongoing communication and support to partners reinforced this collaborative approach. Where relevant, members of the HYPOP Advisory Board were also approached for guidance or to be involved in the national workshops to ensure a high level of expertise.

The effectiveness of the engagement activities was evaluated using surveys and feedback mechanisms. A survey was distributed at two stages: during registration and as post-event feedback. This survey was refined in collaboration with project partners to evaluate changes in participants' understanding and perceptions of hydrogen technologies.

Ensuring GDPR compliance and adherence to ethical and privacy standards is paramount in executing public engagement workshops. The following measures were applied to all workshop activities to uphold these principles:

- All participants were registered through a secure platform that adheres to the highest data protection standards. During the registration process, participants were informed about the purpose of data collection, its use, and their rights regarding their personal data. This ensured that all participants provided informed consent before any data was collected. The informed consent document can be found in Appendix A.

- To evaluate changes in participants' understanding and perceptions of hydrogen technologies, an online survey was distributed at two stages: registration and post-workshop feedback. During registration, participants were asked questions to assess their familiarity with hydrogen technologies, initial perceptions, and awareness of local projects or national strategies. These questions aimed to establish a baseline understanding and identify existing knowledge gaps. In the feedback survey, participants were asked similar questions to evaluate changes in their understanding and awareness, along with questions designed to capture reflections on the workshop's impact and effectiveness in addressing misconceptions. To ensure accessibility and inclusivity, all surveys were translated into the local languages of the participating countries. The specific questions used for both registration and feedback surveys are detailed in Appendix B. This approach ensured robust evidence of whether the workshop led to a clear deepening of understanding and increased knowledge of hydrogen technologies, enabling the project team to assess its effectiveness and identify areas for improvement.

- To maintain transparency, a summary of the feedback collected and subsequent adjustments made to engagement strategies will be shared with participants and stakeholders (in the form

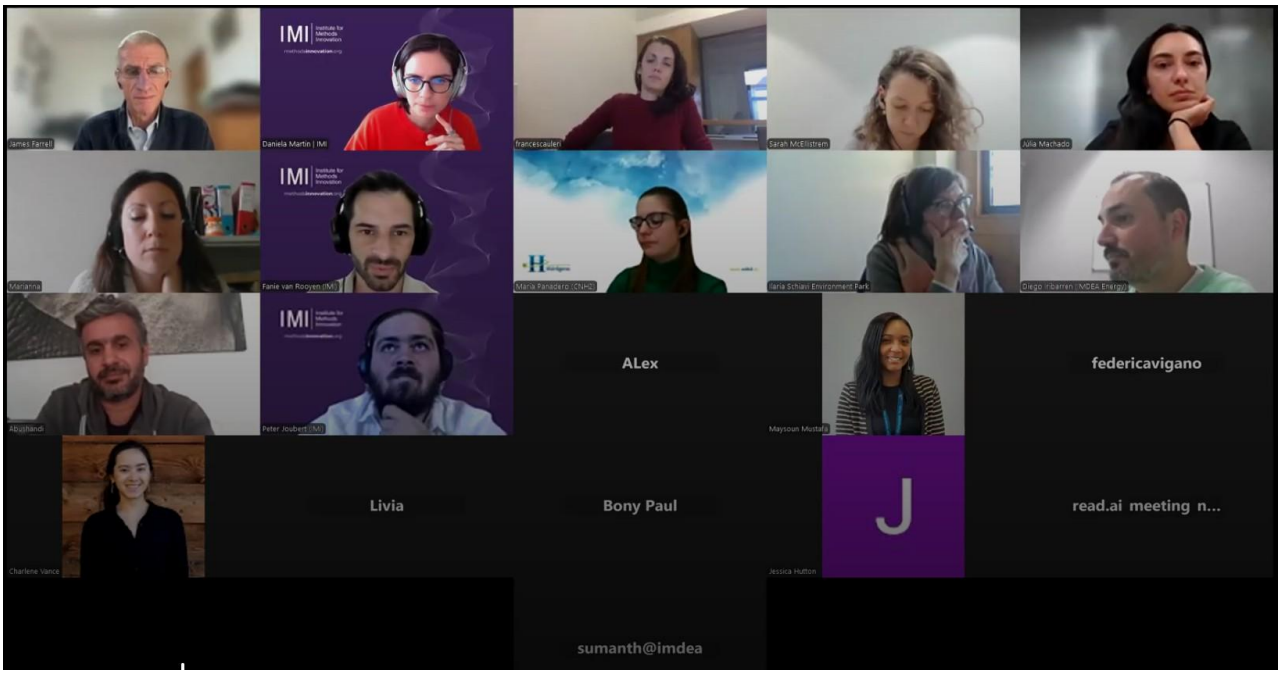
of this report), ensuring accountability and demonstrating that their input is valued. This feedback will then inform the development of public engagement guidelines (D3.4).

By integrating robust feedback mechanisms and encouraging the monitoring of engagement activities, the project team ensured that public outreach remained effective, relevant, and responsive to participants' concerns and evolving public sentiment.

Co-creation workshop: Ireland

The first iteration of the national workshops, titled "**Hydrogen technologies: Exploring facts, myths and future perspectives**", focused on exploring hydrogen's role in Europe, specifically in Ireland as a first national focus. It was held on 28 November 2024, with a total of **28 participants** in online attendance (Figure 1). Participants were guided through a basic technical understanding of hydrogen energy technologies, an evaluation of critical issues and doubts, and Ireland's national hydrogen strategy and major planned hydrogen projects like Green Atlantic @ Moneypoint. The diverse pool of participants included students, professors, engineers, social media managers, and the Director of hydrogen policies and strategies in the Irish Ministry of Energy and Minerals. Participants were also allowed to share ideas and opinions through interactive co-creation using virtual whiteboarding and real-time polling in breakout groups.

Figure 1. Screenshot from the co-creation workshop in Ireland



Co-creation group discussion findings

During the breakout session, participants identified challenges and opportunities for local hydrogen systems (Table 3). Concerns centered on cost trends, gaps in infrastructure and safety measures, and uncertainty about hydrogen's full carbon footprint. Hopes focused on stronger grid integration, heavy-vehicle and mobile applications, job creation at the community level, and a shift toward genuinely green hydrogen.

Table 3. Emerging hopes and concerns related to hydrogen systems (Ireland)

Hopes	Concerns
Grid integration and system efficiency Many see hydrogen bolstering grid flexibility, capturing excess renewable power for storage and later use. Research into streamlined conversion pathways ("less steps in the way") and AI-driven optimisation fuels optimism that efficiency gaps will narrow.	**Cost and efficiency uncertainties** Participants highlighted anxiety over upfront investments and ongoing system losses. Many expect costs to fall over time, yet feel stuck "waiting constantly" for price reductions. Questions around production and usage efficiency ("Can we have 0% energy loss?") and cumulative energy losses across the value chain underscore skepticism about economic viability.
Sectoral applications and economic opportunity Participants are particularly enthusiastic about heavy-good vehicles and mobile applications, where hydrogen's energy density offers distinct advantages. They anticipate local-level development to spur job creation and expect stronger political will and expertise to drive nascent markets.	**Infrastructure and logistics** The absence of refuelling stations, pipelines and long-term storage solutions emerged repeatedly. Concerns ranged from how to transport hydrogen without environmental harm to insufficient permitting procedures and regulatory frameworks, exemplified by Italy's "ATM blocked by lack of regulation." This points to apprehension that infrastructure will lag behind technology.
Environmental and energy security gains There's a clear desire to pivot from grey hydrogen to genuinely green variants ("stop production of not-green hydrogen, which is currently cheaper"). Many view hydrogen as key to diversifying energy sources, enhancing national energy security, and reducing fossil-fuel dependence in sectors like aviation ("Connecting Archipelago").	**Safety and environmental integrity** Safety risks ("hydrogen is highly flammable") ranked alongside fears that hydrogen's cleanliness is conditional on production methods. Participants warned against assuming hydrogen is "100% clean," highlighting water usage, resource extraction sustainability, and the need for robust clean-production standards.
	Public understanding and governance Lack of public education and government involvement was voiced as a barrier to acceptance. Without clear communication and policy support, participants worry that societal buy-in and permitting will stall deployment.

These insights suggest that next steps should centre on transparent cost-benefit scenarios, demonstrator pilots in heavy transport and grid storage, and targeted outreach campaigns co-developed with regulators. Building modular refuelling infrastructure and clear regulatory roadmaps could address logistical concerns, while education initiatives can bridge knowledge gaps and foster public confidence.

Co-creation activity results

In the second half of the workshops, participants collaborated to create fictional news articles that envisioned hydrogen's future in Europe, focusing on potential breakthroughs, challenges, and opportunities. Each story highlighted potential advances, ranging from race-car demonstrations and grid-scale applications to policy frameworks linking offshore wind and hydrogen production, while also surfacing challenges such as public scepticism, policy gaps and true lifecycle emissions.

The first news article (Figure 2) juxtaposes a high-profile demo of hydrogen's technical promise with visible public distrust. Highlighting a bespoke refuelling system addresses infrastructure feasibility, but protestor quotes expose lingering doubts about lifecycle emissions and industrial impacts. Government endorsements signal political backing and funding inflows, yet social licence remains fragile without transparent production standards and community engagement.

Figure 2. "Ireland's first hydrogen race car makes history amid protests" article

BREAKING NEWS

Ireland's first hydrogen race car makes history amid protests

This week, Ireland hosted its first-ever race featuring a car powered by a hydrogen combustion engine. The event in County Clare showcased green hydrogen produced from surplus offshore wind energy at the Green Atlantic project, based at the Moneypoint power station. A bespoke refueling system highlighted the viability of hydrogen infrastructure.

However, the event wasn't without controversy. Protesters gathered outside the race venue, voicing concerns about the environmental costs of hydrogen production and potential overreliance on industrial processes. "Hydrogen is being marketed as green, but we must ensure it's truly sustainable," said one protester.

The race coincided with the discovery of a natural hydrogen deposit in Ireland, which has attracted new government and industry funding. "This is a milestone for Ireland's green transition," said Minister Siobhán McGrath. "Not only does it demonstrate the potential of clean hydrogen, but it also opens the door to creating high-quality jobs in renewable energy and sustainable technologies."

The second news article (Figure 3) frames hydrogen as a continental decarbonisation pillar, stressing policy reform as the main enabler. References to jobs at the local level and multiple EU-supported projects (including HYPOP) underscore economic and societal benefits. Acknowledging hydrogen's limits alongside wind and solar injects balance, mirroring participants' call for realistic expectation-setting in communication strategies.

Figure 3. "Sustainable hydrogen energy future can help to decarbonise Europe" article

BREAKING NEWS

Sustainable hydrogen energy future can help to decarbonise Europe

In line with many European countries' climate targets of net-zero carbon emissions by 2050, nations are looking toward hydrogen energy to help decarbonise Europe. To reach this ambitious target, some rapid policy and regulation changes are needed to enable fast and efficient development of hydrogen technologies.

The emerging green hydrogen economy is expected to create thousands of jobs at the local level. In Ireland, for instance, two major hydrogen projects are underway: the Green Atlantic @ Moneypoint project in County Clare and the Galway Port hydrogen hub currently being developed. These are both receiving private and EU funding.

Many industries, including the automotive, railway, and aviation industries, are considering hydrogen as a renewable alternative energy source. The EU-funded HYPOP project is examining how best to engage the European public with hydrogen energy technologies. The EU-funded NIMPHEA project and the private company ZeroAvia are already prototyping aviation fuel cells being tested on smaller aircraft.

Realising that hydrogen energy is not a 'silver bullet' and will be part of a larger green energy future, along with wind and solar, it has massive potential in many areas.

The third article (Figure 4) casts policy integration as the driver of scale, pairing offshore wind with on-site hydrogen production. It aligns national energy security aims with EU decarbonisation targets, reflecting the need for cohesive regulatory frameworks. Emphasis on ethical supply chains and long-term sustainability echoes concerns about resource use and governance, pointing to the value of embedding environmental and social criteria in project planning.

Figure 4. "Breaking policy barriers in Ireland: Hydrogen takes centre stage" article

BREAKING NEWS

Breaking policy barriers in Ireland: Hydrogen takes centre stage

Ireland has unveiled plans to pair its expanding offshore wind farms with green hydrogen production facilities in a pioneering move to bolster energy security and sustainability. This innovative strategy will harness the vast wind energy potential along Ireland's coasts, converting surplus electricity into hydrogen for storage and use across critical sectors.

These measures strengthen Ireland's energy security and align with broader European goals for responsible resource use and decarbonisation. By tapping into its natural resources and advancing renewable technologies, the nation addresses its own energy needs and positions itself as a leader in the clean energy transition. Policymakers are keenly aware of balancing rapid development with long-term sustainability, ensuring that infrastructure investments, supply chain strategies, and regulatory frameworks support ethical practices and equitable benefits.

As Ireland works to meet its net-zero emissions target by 2050, combining offshore wind and hydrogen serves as a cornerstone of its climate strategy, offering solutions to energy intermittency, industrial decarbonisation, and energy independence.

These stories reflected innovative ideas and inspired participants to consider future hydrogen implications and how storytelling can shape public perceptions and drive policy and technological advancements.

Co-creation workshop: Belgium

Belgium hosted the second national co-creation workshop on 27 January 2025, welcoming **42 participants** in a **hybrid setting** split between a venue at the Thermodynamics Laboratory of the University of Liège (as part of the Winter School 2025 programme) along with a parallel video-conferencing stream (Figure 5). Facilitated by Simon Habran (CLUSTER TWEED), the 90-minute session followed the suggested HYPOP agenda but was adapted for an in-person/online mix (Table 4): plenary briefings, interactive polling, and small-group dialogue replaced the fictional-newspaper exercise used elsewhere. The primary goal was to help participants interrogate hydrogen's role in Belgium's energy transition and to surface local hopes and fears that can inform the project's engagement guidelines.

Table 4. A breakdown of the workshop flow in Belgium

Segment	Highlights
Ice-breaker and poll	Word-cloud polling revealed enthusiasm about "decarbonisation", "industry" and "jobs", yet flagged concern over "storage" and "safety".
Hydrogen 101 and HYPOP overview	Habran underscored HYPOP's mission to demystify hydrogen and summarised Belgium's current reliance on *grey* H_2 in the petrochemical sector.
Production and applications	Participants learned why hydrogen is hard to replace in steelmaking and heavy-duty transport, and how batteries and hydrogen can complement rather than compete for grid balancing (hydrogen is suited for long-term storage while batteries are better for short-term).
Belgian green-hydrogen strategy	The speaker outlined plans to position Belgium as a north-west-European import hub: • Aims to become a hydrogen hub, similar to its role in natural gas • Sea-borne green ammonia to be channeled through Antwerp–Bruges • Pipeline inter-connectors to Germany, France and the Netherlands • A target of 32% green hydrogen in national consumption by 2030
Ecosystem case studies	Hydrogen Valleys: • Zeebrugge 150 MW electrolyser cluster (Flanders) • Wallonia: rollout of hydrogen refuelling stations for long-haul trucks • Advanced research in hydrogen materials, storage, and electrolysis (e.g., biorganic catalysts)
Small-group dialogue	On-site tabled groups and online breakout rooms debated benefits and drawbacks, reporting key insights back in plenary.

Figure 5. Pictures of co-creation workshop in Belgium

Co-creation group discussion findings

In the small-group breakouts, on-site and online attendees mapped the opportunities they see for hydrogen to accelerate Belgium's climate agenda, alongside the barriers that could stall progress (Table 5). While the discussion reaffirmed broad enthusiasm for deep decarbonisation and new green-industry jobs, it also surfaced practical anxieties—chiefly around whether pipelines, import terminals and refuelling stations can be delivered quickly enough, and how policy mis-alignment across neighbouring countries might slow market integration.

Table 5. Emerging hopes and concerns related to hydrogen systems (Belgium)

Hopes	Concerns
Deep decarbonisation Participants view hydrogen as the only realistic pathway to cut CO_2 emissions in heavy-emitting sectors such as steel manufacturing, petrochemicals and long-haul road freight. They believe only H_2 can meet the high energy-density and purity requirements these industries demand.	**Infrastructure gap** There is widespread worry that critical infrastructure, such as high-pressure pipelines, import terminals and refuelling stations, will not be built at the pace required. Delays could stall early market take-off, erode investor confidence and leave production facilities stranded without off-takers.
Cross-sector jobs and innovation Many expect hydrogen to spawn entirely new value chains, from electrolyser manufacturing and port-side logistics to downstream e-fuel synthesis. This, they anticipate, will create high-skill roles in R&D, engineering and operations, boosting regional economic growth.	**Cross-border fragmentation** Participants highlighted a lack of harmonised policy across Belgium, the Netherlands and Luxembourg. Divergent permitting processes, certification standards and grid-access rules risk creating bottlenecks that undermine a seamless Benelux hydrogen market.
Energy-import diversification Hydrogen-ready ports and planned green-ammonia import terminals are seen as shields against future gas-price volatility. By sourcing renewable H_2 and derivatives from diverse suppliers, Belgium could enhance energy security and reduce exposure to geopolitical shocks.	**Safety and storage risks** There is a persistent unease around high-pressure storage tanks, reliable leak-detection systems and emergency-response protocols. Community acceptance near industrial sites will remain fragile without demonstrable safety records and transparent risk-management plans.
Link to renewables build-out Coupling offshore wind farms with electrolyser installations is viewed as an elegant solution to absorb surplus power, smooth grid imbalances and stabilise wholesale electricity prices, turning curtailment into a revenue stream.	**Cost competitiveness** Concerns persist that both capital expenditure (electrolysers, compressors) and operating costs (electricity, maintenance) will stay elevated. Participants worry that subsidies may simply shift costs to taxpayers rather than drive genuine affordability, undermining long-term market viability.

These insights suggest that public awareness is pivotal. Despite broad support for climate goals, participants stressed that success hinges on transparent communication about hydrogen origins, costs and risks. Participants also stressed the importance of coordination. Cross-border pipeline planning and certification schemes emerged as top priorities, but attendees urged EU-level harmonisation before large-scale roll-outs.

Figure 6. Pictures of co-creation workshop in Belgium

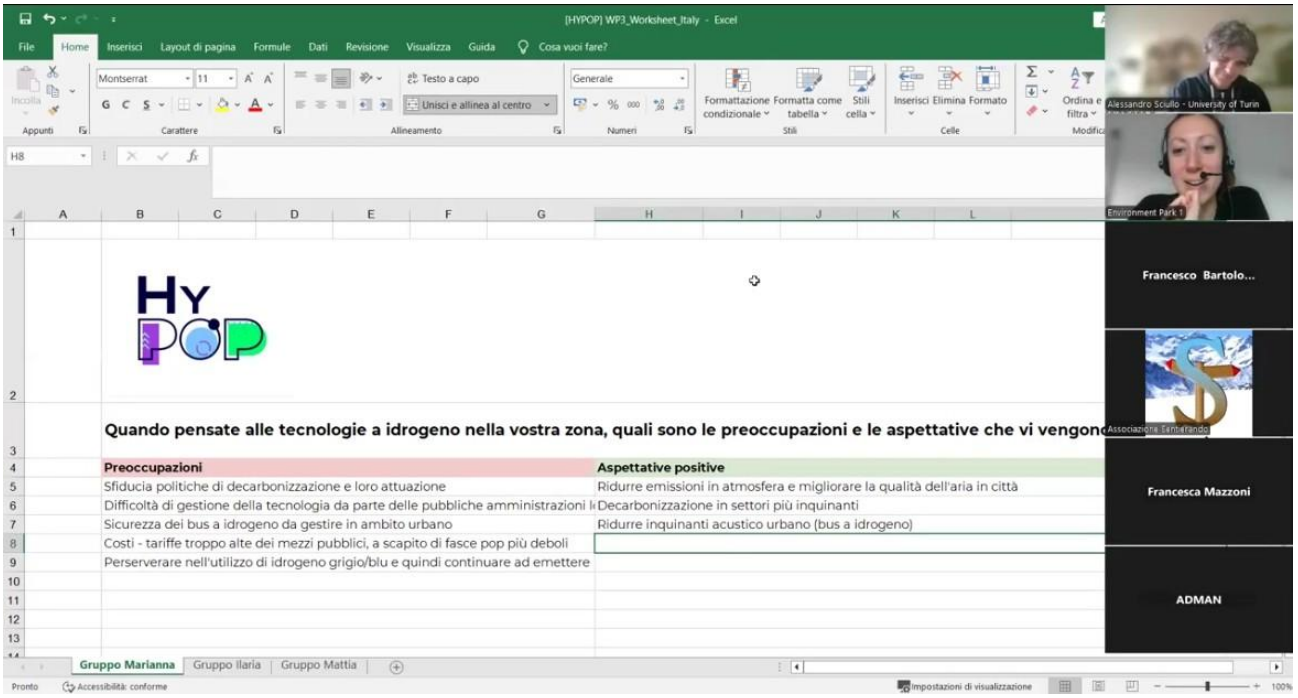
Overall, the Belgian workshop (Figure 6) highlighted strong enthusiasm for hydrogen's role in decarbonisation, though it's tempered by very real concerns about infrastructure readiness, financial hurdles, and policy consistency. The hybrid format, combining in-person energy with online access – helped boost participation and sparked richer conversations, especial ly since many attendees were already engaged through the winter school programme.

Co-creation workshop: Italy

The Italian edition of the HYPOP national workshops was delivered online on 5 February 2025 in Italian, and was organised by ENVI, with support from IMI. ENVI was represented by Marianna Franchino who acted as the workshop facilitator. Two experts from the HYPOP Advisory Board were invited to support the engagement activities: Prof. Marcello Baricco, a chemist and hydrogen expert, and Prof. Alessandro Sciullo, a social scientist (both affiliated with the University of Turin). **Twenty citizens**, ranging from engineering students and municipal-energy officers to clean-tech entrepreneurs, joined a two-hour programme built around HYPOP's standard mix of live polling, myth-busting dialogue and creative storytelling.

In a real-time word-cloud ice-breaker, the captured spontaneous keywords that emerged (in relation to hydrogen) were "sustainability", "innovation", "jobs", "safety" and "price". After the ice-breaker, facilitators outlined Italy's draft Hydrogen Strategy, its target of 5 GW of installed electrolysis capacity by 2030 and flagship projects in Piedmont and Apulia. Participants then moved into breakout rooms to surface their hopes and concerns, before reconvening to co-author a "newspaper article of the future", imagining life in 2050. The workshop concluded with a joint plenary discussion of key takeaways.

Figure 7. Screenshot from the co-creation workshop in Italy



Co-creation group discussion findings

In the first breakout round, groups mapped where hydrogen could transform Italian life and where it might stumble (Table 6). Optimism clustered around cleaner mobility and local value-chain growth, while scepticism focused on affordability, verification that "green" really means green, and the speed at which infrastructure can keep pace.

Table 6. Emerging hopes and concerns related to hydrogen systems (Italy)

Hopes	Concerns
Cleaner cities and mobility Participants pointed to the 2050 Turin scenario, which forecasts major air-quality improvements from hydrogen-powered buses and cars. Many envisaged replicating those benefits in Milan, Rome and Naples, expecting significant reductions in NO_x and particulate matter in dense urban centres.	**Cost competitiveness** Despite enthusiasm for cleaner transport, there was widespread doubt that green hydrogen could become cheaper than diesel or natural gas quickly enough. Participants feared that high production costs would confine hydrogen to pilot-project status, slowing wider fleet conversion.
New value chains and jobs The prospect of fabricating electrolysers, storage tanks and refuelling stations sparked visions of revitalised manufacturing in northern Italy. Attendees anticipated growth in SMEs specialising in hydrogen components, R&D partnerships with universities and skilled-labor job creation across the supply chain.	**Safety perceptions** Concerns around storing high-pressure hydrogen near populated areas remained acute. Memories of past gas-related incidents fuelled community unease, with calls for rigorous emergency-response planning, transparent risk assessments and public-education campaigns to secure social licence.

Renewables integration Linking southern solar farms and Adriatic offshore wind to electrolyser facilities was seen as an elegant solution to absorb surplus renewable power, reduce grid curtailment and stabilise regional electricity prices, effectively turning excess generation into a value stream.	**True "greenness"** Questions arose over the lifecycle sustainability of imported hydrogen and water consumption in drought-prone regions. Participants emphasised the need for comprehensive carbon and water footprint assessments to ensure that hydrogen production does not simply shift environmental burdens elsewhere.
Energy security Domestic green hydrogen production was framed as a strategic hedge against volatile LNG markets and geopolitical supply disruptions. By producing H_2 locally from renewables, Italy could reduce dependence on imported fossil fuels and strengthen national energy resilience.	**Infrastructure gap** Scepticism persisted about whether high-pressure pipelines, marine import terminals and urban refuelling networks could be delivered at the pace required. Participants warned that missing infrastructure deadlines would jeopardise Italy's 2030 hydrogen targets and erode stakeholder confidence.

Co-creation activity result

In the second co-creation activity, a fictional news story, originally drafted in Italian during the workshop, imagines Turin in the year 2050 after two decades of sustained investment in green-hydrogen infrastructure (Figure 8). It describes a city powered by a 50 MW solar-linked electrolyser and a fully hydrogen-driven bus fleet, positioning hydrogen as a driver of jobs, better air quality and energy security. Written collaboratively by participants, it captures their collective hopes—cleaner air, new jobs, energy security—while hinting at the challenges of scaling production and ensuring genuinely renewable supply. Presented below in English, the article offers a vivid snapshot of how citizens envision hydrogen transforming everyday urban life in Italy.

Figure 8. "Turin - The city that moves on hydrogen" newspaper article[2]

[2] Translated from the Italian version created during the workshop.

In 2050 Turin has become one of Europe's trail-blazing cities for sustainable mobility, thanks to a fleet of hydrogen buses that has radically transformed public transport. The switch to a low-emission system is the result of years of investment in research, infrastructure and targeted green policies.

Today the city not only offers modern, clean transport; it is also a model for other metropolises seeking to cut CO_2 emissions and improve air quality. This success was made possible by building a local hydrogen value chain in which businesses have found opportunities for growth and innovation. A large share of the energy Turin needs to produce green hydrogen comes from photovoltaic solar plants installed in the suburban and rural areas around the city—such as the Pianezza site, which boasts a 50 MW electrolyser. These plants occupy unused industrial land that maximises solar exposure, while energy communities in Turin support the sector by installing hydrogen-production units directly connected to photovoltaic systems.

Some of the energy is also imported, creating a diversified and robust system that draws renewable power both from other Italian regions—via the virtual National Energy Community linking North and South—and from neighbouring countries such as France and Switzerland. In 2050 Turin is a shining example of how sustainability can transform cities and quality of life. Air-pollution maps show a marked improvement thanks to the gradual conversion of public transport to alternative fuels such as hydrogen. With hydrogen cars now readily available on the market, citizens can finally choose vehicles that not only reduce environmental impact but even help purify urban air.

If I had to choose a car today, my choice would undoubtedly be a hydrogen model—not only because it offers ever-increasing range and lightning-fast refuelling, but because it represents the future of green mobility. Greta Thunberg, enthusiastically celebrating the progress towards a more sustainable society, encourages environmentally conscious choices: "We have made great strides," she says, "but the road to a fully sustainable future is still long, and every action counts."

In a world that has placed sustainability at the heart of everyday choices, hydrogen mobility is no longer a promise of the future but a concrete reality within everyone's reach. Hydrogen is rapidly becoming a leading player in the energy transition, with significant impacts on both public transport and energy-intensive industries. Supported by favourable policies and investment in research and development, hydrogen can play a crucial role in creating a sustainable future with low-emission vehicles and decarbonised industries.

The Italian workshop confirmed a strong appetite to link hydrogen with visible public-transport wins and regional economic renewal, but also underscored persistent worries about safety, price parity and credible guarantees of environmental integrity. The fictional-newsroom exercise proved effective in translating technical concepts into relatable narratives, while the hopes-and-concerns dialogue will feed directly into HYPOP's forthcoming public-engagement guidelines.

Co-creation workshop: Bulgaria

Delivered entirely online, the Bulgarian workshop was held on 17 February 2025 and it drew students from three technical high schools, university students, engineers, and a representative of the Ministry of Foreign Affairs, totalling **30 participants**. The schools involved were:

1. Natural-Mathematical High School "Academician Sergei Koroliov," Blagoevgrad
2. Professional High School of Electrical Engineering and Power Engineering, Bansko
3. Professional High School of Engineering and Energy "Hristo Botev," Pernik

Over 90 minutes the moderators combined live polling, short primers and open discussion. Conversation ranged from Europe's most advanced hydrogen nations to the prospect of hydrogen-powered drones, taxis and humanoid robots. Participants stressed that Bulgaria's gas grid

cannot carry hydrogen without major retrofits, favouring on-site production or "hydrogen valleys" that capture surplus solar and wind. They also highlighted factors that neither prohibit nor actively encourage investment, such as the absence of a national refuelling network and an incomplete legislative framework. One high school in Bansko announced plans to become energy-self-sufficient and has already launched a class devoted to hydrogen technologies. The session closed with a request for a follow-up meeting dedicated solely to participant-led discussion.

Co-creation group discussion findings

In a targeted breakout session, participants listed their top hopes and concerns for hydrogen deployment in Bulgaria (Table 7). The exercise surfaced paired insights: each aspirational vision counterbalanced by practical or regulatory challenges.

Table 7. Emerging hopes and concerns related to hydrogen systems (Bulgaria)

Hopes	Concerns
Full decarbonisation of Bulgaria's energy mix Hydrogen was widely seen as the critical enabler for cutting CO_2 in heavy industries, long-haul transport and seasonal storage, securing deep decarbonisation where electrification alone falls short.	**Infrastructure lag** Attendees warned that aging natural-gas pipelines require costly upgrades, while hydrogen refuelling stations remain non-existent and cross-border corridors are undefined, threatening to strand production assets without delivery routes.
New economic opportunities Participants anticipated a surge in high-skill roles, from electrolyser manufacturing and renewable-integration engineering to advanced robotics for H_2 handling, fueling regional economic renewal.	**Energy losses and efficiency** There was strong recognition that "a big part of the energy in hydrogen is lost during transfer," reinforcing calls for localised production and storage to minimise conversion losses and improve overall system efficiency.
Hydrogen-powered unmanned systems Enthusiasm ran high for applications such as drones, autonomous taxis and mobile robots capable of on-board hydrogen generation, which could revolutionise logistics, surveillance and remote services.	**Safety in storage & handling** Persistent unease centred on high-pressure vessels, reliable leak-detection and emergency-response protocols. Securing community acceptance near deployment sites was viewed as essential before scaling unmanned applications.
On-site or valley-based production Keeping hydrogen generation close to demand, whether at valley solar farms or industrial parks, was seen as the best way to store surplus renewables, reduce transport distances and bolster local energy resilience.	**Policy vacuum** Participants flagged the absence of clear legislation and technical standards, warning that early adopters risk costly retrofits or penalties once rules are introduced. They stressed the urgency of a coherent legal framework to de-risk investments.

Co-creation activity result

The news piece below was drafted collaboratively by Bulgarian participants during the workshop's "newspaper article of the future" exercise (Figure 9). The article presents a balanced look at hydrogen's promise for Europe (i.e., clean transport, energy security and job creation), while openly acknowledging today's hurdles of high production costs, limited infrastructure and the need for

stronger research and policy support. The article encapsulates the group's forward-looking vision for how Bulgaria and the wider EU might unlock a thriving hydrogen economy.

Figure 9. "The future of hydrogen technology [in Belgium]" newspaper article

BREAKING NEWS

The future of hydrogen technology in Belgium

Hydrogen technologies have enormous potential to transform the energy sector as a key element in the transition to clean and sustainable energy sources. Hydrogen can be used as a clean fuel for transport, industry and power generation, offering a solution to decarbonize sectors that are difficult to electrify. The ability to store energy through hydrogen and its integration with renewable sources such as solar and wind add further advantages to its use.

For Europe, hydrogen has a key role to play in meeting climate targets and reducing carbon emissions, as well as in ensuring energy security. The European Union is already investing significantly in the development of hydrogen technologies and infrastructure as part of its green transformation strategy. The development of the hydrogen economy can reduce dependence on external energy sources and create new jobs in the region.

Despite these opportunities, there are challenges to the development of hydrogen technologies in Europe. The biggest of these include the high cost of hydrogen production, especially when it comes to green hydrogen produced through renewable sources. In addition, hydrogen storage and transportation infrastructure is still in its infancy and requires significant investment. The issue of mass production of hydrogen and the efficiency of fuel cells also needs to be addressed, which requires advances in research and technology.

In conclusion, the importance of hydrogen technology for Europe cannot be underestimated. They offer an opportunity for environmental sustainability, energy independence and economic development. To realize this potential, Europe must continue to invest in research, infrastructure and incentives for industries that commit to the hydrogen economy.

The Bulgarian workshop revealed strong grassroots curiosity about hydrogen's role in cutting carbon, energising new tech sectors and empowering local communities, yet that optimism is tempered by practical anxieties over infrastructure readiness, efficiency losses and regulatory clarity. The fictional news piece captured this duality, celebrating Europe's investment drive while warning that high costs, immature logistics and untested mass-production pathways still stand in the way of a true hydrogen economy. These insights will feed into HYPOP's forthcoming engagement guidelines, emphasising the need for transparent cost–benefit storytelling, demonstrator projects in education and mobility, and firm policy signals to build investor and public confidence.

Co-creation workshop: Spain

The Spanish workshop was held **in-person** on 27 February 2025 in collaboration with Casa de la Ciencia de Ciudad Real at Espacio Serendipia in Ciudad Real (Figure 10). The session was facilitated by CNH2 (represented by Gema Rodado, María Panadero and María José Sánchez) and gathered **21 citizens** whose backgrounds ranged from school and university teaching to IT, industrial maintenance, communication, public administration and forest-fire response. After a short introduction on hydrogen fundamentals and Spain's emerging strategy, moderators launched two interactive tasks. First, a discussion was held to get a better understanding of the hopes and concerns of the public. Second, instead of writing their own "news article of the future," they reacted to three fictional, but plausible, hydrogen scenarios prepared by CNH2. Using their phones, attendees posted comments directly onto live Padlet boards while a facilitator steered an open-floor debate. This variant activity encouraged active engagement and kept discussion tightly focused on real-world trade-offs across environment, safety, regulation, training, jobs and cost.

Figure 10. Picture of co-creation workshop in Spain

Co-creation group discussion findings

Discussions during the hopes and concerns activity revealed a strong enthusiasm for sustainable mobility and renewable-energy integration, yet underscored anxieties about water use, storage hazards, infrastructure gaps and potential "green-washing" by large firms (Table 8).

Table 8. Emerging hopes and concerns related to hydrogen systems (Spain)

Hopes	Concerns
Sustainable mobility Attendees see hydrogen-powered buses, taxis and light rail as a route to clean urban transport, reducing tailpipe emissions and improving air quality in cities like Madrid and Barcelona.	**Environment** Participants worried that large-scale hydrogen production could strain freshwater resources and increase demand for desalination, especially in drought-prone coastal regions, risking adverse local ecological impacts.
Advanced electrolysis The prospect of using seawater directly in electrolysers excited many, presenting a way to circumvent freshwater constraints and tap abundant marine resources for green hydrogen.	**True renewability** Some doubted that round-the-clock electrolysis running on power-purchase agreements (PPAs) could guarantee 100% renewable inputs, raising questions about hidden grid-carbon footprints when intermittent renewables dip.
Integration Repurposing surplus solar and wind generation, particularly from rooftop PV and coastal wind farms, to drive electrolytic hydrogen production was viewed as an efficient way to balance the grid and monetise otherwise curtailed renewables.	**Green washing** There was palpable fear that major corporations might market "hydrogen" projects as green while relying on fossil-derived H_2 or unsustainable practices, undermining public trust and genuine clean-energy progress.
	Safety Fears persist around hydrogen's flammability, high-pressure storage hazards and the adequacy of leak-detection and emergency-response protocols, especially in densely populated areas.
	Infrastructure Concerns about hydrogen embrittling existing pipelines and the technical complexity of retrofitting gas networks fuelled doubts over the readiness of transmission and distribution systems.
	Network Lack of refuelling stations for heavy-duty vehicles and public transport was flagged as a major barrier to deploying hydrogen at scale in the transport sector.
	Costs High capital expenses for electrolysers, compressors and storage vessels, and unclear pathways to recover those investments remain a significant deterrent for both public and private stakeholders.

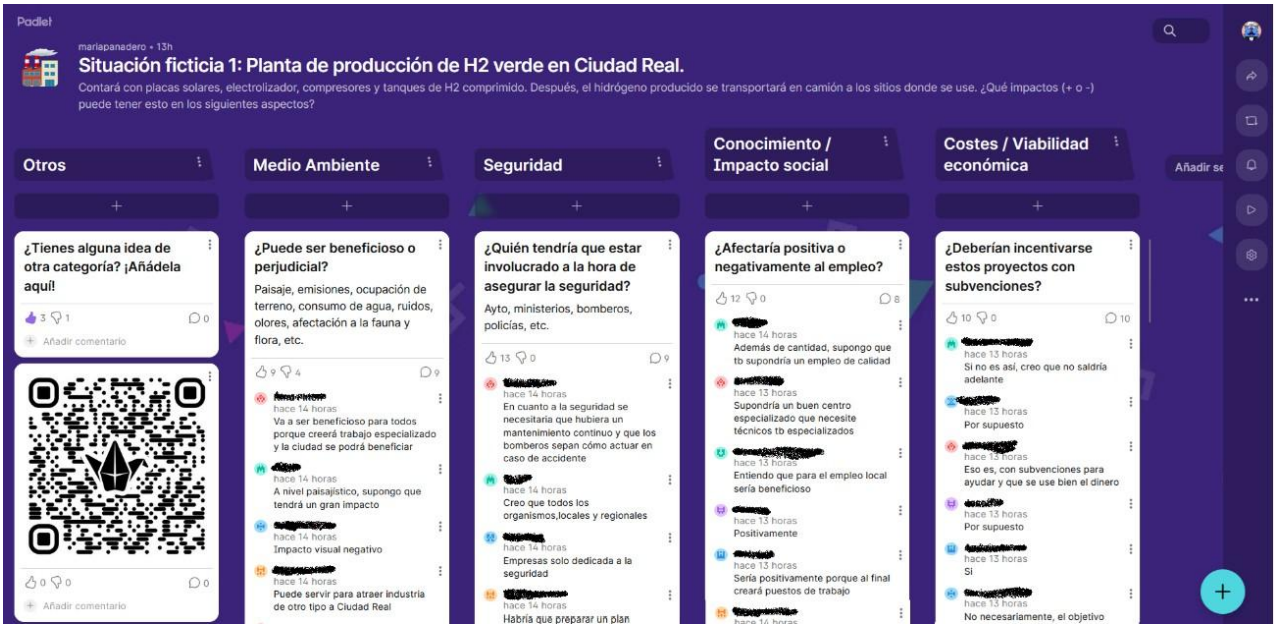
The Spanish findings point to next steps that should pair actionable pilots with rigorous assurance: launch seawater-electrolysis demonstrators tied to surplus renewables and real-time water-footprint tracking; introduce urban hydrogen-bus trials backed by an independent 24/7 "green-PPA" certification scheme to pre-empt green-washing claims; and roll out phased, leak-resistant refuelling and pipeline projects under clearer safety protocols and public drills.

Coupling these measures with targeted training for operators and emergency services, plus blended-finance incentives to soften up-front costs, will translate enthusiasm for sustainable mobility into a credible, scalable hydrogen network.

Co-creation activity result

Instead of drafting future newspaper articles themselves, participants in the Spain workshop evaluated three pre-written news vignettes that CNH2 projected on screen. Each vignette ended with prompts asking what benefits and barriers the group foresaw in each scenario. Reactions were captured on Padlet in real time and fed straight into plenary debate (Figure 11).

Figure 11. Padlet panel used during the Spain workshop



The result of these co-creation discussions are summarised in Table 9:

Table 9. Breakdown of output following the Padlet activity in Spain

Scenario presented	Key benefits surfaced	Key barriers surfaced
Green-hydrogen production plant nearby *A green-H_2 facility sited near the town, inviting reactions on proximity, environment, safety and socio-economic impacts.*	• Potential for significant pollution reduction via clean-energy supply • Local job creation and higher-quality employment in plant operations and maintenance • Long-term viability as a fossil-fuel alternative	• Water scarcity concerns, desalination impacts and landscape alteration • "Hydrogen is dangerous and explosive," coupled with lack of specific regulation • Need for citizen training and clear accident response plans • Divided views on higher transport or vehicle costs without public incentives

Cars and buses powered by hydrogen *A high-deployment scenario of FCEVs in daily transport challenged attendees to consider safety, operations and infrastructure.*	• Marked improvements in urban air quality and reduced tailpipe emissions • Catalyst for investment in hydrogen technologies and associated R&D • Opportunity to upskill both citizens and transport professionals	• Safety worries around hydrogen–methane interactions and handling of explosive gases • Siting and access to refuelling stations in urban areas • Requirement for extensive training programmes for first responders and operators
Forklifts powered by hydrogen *Hydrogen forklifts for small industries to illustrate workplace adoption and on-site supply.*	• Reduced industrial energy dependence through on-site hydrogen generation • Demonstration effect driving wider uptake in manufacturing settings	• Elevated risk in enclosed warehouses compared with open environments • Necessity of a dedicated safety and occupational-risk department • Need to ensure economic profitability to justify additional safety overheads

The ready-made vignettes accelerated discussion: participants could critique concrete situations rather than invent storylines from scratch. This led to more granular feedback on local water constraints, indoor-use safety and perceptions of corporate credibility. It also highlighted the educational power of scenario testing: attendees repeatedly called for public drills and professional training to normalise hydrogen handling. Overall, the exercise confirmed that Spaniards welcome hydrogen's decarbonisation promise but will judge projects on resource efficiency, safety transparency, and tangible economic value. These lessons will further inform HYPOP's upcoming guidelines, stressing clear communication on, for instance, water footprints, rigorous safety planning and phased incentive schemes to build public trust.

Co-creation workshop: Poland

On 23 March 2025, the RIGP team convened **35 participants** at WSB Merito University in Gdynia for a hands-on session exploring hydrogen's role in the energy transition (Figure 12). Attendees received a clear introduction to hydrogen properties and production pathways followed by practical demonstrations of PEM fuel cells powering vehicles and buildings. The HYPOP project's citizen-engagement objectives were presented alongside Poland's 2030 Hydrogen Strategy, including plans for hydrogen valleys, refuelling stations and production targets.

Local initiatives such as the HySPARK facility at Chopin Airport and the Jasionka Hydrogen Valley illustrated real-world progress. Group exercises challenged participants to devise concept proposals for hydrogen applications, and a closing Q&A debunked myths and addressed cost, infrastructure and efficiency concerns.

Figure 12. Pictures of co-creation workshop in Poland

Co-creation group discussion findings

In the group discussion, participants examined the fundamentals of hydrogen, such as its properties, production pathways and real-world applications, to separate evidence from misconceptions. Through a concise presentation of hydrogen's abundance, combustion by-products and the spectrum of production "colors," attendees gained insight into both the current state of hydrogen projects and its potential role in Poland's energy transition. The discussion prompted attendees to articulate their primary hopes for hydrogen's future alongside lingering fears about safety, practicality and long-term viability (Table 10).

Table 10. Emerging hopes and concerns related to hydrogen systems (Poland)

Hopes	Concerns
Exceptionally clean fuel Participants noted that they see a direct route to cleaner streets and healthier communities, viewing hydrogen as a critical element in national decarbonisation strategies.	**Safety and handling risks** Participants voiced strong concerns about hydrogen's flammability and high-pressure storage, citing historical gas-accident anxieties and questioning whether current leak-detection technologies and emergency protocols are sufficient in urban areas.
Diverse production pathways Participants highlighted that local electrolysis plants powered by renewable electricity could decentralise energy supply, strengthen grid resilience and reduce dependence on imports.	**High energy consumption** Participants questioned whether hydrogen production consumes excessive electricity, potentially undermining environmental benefits if power inputs aren't fully renewable. They pointed to round-trip efficiency losses in electrolysis and compression as a key barrier.
Eco-friendly "color" spectrum Participants expressed hope that policy incentives would accelerate green hydrogen adoption once they understood the full lifecycle impacts of different production pathways.	**Slow adoption and technological uncertainty** Participants worried that hydrogen might remain at pilot-project scale and be overtaken by other technologies (e.g., advanced batteries), fearing infrastructure build-out and cost reductions may lag behind climate deadlines.

Existing projects demonstrate feasibility Participants noted that seeing homegrown projects in Poland gave them confidence similar initiatives could expand nationally, driving economic growth and innovation.	**Practical and strategic knowledge gaps** Participants asked practical questions like "How long does a hydrogen car run on a full tank?" and "Can hydrogen be stored safely at home?", and pressed for details on Poland's concrete rollout plans beyond general strategy documents.

Facilitators underscored that hydrogen's abundance and combustion into water vapor position it as a cornerstone of clean-energy strategies. They reviewed key production pathways (green, blue, gray, pink and turquoise) emphasizing that green hydrogen produced via renewable-powered electrolysis delivers relatively low lifecycle emissions. An explanation of PEM fuel-cell technology highlighted how hydrogen can power vehicles and buildings while illustrating efficiency trade-offs across different methods. By showcasing both international initiatives and local projects, such as large-scale electrolysis plants in Germany and the Pomeranian Hydrogen Valley, facilitators demonstrated that hydrogen is already moving beyond theory into practical application. In response to participants' questions, they clarified safety protocols, water-use considerations and storage requirements, and noted that detailed rollout roadmaps are underway to guide Poland's next steps (Figure 13).

Figure 13. Pictures of co-creation workshop in Poland

Co-creation activity result

Replacing the planned newspaper-article exercise, the second part of the workshop challenged participants to act as young designers of the future by developing practical hydrogen project concepts aligned with EU climate objectives. Working in teams, attendees proposed a range of feasible, locally relevant initiatives:

- **HydroBus:** A network of hydrogen-powered city buses serving Gdynia and Gdańsk, complete with plans for dedicated refuelling stations and an informational campaign to raise public awareness.
- **Hydrogen School:** An on-campus micro-installation that stores surplus solar energy as hydrogen to power classrooms, paired with an environmental curriculum to teach students about renewables and storage technologies.

- **Green Port:** A port-focused scheme to electrify terminal vehicles and port machinery with hydrogen, significantly cutting emissions in maritime and coastal transport.
- **Hydrogen-powered agriculture:** A rural concept where farmers employ hydrogen tractors and on-site storage to increase energy independence and reduce reliance on fossil fuels.

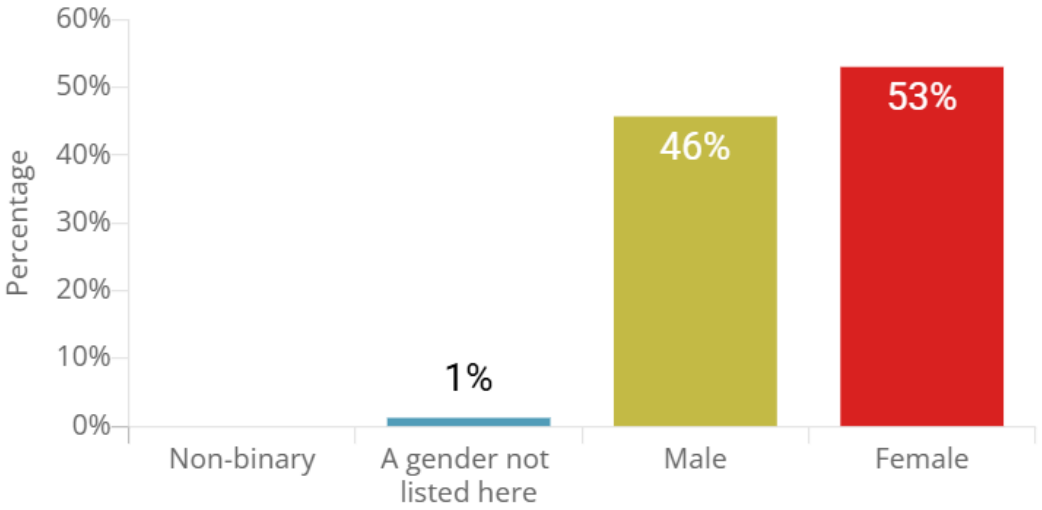
Each proposal showcased both creativity and technical realism, addressing local infrastructure, safety and educational needs. By designing projects that support the European Green Deal and Europe's broader energy transition, participants demonstrated a strong grasp of climate challenges and an ability to generate concrete, actionable solutions.

Evaluation results (all workshops)

Participant demographics

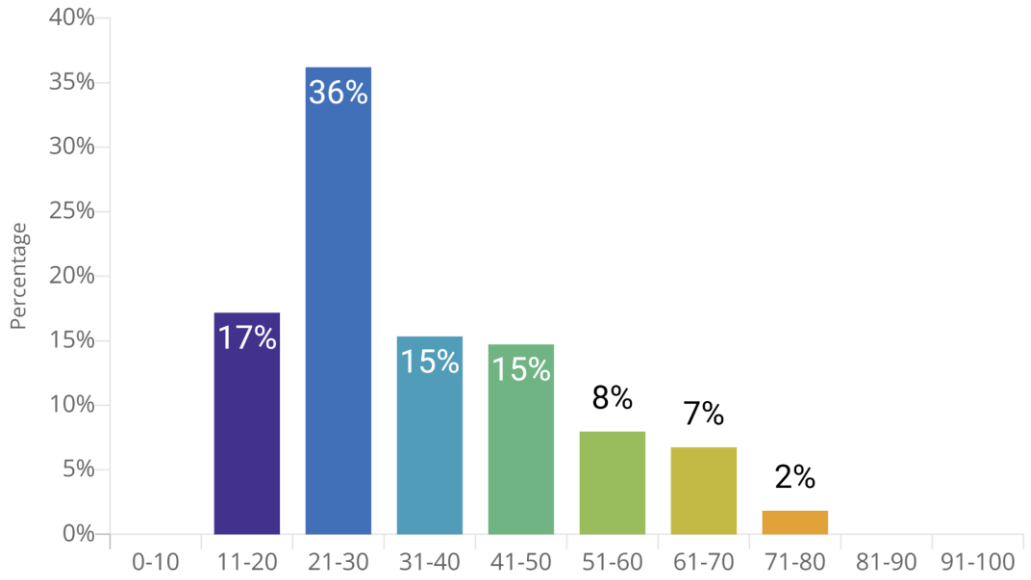
Across the six workshops, participants were predominantly female (53%, n=87), with male representation close behind at 46% (n=75), indicating a relatively balanced gender distribution (Figure 14).

Figure 14. Gender



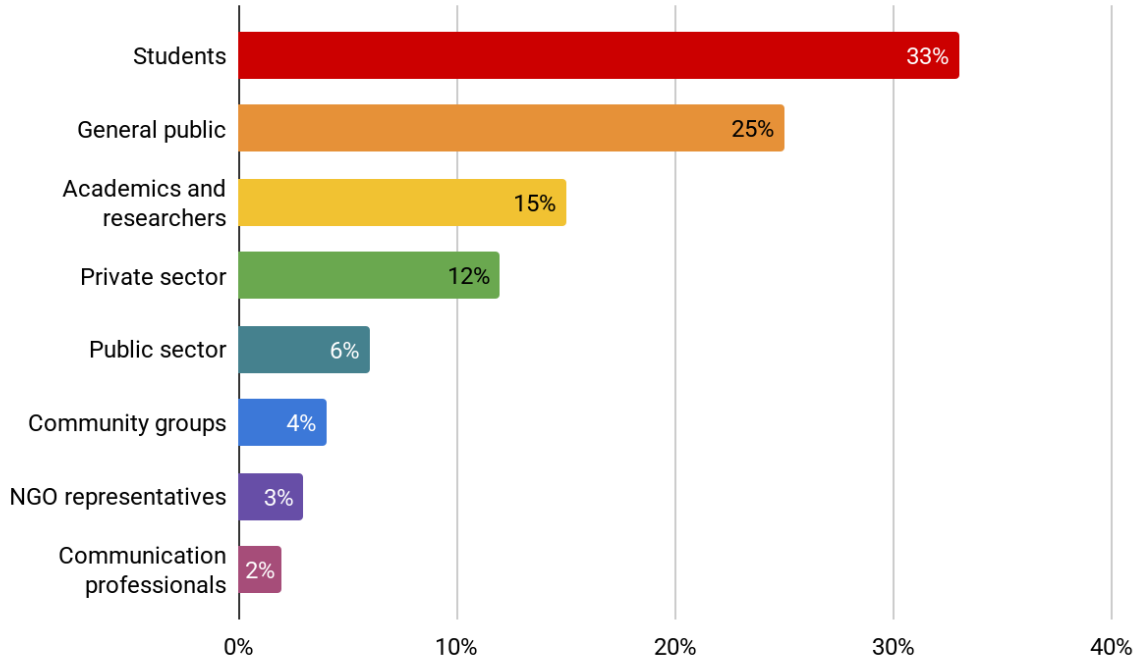
In terms of age, the majority of participants were in the 21 to 30 year-old age bracket (n=59, 36%), while the second and third most represented ages were 11 to 20 (n=28, 17%), indicating strong attendance by school-goers, and 31 to 40 (n=25, 15%) and 41 to 50 (n=24, 15%) (Figure 15). This indicates there was strong representation by younger audience brackets, while persons older than 50 years of age, were underrepresented.

Figure 15. Age



Students (including postgraduates) represented the largest stakeholder group (n=55, 33%), followed by members of the general public (n=40, 25%), academics and researchers (n=25, 15%) and private sector professionals (n=19, 12%) (Figure 16). This distribution is considered a positive outcome, aligning with the workshops' aim to engage a diverse audience, particularly youth, the general public, academia, and industry.

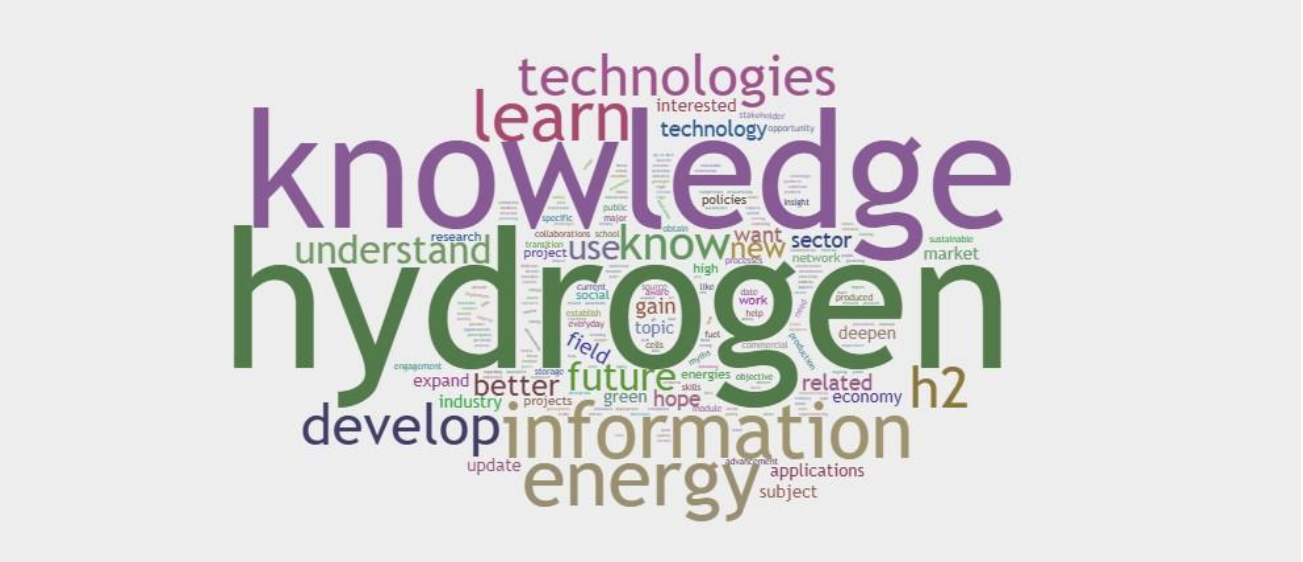
Figure 16. Participants by stakeholder group



Participant expectations and hydrogen energy perceptions

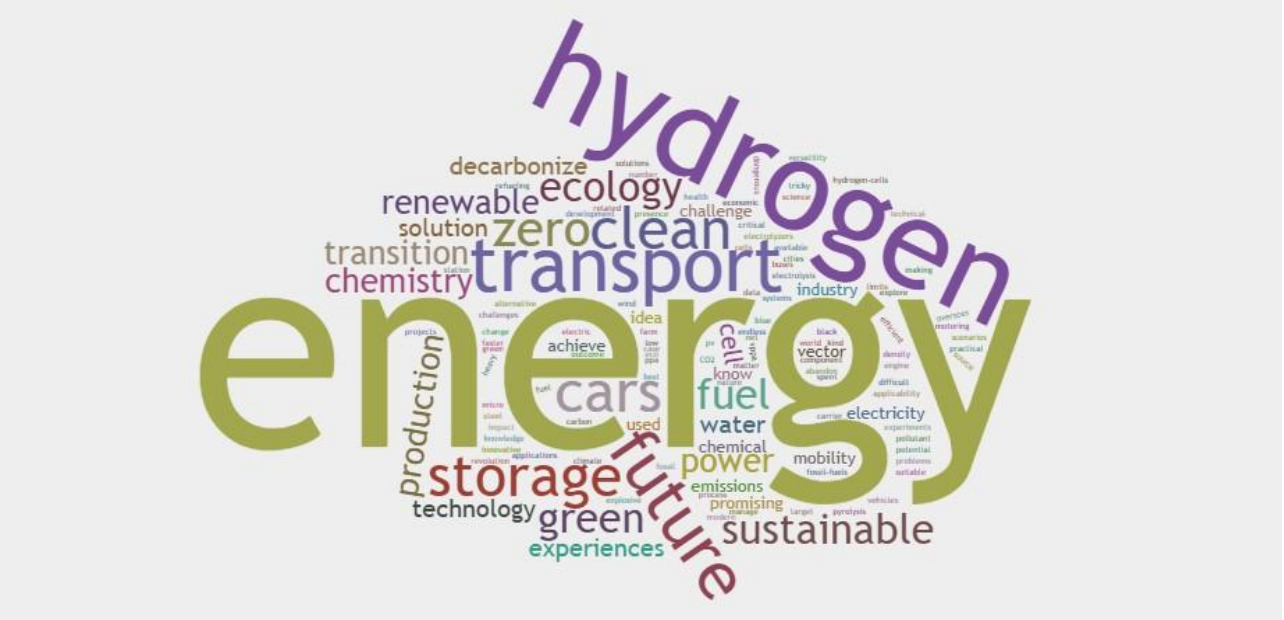
When asked during the registration survey what they hoped to gain from the workshops, participants most frequently cited the desire to expand their "knowledge" and "learn" about "hydrogen" and related "energy" and "technologies" (Figure 17). Other common responses included a wish to "understand" hydrogen's applications, access reliable "information," and explore opportunities to "develop" expertise in this evolving field.

Figure 17. Participant expectations for national workshops



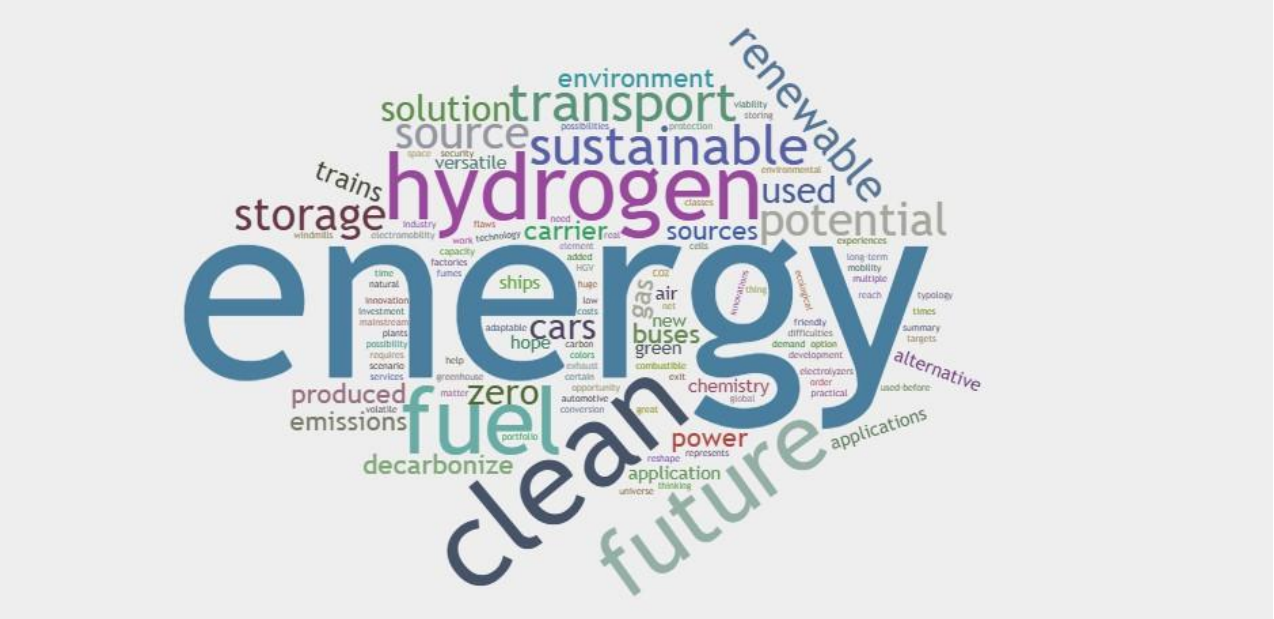
Before the workshop, participants were asked to share their thoughts on hydrogen energy. The resulting word cloud (Figure 18) reveals a strong association between "hydrogen," "energy," and "transport," with additional emphasis on "storage," "future," "sustainable," and "green." Terms such as "zero," "ecology," and "mobility" also appear, reflecting a general awareness of hydrogen's relevance to climate action and energy transition, though without strongly articulated value judgments.

Figure 18. Participants' thoughts on hydrogen energy before the workshops



Following the workshop, participants completed the same task during the feedback survey. This second word cloud (Figure 19) shows that while "hydrogen" and "energy" remained central, words like "clean," "future," and "sustainable" appeared more prominently. Terms such as "potential," "solution," and "decarbonize" gained visibility, suggesting a clearer understanding of hydrogen's role in emissions reduction and the green transition.

Figure 19. Participants' thoughts on hydrogen energy after the workshops



The increased prominence of "clean" and "future" in the post-workshop responses suggests that participants left with a stronger sense of hydrogen as a clean, viable energy source. The broader range of optimistic terms in the second word cloud indicates a shift toward seeing hydrogen not only as a technology but as a key part of the energy solution. This change reflects positively on the workshop's impact in clarifying the environmental benefits and strategic importance of hydrogen within the wider energy transition.

Participants were asked to indicate their level of agreement with several statements about hydrogen energy, both before and after the workshops (Figures 20 and 21). The results indicate a positive shift in perception. The proportion of participants who agreed or strongly agreed that "hydrogen is a safe energy source" increased from 51% to 68% (+17 points). Agreement that "hydrogen is a sustainable energy source" rose from 71% to 82% (+11 points). Meanwhile, the share of participants who disagreed or strongly disagreed with the statement "hydrogen is as polluting as diesel or gasoline" increased from 81% to 91% (+10 points). Together, these shifts suggest a measurable improvement in participants' confidence in hydrogen as a clean, safe, and sustainable energy solution.

Figure 20. Participant agreement with key hydrogen energy statements before the workshops

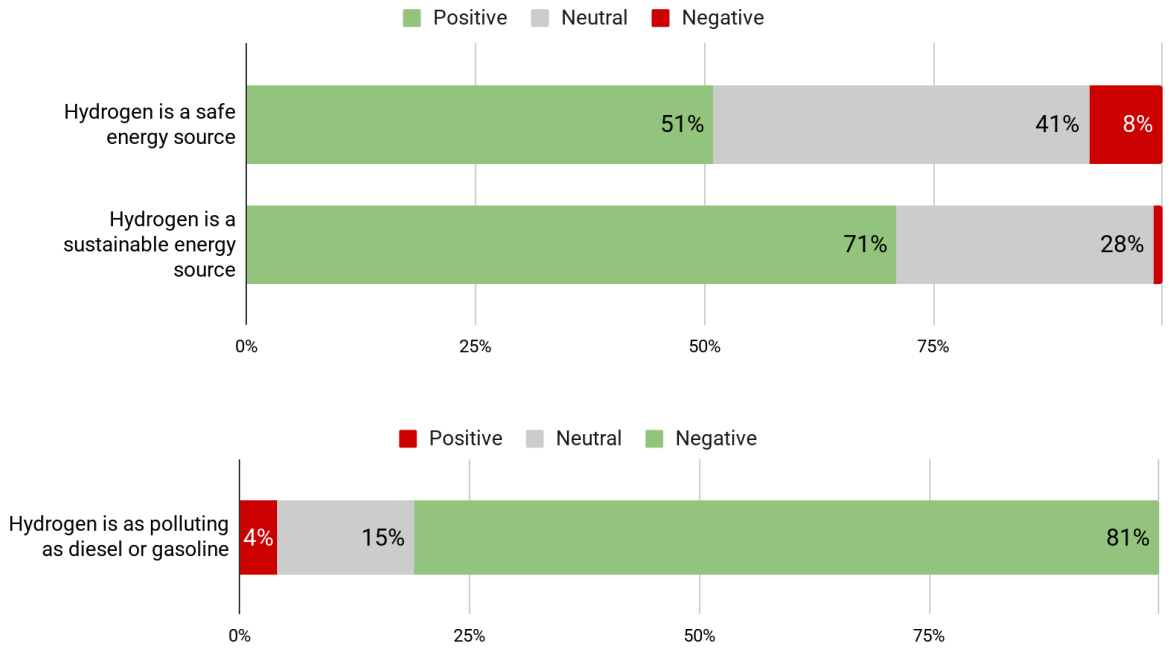
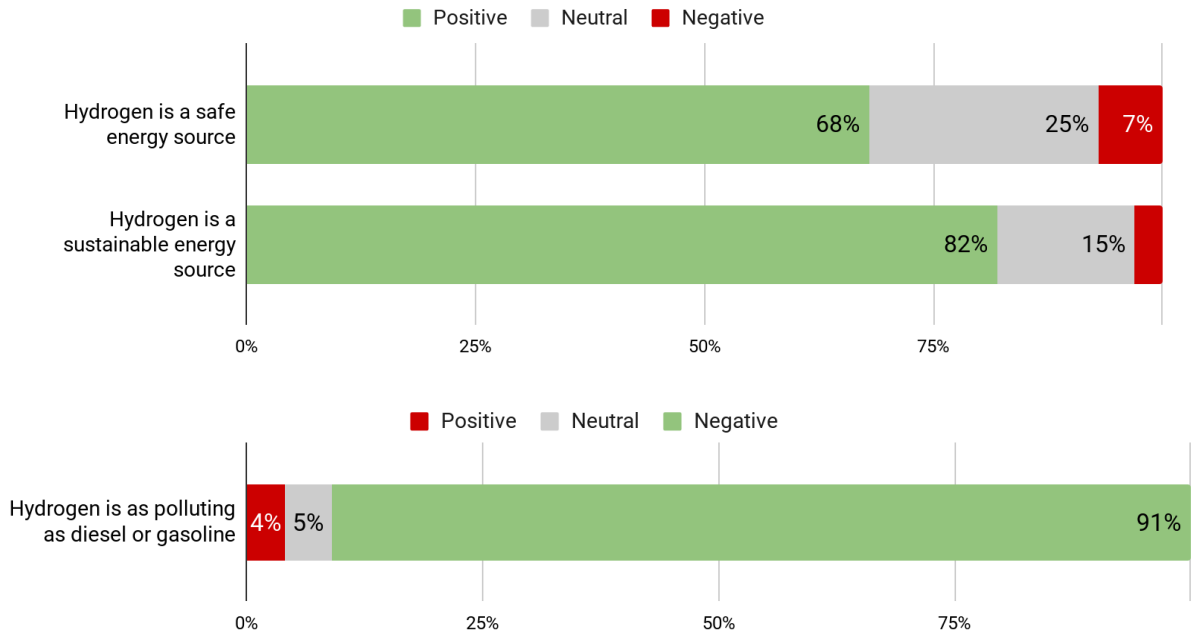


Figure 21. Participant agreement with key hydrogen energy statements after the workshops



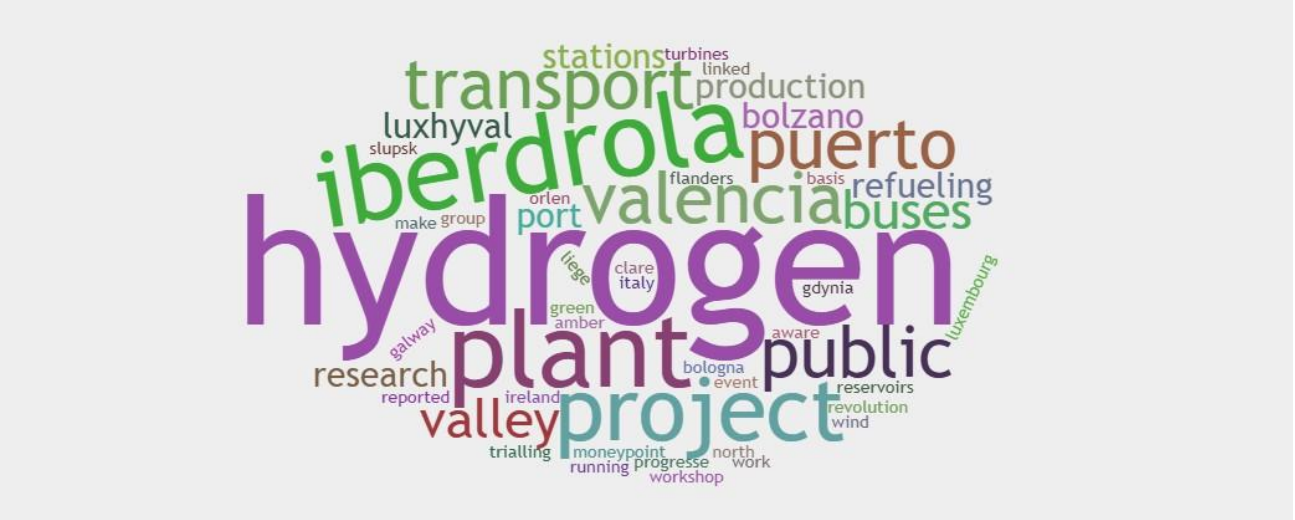
Before the workshop, participants were asked whether they were aware of any ongoing hydrogen projects in their country. The resulting word cloud (Figure 22) shows that many respondents answered "yes," with a number of terms suggesting recognition of specific initiatives. References such as "Luxembourg," "Valencia," "Puertollano," "greenHysland," and "BeHyfe" indicate some prior familiarity with local or national hydrogen activities. Mentions of terms like "buses," "station," and "infrastructure" also suggest a general awareness of sectoral applications.

Figure 22. Participant awareness of existing hydrogen projects in their country before the workshops

Following the workshop, more participants responded "yes," indicating an increased familiarity with hydrogen projects discussed during the event. The post-workshop word cloud (Figure 23) contains

more references to specific initiatives and actors, including a marked increase in mentions of "Iberdrola", suggesting the renewable energy company was a particularly memorable example cited during the presentations. Additional terms such as "plant," "public," "valley," "refueling," and place names like "Valencia," "Bolzano," and "Gdynia" indicate improved recognition of concrete projects and geographical context.

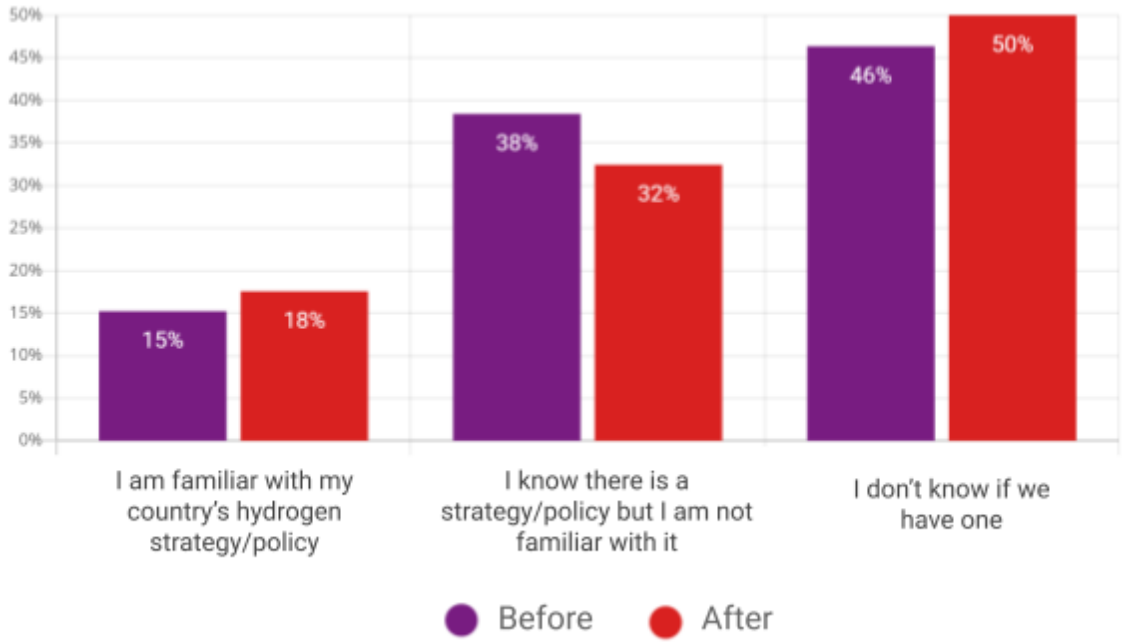
Figure 23. Participant awareness of existing hydrogen projects in their country after the workshops



The comparison between the two word clouds suggests a clear learning effect. After the workshop, not only did more participants affirm awareness of hydrogen initiatives, but their responses also reflected a broader and more detailed understanding. The prominence of "Iberdrola" and increased references to project-specific language point to the effectiveness of the workshop in enhancing participants' knowledge and anchoring abstract hydrogen concepts in real-world, memorable examples.

Participants were also asked about their familiarity with their country's national hydrogen strategy or policy, both before and after the workshop. These strategies were referenced during the sessions and featured in the country-specific fact sheets distributed to participants. As shown in Figure 24, there was only a modest shift in responses.

Figure 24. Familiarity with country's national hydrogen strategy before and after the workshops

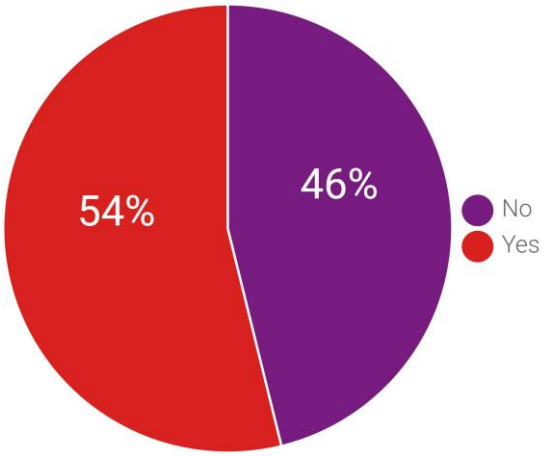


The proportion of participants who reported being familiar with their country's hydrogen strategy rose slightly from 15% to 18% (+3 points). Those who knew a strategy existed but were unfamiliar with it decreased from 38% to 32% (-6 points). However, the largest group in both cases consisted of participants who were unsure whether a national strategy existed at all, 46% before and 50% after the workshop (+4 points). This result suggests that while the workshops may have introduced national frameworks, additional emphasis on policy awareness and clarity may be needed in future engagement efforts.

Workshops impact

Following the workshop, participants were asked whether they feel that the presentations had dispelled any potential misconceptions they may have had about hydrogen energy, such as that it is inherently unsafe, due to hydrogen's explosivity, or that hydrogen is a fossil fuel-derivative that cannot be produced with clean, renewable energy as part of the green economy.

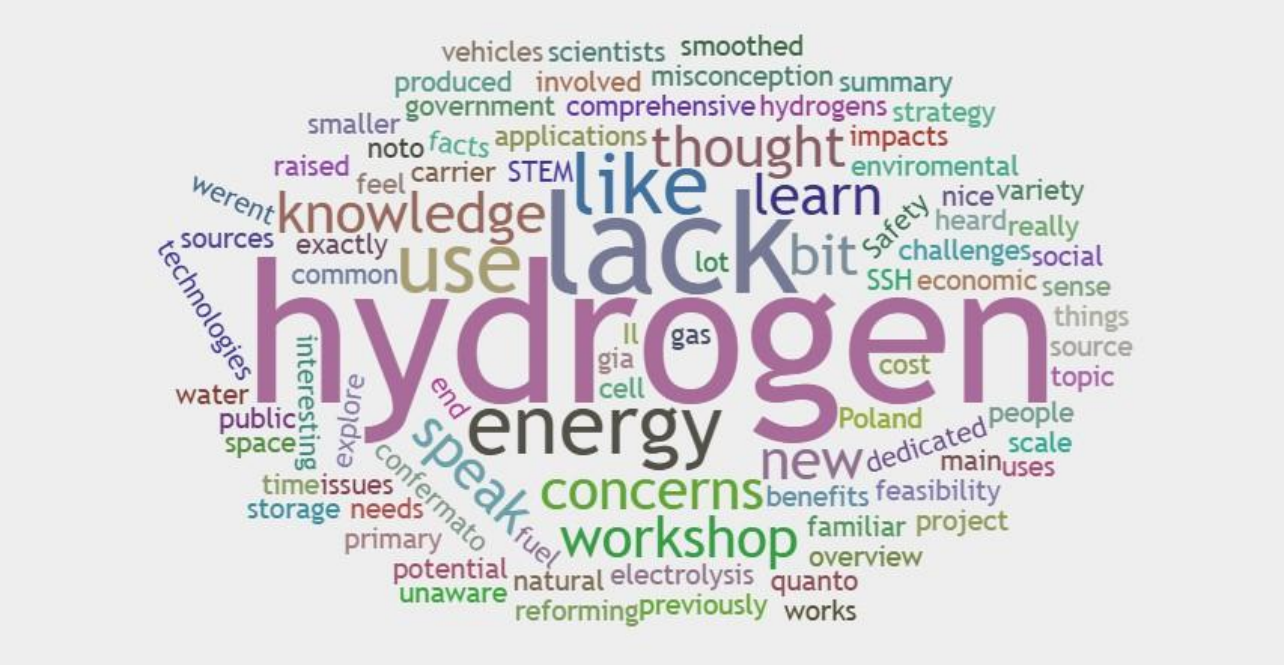
Figure 25. Responses to whether the workshop addressed any misconceptions about hydrogen energy



As shown in Figure 25, just over half of participants (54%) indicated that the workshop helped address one or more misconceptions they previously held about hydrogen. Meanwhile, 46% reported that the workshop did not directly change any of their existing views. This suggests that while many participants experienced a shift in understanding, others may have already held accurate perceptions or may require deeper engagement to challenge prior assumptions.

Participants who indicated whether the workshop addressed any misconceptions were also invited to elaborate on their response. As illustrated in the word cloud (Figure 26), many of the comments, regardless of whether participants answered "yes" or "no", centred around a previously perceived lack of knowledge or familiarity with hydrogen.

Figure 26. Elaborations on workshops impact on misconceptions



Prominent terms like "lack," "knowledge," "concerns," and "misconception" suggest that participants either recognised knowledge gaps that were filled during the session or reflected on lingering uncertainties. Other common words such as "use," "energy," "workshop," and "learn" highlight a general desire for more applied understanding and further learning. Below are some sample quotations from participants responding to whether the workshops addressed any misconceptions they might have had about hydrogen energy:

> *I was unaware that hydrogen is an energy carrier, not a primary energy source, and needs to be produced from other sources like water (via electrolysis) or natural gas (via reforming).*
> **(Male, 44 years, Assistant Professor in Hydrology)**

> *It was nice to learn how the fuel cell works and about the challenges behind using hydrogen in vehicles.*
> **(Female, 31 years, Research Assistant)**

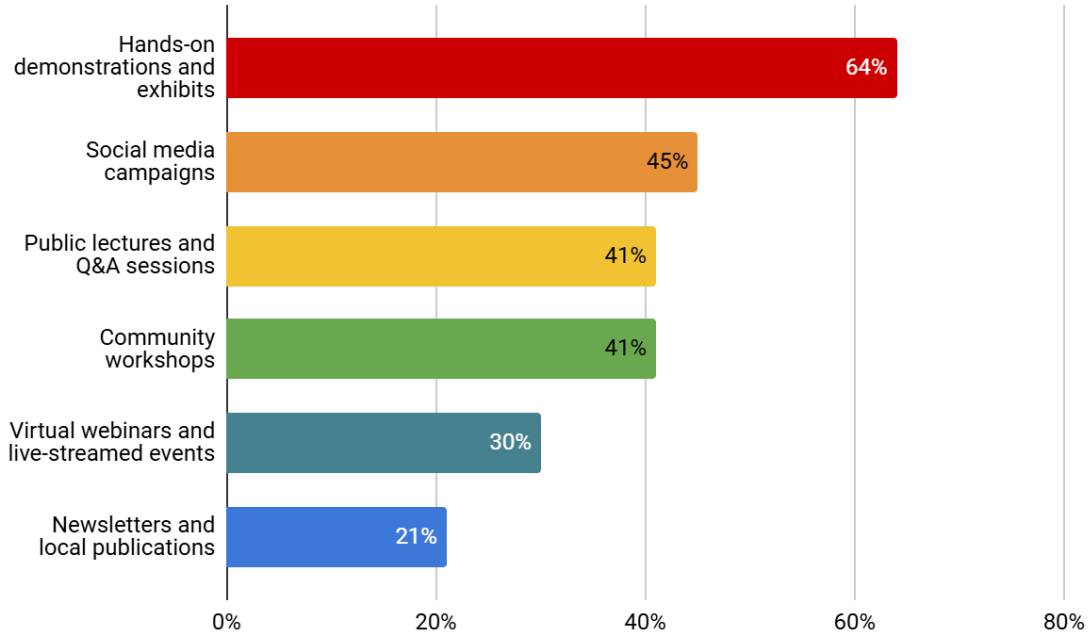
> *I thought my government wasn't involved in any hydrogen projects.*
> **(Male, 32 years, Process Engineer)**

> *Before the workshop, I assumed the general public was more familiar with hydrogen technologies than they actually are.*
> **(Anonymous)**

> *I had thought hydrogen was only used on a small scale. Now I see it has a wide range of applications I wasn't aware of.*
> **(Female, 18 years, Student)**

Those in attendance were also asked which types of public engagement activities they believed would be most effective in helping European citizens understand the benefits and risks of hydrogen energy (Figure 27).

Figure 27. Most effective activities for hydrogen energy education identified by participants



"Hands-on demonstrations and exhibitions" emerged as the clear frontrunner, selected by 64% of respondents. This suggests a strong preference for experiential learning approaches that allow people to engage directly with hydrogen technologies. Social media campaigns were the next most popular (45%), reflecting the perceived value of accessible, wide-reaching digital communication. Public lectures and Q&A sessions, along with community workshops, were both chosen by 41% of respondents, highlighting interest in in-person dialogue and locally focused outreach. In contrast, virtual webinars (30%) and newsletters or local publications (21%) were seen as less impactful, potentially due to lower interactivity or limited audience reach.

Workshops feedback

Figure 28 presents participant ratings of key workshop attributes using bipolar scales. The overall sentiment was strongly positive. An overwhelming majority rated the workshops as *useful* (92%), *valuable* (88%), *fascinating* (80%), and *relevant* (81%), suggesting that participants found the sessions both engaging and meaningful.

However, perceptions of *importance* were more divided. While 56% of respondents viewed the workshops as important, 31% rated them negatively on this scale, the highest proportion of critical responses among all attributes. This indicates that, although the workshops were well received in terms of content and delivery, a notable segment of the audience may not have perceived direct applicability to their specific interests or contexts. Further tailoring of themes and use cases may help address this gap in future engagements.

Figure 28. Participant ratings of key attributes of the workshops

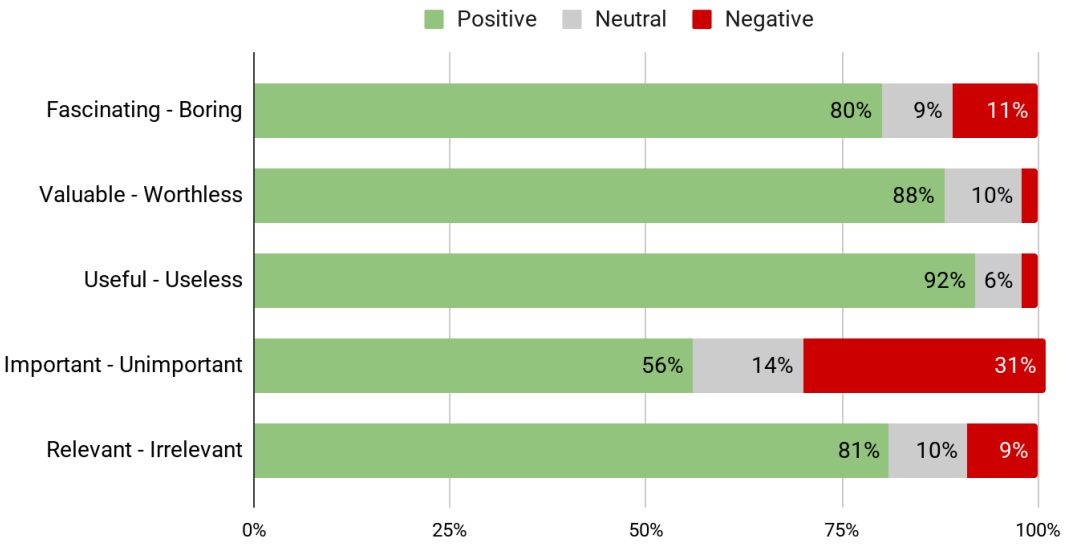


Figure 29 presents participant feedback on the quality of engagement during the workshops. Overall, responses were positive. A large majority of respondents reported enjoying the workshop (75%) and feeling able to actively participate (76%). Similarly, 86% agreed that all voices had been heard and considered, one of the most positively rated statements.

However, only just over half (52%) felt that their individual contribution to the process was valued, and an equal proportion said they had a clear understanding of the expectations for their contribution. These two indicators received the highest proportion of neutral responses (43% and 37%, respectively), suggesting that although participants generally felt included, there is room for improvement in clarifying roles and increasing the perceived value of individual input in future workshop formats.

Figure 29. Feedback on overall training experience (positive metrics)

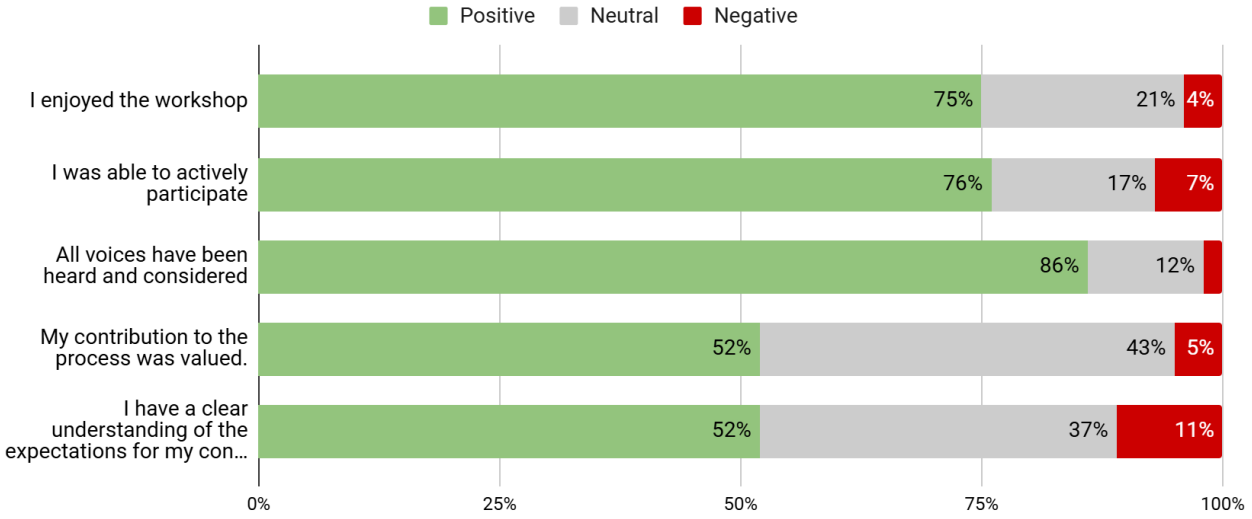
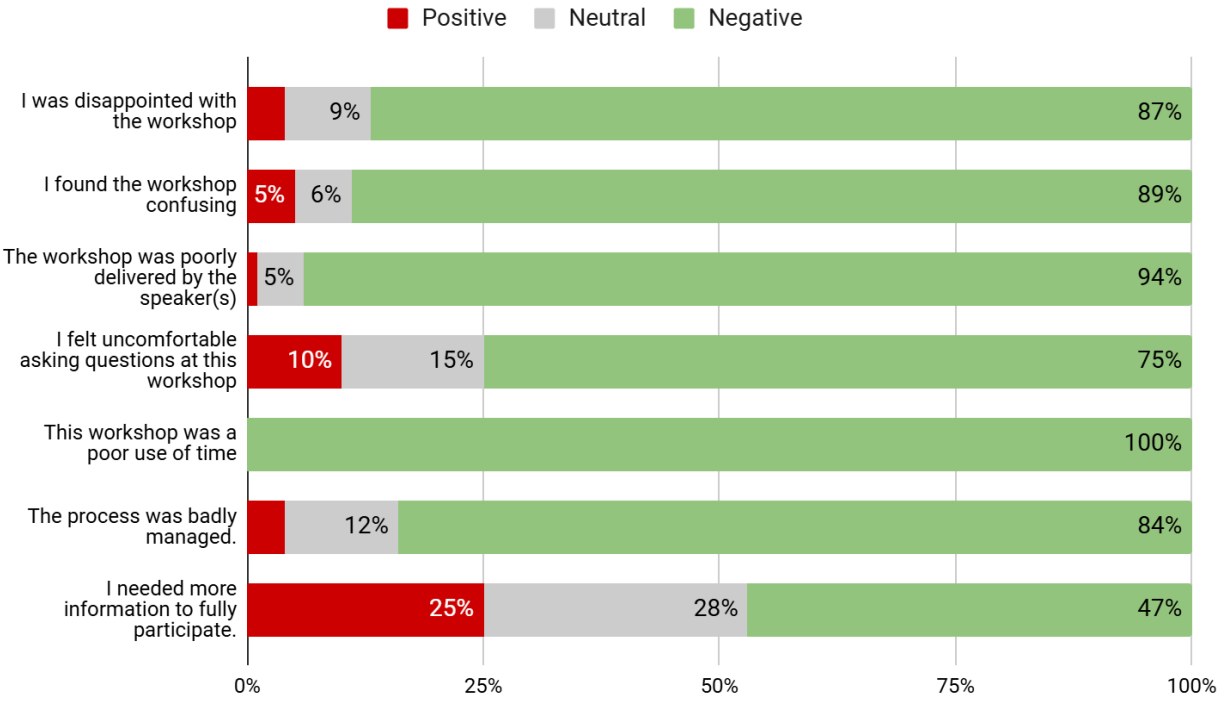


Figure 30 presents responses to statements assessing critical aspects of the workshop experience. Overall, the results suggest a high level of satisfaction. Nearly all respondents disagreed with negative assessments such as the workshop being a poor use of time (100% disagreement), being poorly delivered (94%), confusing (89%), or disappointing (87%).

Most participants also reported feeling comfortable asking questions (75%), and only a small proportion (10%) expressed discomfort in this area. While only 5% to 12% agreed with statements suggesting poor delivery or process management, one notable exception was the statement "I needed more information to fully participate." Here, 25% agreed and 28% were neutral, indicating that nearly half of respondents may not have felt fully equipped with the information required. This signals a potential area for improvement in pre-event communication or in-workshop guidance.

Figure 30. Feedback on overall training experience (reverse-coded)



Nonetheless, the generally positive feedback suggests the workshop was well-received, with targeted refinements in information provision likely to enhance future participant engagement even further.

International events

In addition to the national workshops, WP3 also hosted two international online events (Table 11). These webinars targeted individuals and projects aiming to improve their hydrogen (or other renewable energy) awareness campaigns, providing them with insights and tools to make their engagement more impactful. Expert speakers guided the sessions, sharing best practices and insights from the HYPOP project and other, similar EU projects focusing on hydrogen and renewable energy.

All partners had several key responsibilities to ensure the success of the international online events. They were asked to share event details with potential participants through various channels, including social media, websites, and email. Additionally, partners were encouraged to attend the events to support engagement and participation.

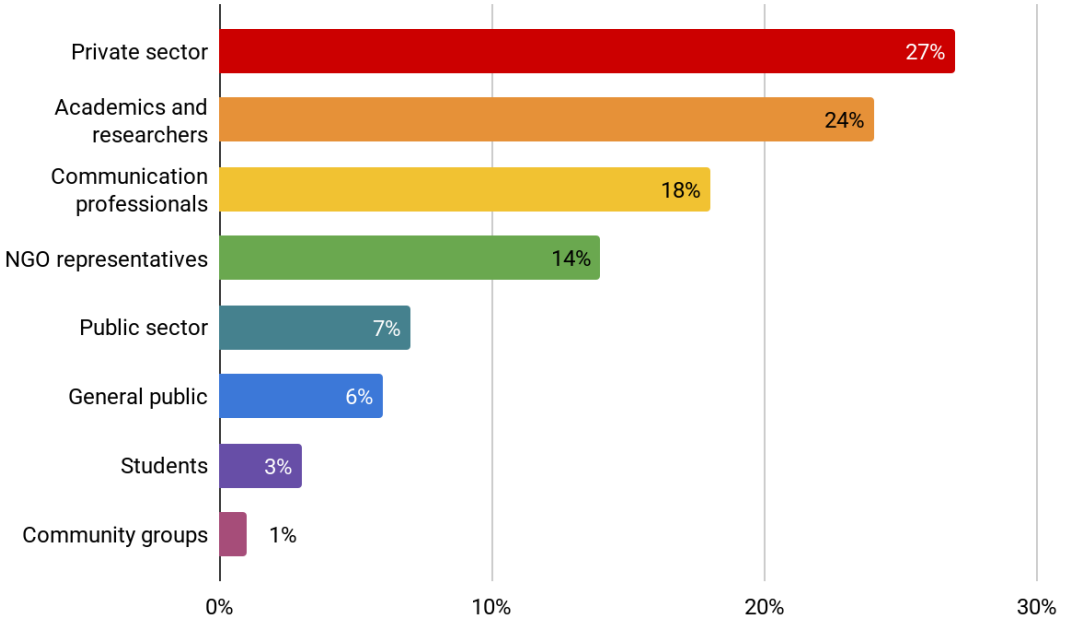
Table 11. International events programme

Theme	Date	Participants
Engaging Non-Technical Audiences: Best Practices for Energy Communication	20 March 2025	37
Raising Awareness of Hydrogen: Best Practices from the HYPOP Project	24 April 2025	15
	Total event participation:	**52**

Each session attracted highly engaged, topic-relevant audiences despite the ambitious goal of 50 attendees per webinar. The first webinar convened 37 participants representing a diverse mix of experts and stakeholders drawn by its broad appeal on energy communication. The second webinar drew 15 attendees. The second, with its specialised focus on hydrogen awareness and HYPOP findings, brought in 15 guests whose depth of expertise ensured a rigorous exchange of insights. In total, 52 distinct individuals confirmed their attendance, yielding a focused cohort whose quality of participation exceeded expectations for actionable takeaways.

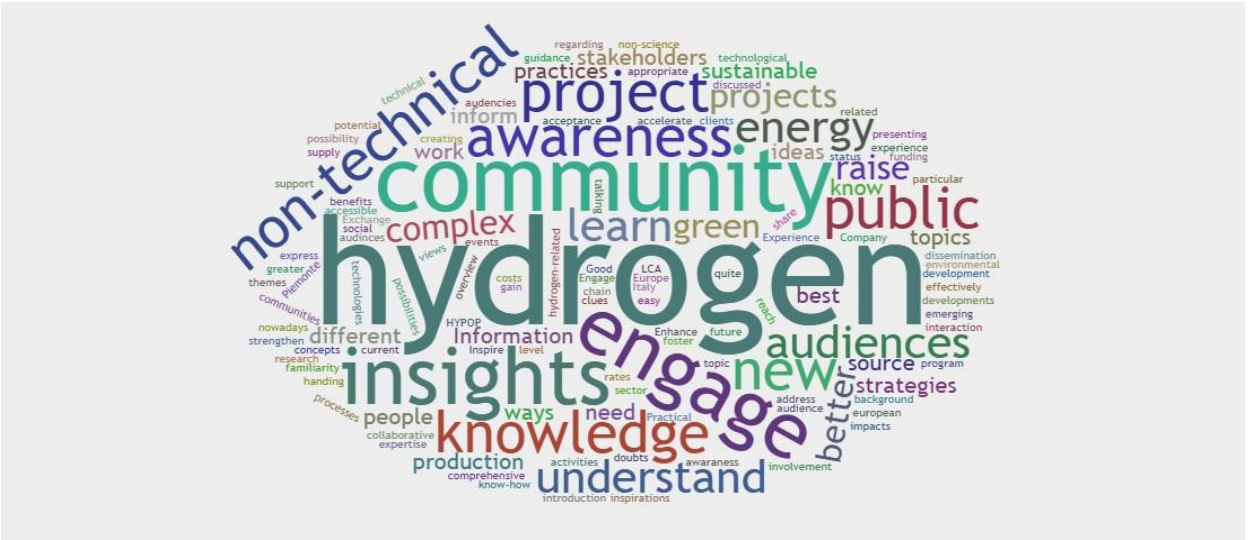
Of the 52 participants, 62% were female and 38% were male. The mean age of participants was 38 years old, with a spread of ages from 25 to 60. Most participants were private sector professionals (27%), followed by academics and researchers (24%), media/communications professionals (18%), and NGO representatives (14%) (Figure 31).

Figure 31. Participants by stakeholder group



The word cloud below (Figure 32) illustrates key expectations expressed by participants ahead of the international events. Prominent words such as "hydrogen," "community," "engage," "insights," "awareness," and "knowledge" suggest attendees were primarily interested in gaining deeper understanding of hydrogen technologies and community-engagement strategies. Terms like "non-technical," "public," and "audiences" emphasize a focus on practical communication methods for effectively interacting with diverse stakeholders. Additionally, the presence of words such as "project," "energy," and "understand" indicates participants sought practical insights to apply within their own initiatives, aiming to better navigate complex hydrogen-related topics in a clear, accessible way.

Figure 32. Participant expectations for international events



Engaging Non-Technical Audiences: Best Practices for Energy Communication webinar

The first webinar was held on 20 March 2025. It targeted energy sector decision-makers, communication experts, technicians, company representatives, and project managers seeking to enhance their hydrogen (or other renewable energy) awareness campaigns.

IMI worked with ENVI and APRE to identify projects showcasing diverse approaches to hydrogen engagement (Table 12). Invitations were sent to Erika Dematteis (HYCARE/[H]2ghFive!), Carole Capitaine (MissionH24), Marcus Schober (HyTruck), Oleg Todorov (HyTruck) and Esa Eerola (Cefmof). Selection criteria prioritised hands-on learning, communication strategies, stakeholder engagement and community activation. Each speaker accepted, bringing expertise from educational play-based activities, motorsport communication, regional refuelling guidelines and local awareness campaigns.

Table 12. "Engaging Non-Technical Audiences: Best Practices for Energy Communication" webinar agenda

Introduction (10 min) (Plenary)
- Welcome and introduction.
- Brief overview of the webinar's objectives and agenda.
- Brief intro to HYPOP project and H_2 technology context.
- Introduction to the Clean Hydrogen Partnership.

Practical examples from energy-related projects (50 min) (Plenary)
- HYPOP Project
- HYCARE/[H]2ghFive!
- MissionH24
- HyTruck
- Cefmof

Q/A and open discussion (15 min) (Plenary)
- Q/A session.
- Share resources for further reading (HYPOP website, etc.).
- Distribute the feedback form (survey link).
- Thank participants for their time and engagement.

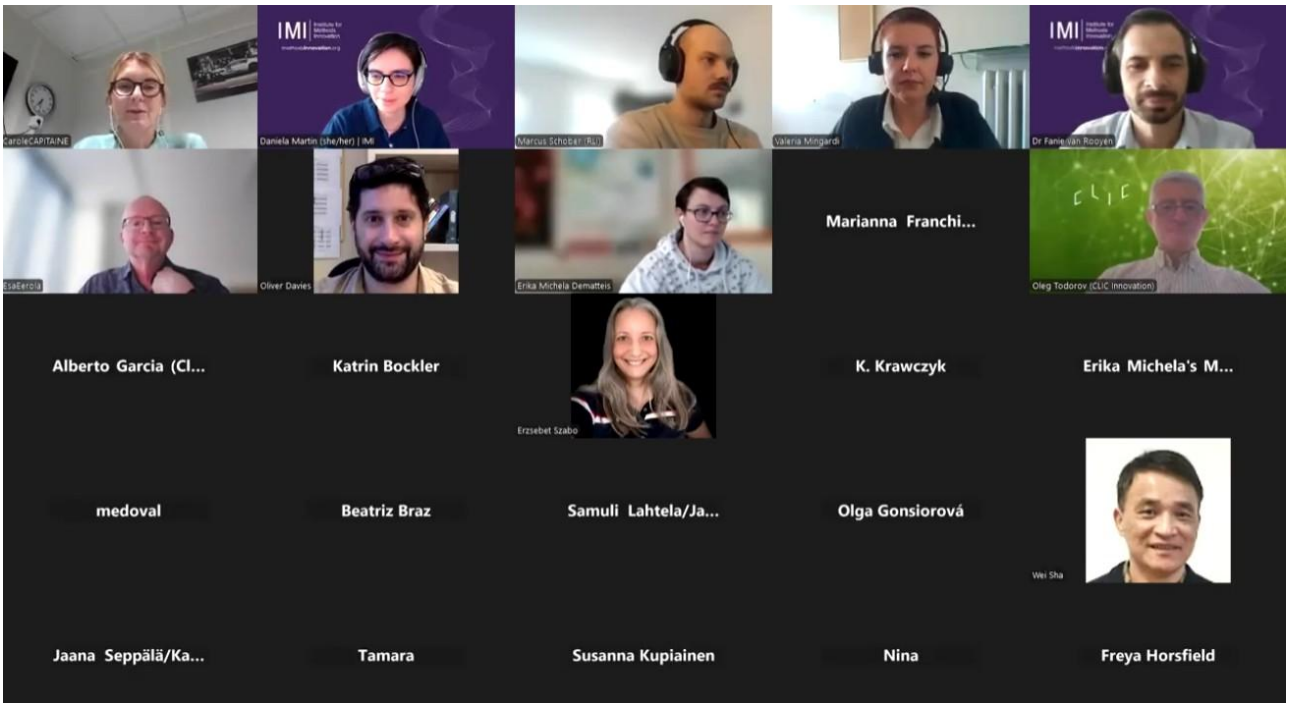
= 1 hour and 15 minutes (75 minutes)

The webinar (Figure 33) started with a brief introduction to the HYPOP project, after which Alberto García provided an overview of the Clean Hydrogen Partnership's objectives and collaboration opportunities.

In the practical examples segment, IMI presented the scope and early insights from HYPOP's national co-creation workshops, offering actionable tips for effective community engagement. Erika Dematteis of HYCARE/[H]2ghFive! then showcased interactive, play-based hydrogen activities designed for schools and public workshops, complete with ready-to-use exercises and facilitation guidance. Carole Capitaine of MissionH24 followed with exploring the communication strategy behind the upcoming electric-hydrogen racing category at Le Mans, detailing audience targeting and multimedia outreach. Marcus Schober and Oleg Todorov from HyTruck described their stakeholder engagement framework and hydrogen refuelling guideline. They explained how their "Breakfast Briefings," based on the Quadruple Helix Model, promote cross-sector collaboration. Esa Eerola of

Cefmof closed the presentations by illustrating how Cefmof generated local interest through a museum exhibition, a City of Light festival activation and a hydrogen-cooking demonstration.

Figure 33. Screenshots from the first international webinar



The session ended with an open Q&A, the sharing of additional resources and an invitation to complete the post-event feedback survey. The webinar recording has been published on the project's YouTube channel as a freely accessible resource for all stakeholders.

Raising Awareness of Hydrogen: Best Practices from the HYPOP Project webinar

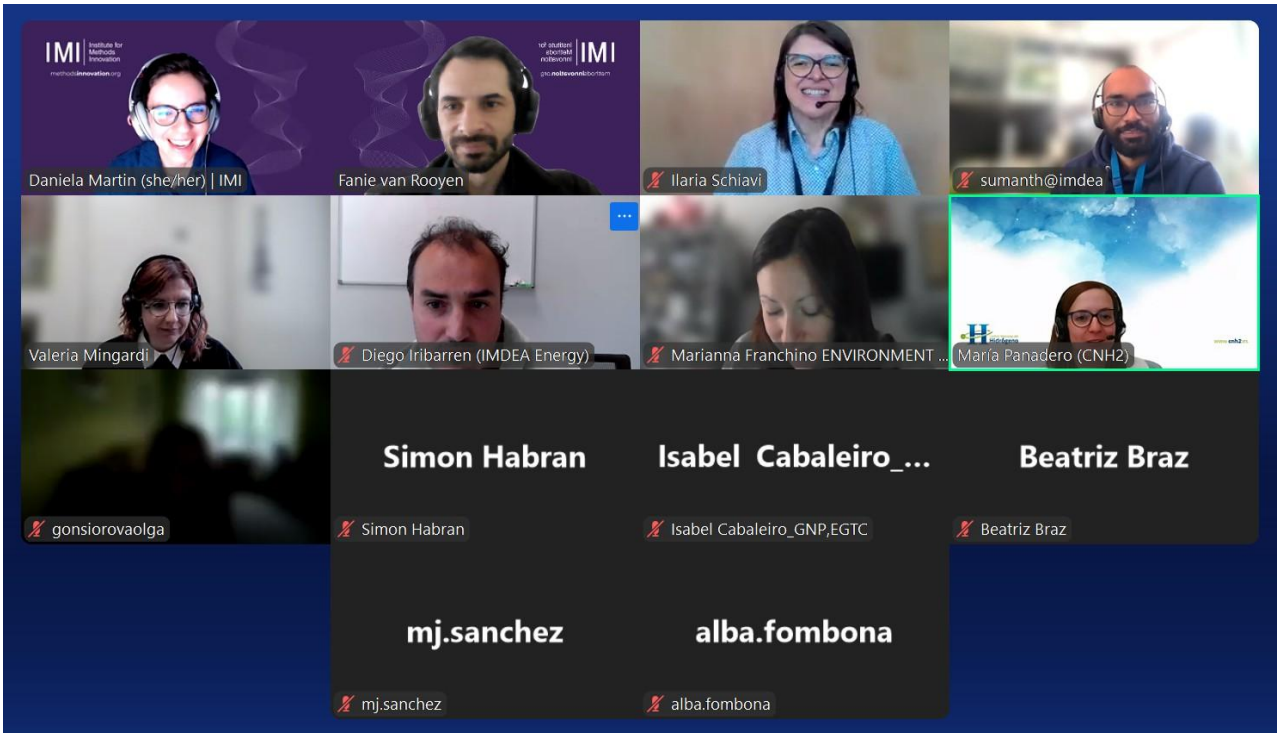
The second webinar was held on 24 April 2025 and served to showcase the project's results to an international audience. Representatives from HYPOP partners IMI, ENVI, IMDEA Energy and APRE all hosted presentations highlighting the work done and results from various work packages (Table 13, Figure 34). Participants represented various nationalities including the UK, Poland, Italy, Spain, Germany, Belgium and Finland.

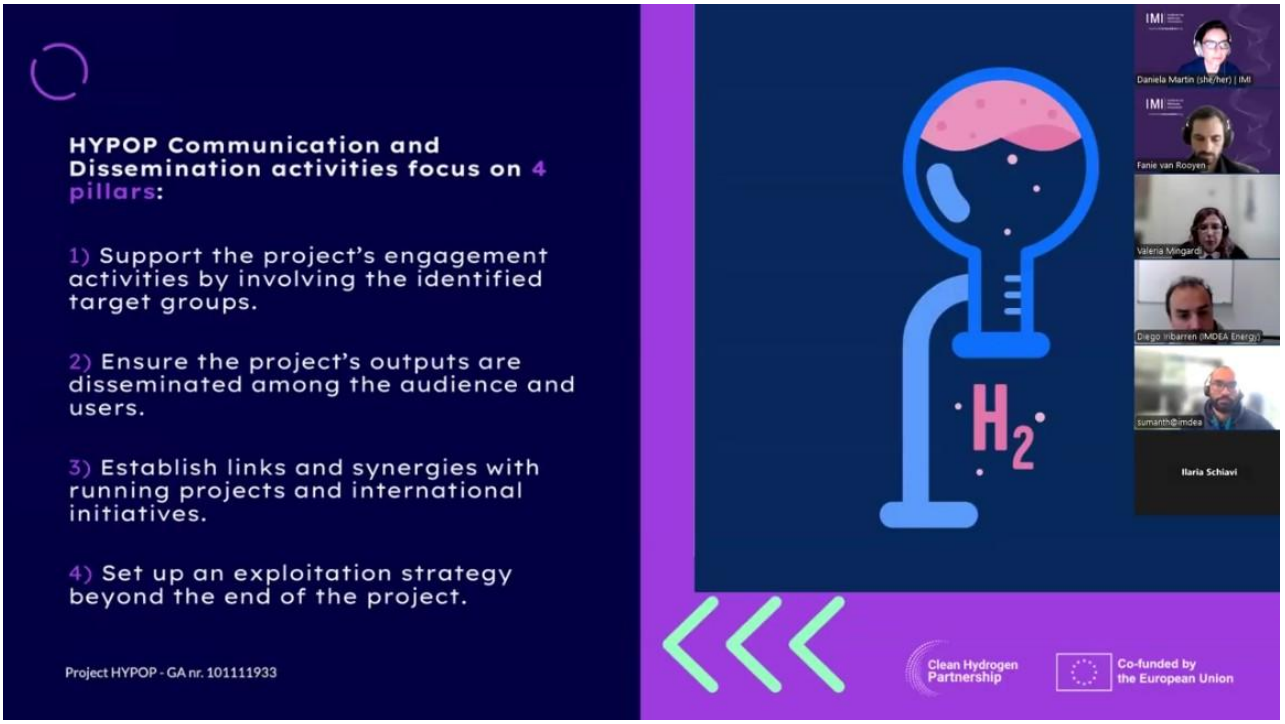
After a warm welcome, Daniela Martin (IMI) set the stage by restating HYPOP's mission to improve public understanding of hydrogen technologies and outlining how the Clean Hydrogen Partnership supports such outreach. Ilaria Schiavi (ENVI) then mapped HYPOP's progress across its work packages and situated hydrogen's emerging policy importance within the EU's Green Deal framework, underscoring opportunities for coordinated awareness-raising across Member States.

Table 13. "Raising Awareness of Hydrogen: Best Practices from the HYPOP Project" webinar agenda

Time	Section	Speaker/moderator
1:00 pm	**Introduction (10 min)** • Welcome and introductions • Introduction to the HYPOP project • Introduction to the Clean Hydrogen Partnership	Daniela Martin (IMI)
1:10 pm	**HYPOP Project introduction and hydrogen's role in Europe (10 min)** • HYPOP Project introduction and achievements • Short overview of the role of hydrogen in the EU	Ilaria Schiavi (ENVI)
1:20 pm	**Hydrogen perception, insights, and communication (25 minutes)** • Overview of public awareness and perceptions around hydrogen technologies in the EU • Overview of public engagement strategy and activities • Overview of Social Life Cycle Assessment results • Overview of communication activities	Dr Fanie van Rooyen (IMI) Diego Iribarren (IMDEA Energy) Summanth Maddula (IMDEA Energy) Valeria Mingardi (APRE)
1:45 pm	**Q/A session and open discussion** • Allow participants to ask questions and seek clarifications on the topics discussed.	Daniela Martin (IMI)
1:55 pm	**Wrap up** • Thank participants for their attendance and encourage feedback for future webinars.	Daniela Martin (IMI)

Figure 34. Screenshots from the second international webinar





Dr Fanie van Rooyen (IMI) shared survey data from WP1 on public perceptions of hydrogen technologies in the EU, and provided feedback on HYPOP's completed public engagement workshops. Diego Iribarren and Summanth Maddula (IMDEA Energy) explained how HYPOP's Social Life-Cycle Assessment (S-LCA) identified labour-practice hot-spots in component supply chains and recommended transparent disclosure when communicating benefits. Valeria Mingardi (APRE)

expanded on HYPOP's communication strategy, illustrating the project's multi-channel approach: developing videos and infographics, creating a repository to make all deliverables accessible, creating a network of hydrogen projects, and developing the H_2 Projects Showcase on the website.

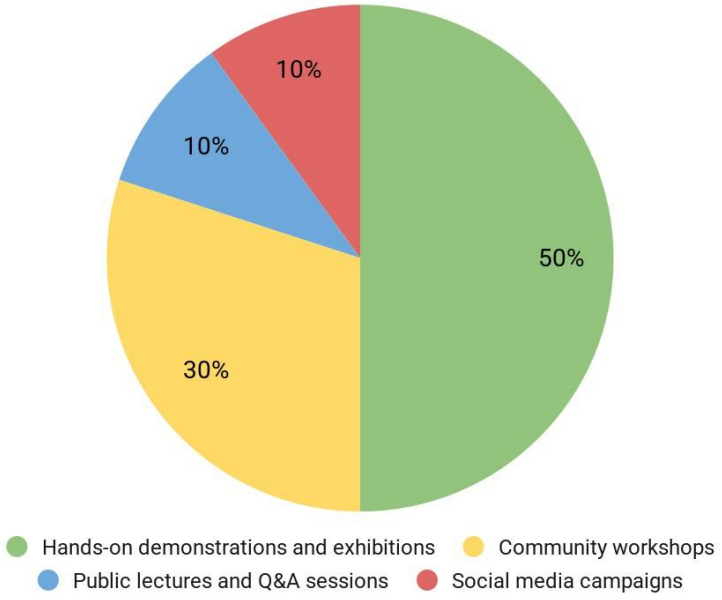
In the closing Q&A, participants asked about adapting HYPOP's communication and engagement tools for developing countries, measuring long-term attitude shifts (impact evaluation), and integrating S-LCA results into outreach. Speakers emphasised the value of co-creation with local stakeholders and invited collaboration on future demonstration events. Daniela Martin closed the webinar by thanking attendees, directing them to the HYPOP website for resources, and encouraging completion of the feedback survey to help inform the project's final guidelines.

Overall, the webinar succeeded in translating HYPOP research into actionable insights, equipping a niche yet highly engaged audience with evidence-based approaches to elevate hydrogen awareness campaigns across the EU. The webinar recording has been published on the project's YouTube channel as a freely accessible resource for all stakeholders.

Evaluation results (both events)

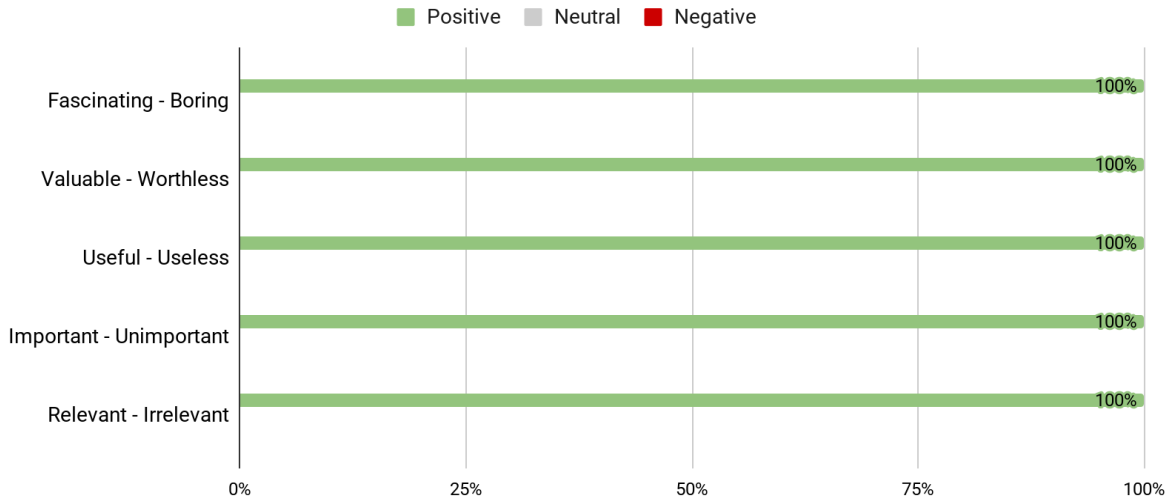
While a majority of the 52 registered participants provided initial data through the registration survey, a smaller group responded to the post-event feedback survey. All respondents agreed that "hands-on demonstrations and exhibitions" would effectively educate the public about hydrogen technologies, while 60% also supported community workshops as an effective engagement method (Figure 35).

Figure 35. Most effective activities for hydrogen energy education identified by participants



The international events received exceptionally positive feedback. All participants who completed the feedback survey agreed that the webinars were "Fascinating", "Valuable", "Useful", "Important" and "Relevant" (Figure 36).

Figure 36. Participant ratings of key event attributes



The two charts below summarise participant feedback on the workshops, highlighting their overall experience and perceptions. Figure 37 shows unanimously positive feedback, with 100% of respondents indicating they were not disappointed, did not find the workshop confusing, believed the delivery was effective, felt comfortable asking questions, and considered the workshop a valuable use of their time.

Figure 37. Feedback on overall training experience (reverse-coded)

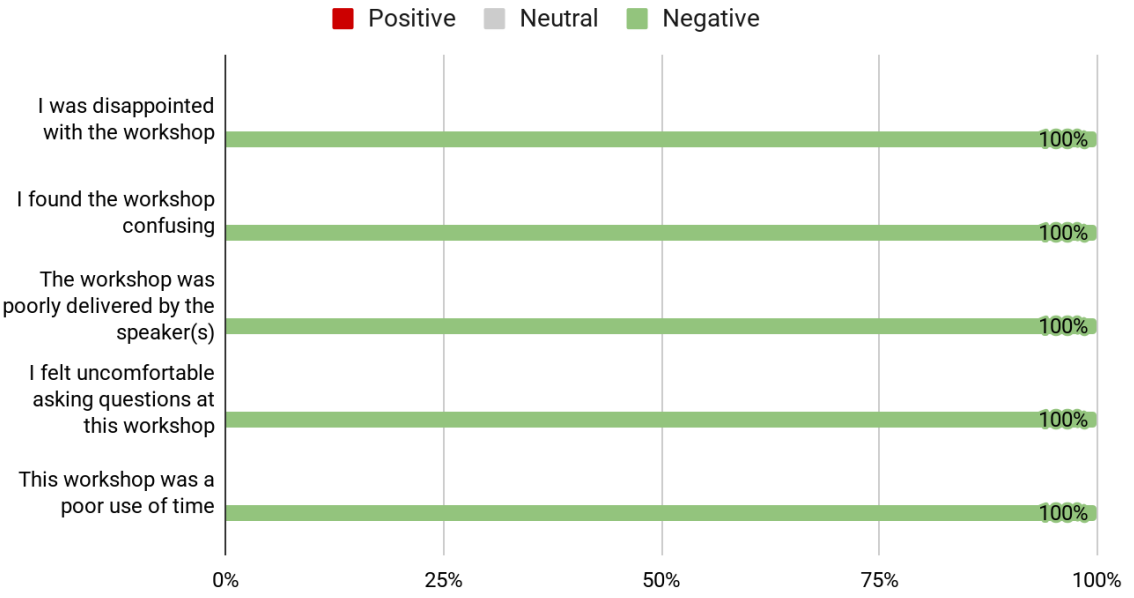
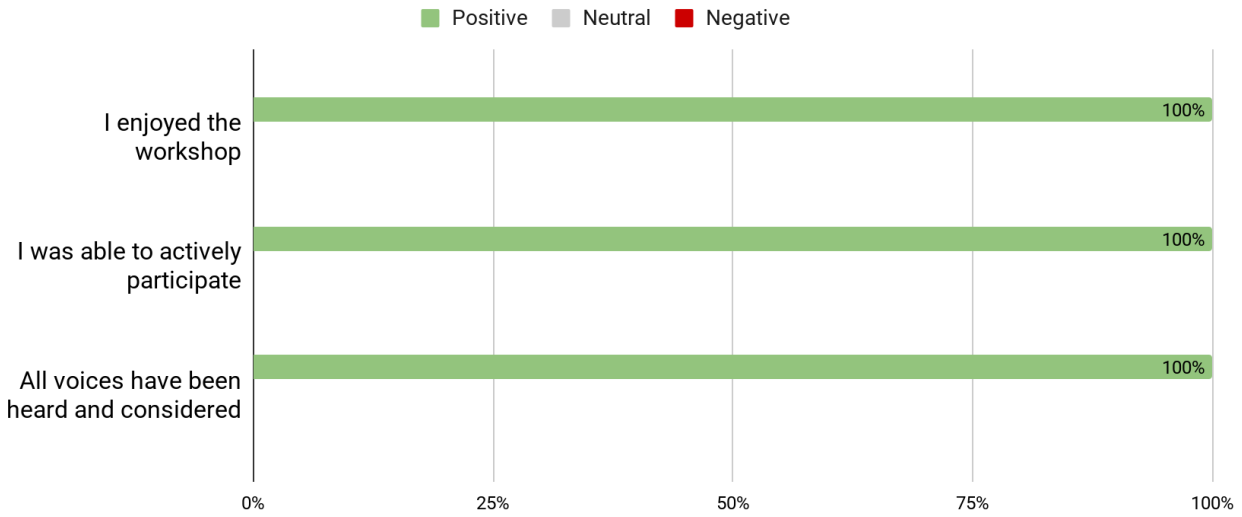


Figure 38 similarly reveals that all respondents enjoyed the workshop, felt able to actively participate, and agreed that all voices were heard and considered. Together, these charts reflect strong participant satisfaction with the workshops' organization, facilitation, and inclusivity.

Figure 38. Feedback on overall training experience (positive metrics)



Overall, the participants who did complete the feedback survey overwhelmingly indicated that they had a positive experience, and that they learned valuable, important, relevant and useful information about hydrogen technologies.

Conclusion

The HYPOP public engagement activities succeeded in meaningfully involving European citizens in dialogue about hydrogen technologies. Participants from diverse backgrounds brought forward both optimism around decarbonisation, energy security, and innovation, and clear demands for transparency, safety, and regulatory clarity.

The co-creation workshops confirmed that participants are ready to support hydrogen deployment when their concerns are addressed. Feedback demonstrated measurable gains in knowledge, trust, and perceived usefulness of hydrogen. However, results also highlight the need to improve public awareness of national hydrogen strategies and ensure that participants feel their contributions are valued and understood.

Participant-led proposals, such as local bus networks, school-based microgrids, and hydrogen-powered logistics, show the creative potential of public engagement when supported with relevant data and inclusive facilitation.

The HYPOP public engagement activities reinforce the importance of multi-format, locally contextualised engagement and suggest that a shift from passive consultation to active co-creation is essential to building a hydrogen-ready public in Europe. These insights will form the foundation for the forthcoming engagement guidelines (D3.4), ensuring that future hydrogen initiatives are met not only with technical readiness, but with societal support.

Appendix A: Participant informed consent

The HYPOP project is pleased to invite you to join our live online workshop "Hydrogen technologies: Exploring facts, myths and future perspectives" on [date] from [time].

The following statements are meant to ensure you have adequate information about how your responses to this registration and feedback after the co-creation workshop will be used and what will happen to the data you provide:

- Partners in the HYPOP consortium may use my information to communicate with me about further events or workshops.
- My responses to this event registration and feedback survey will be confidentially stored and used for project purposes.
- My identity will not be disclosed for commercial use by a third party or made public without my explicit consent.
- My participation is voluntary, I can withdraw at any time and ask for any personally identifiable information to be deleted.
- The information I provide about myself is confidential by default.
- After anonymisation, the data I submit may be published as an open dataset.

Please indicate whether you understand and agree with the statements above, and consent to participate in this survey:

☐ I consent to participate in this event and for any data that I submit to be used for event-related purposes.

In addition, please also indicate whether you opt-in to these unique considerations:

☐ Yes, you may add me to HYPOP's community and contact me about participating in project-related activities such events, workshops, relevant initiatives and activities.
☐ Yes, you may use the contact details I provide to keep me updated on event results.
☐ Yes, you may contact me to participate in other future projects.

Please indicate whether you consent regarding photography, video or audio recordings from participation in the project:

☐ I consent to my image, video, and voice being recorded during project activities, and used under the conditions mentioned in the above statements.

HYPOP has received funding from the Clean Hydrogen Partnership and the European Union's Horizon Europe: Climate, Energy and Mobility programme under grant agreement No. 101111933. HYPOP's partners ensure that processing activities take place in compliance with Regulation 2016/679 (GDPR).

Appendix B: Registration and feedback form

REGISTRATION FORM

Contact information

Q1 First name

Q2 Last name

Q3 Primary email address

Tell us more about yourself

We are asking these questions to understand better the diversity within the pool of participants in this workshop.

Q4 Gender

- ☐ Male
- ☐ Female
- ☐ Non-binary
- ☐ A gender not listed here
- ☐ Prefer not to say

Q5 Age (enter as a whole number, e.g. 20)

Q6 What is your current employment status?

- ☐ Employed full-time or part-time
- ☐ Self-employed
- ☐ Unemployed
- ☐ Student
- ☐ Retired
- ☐ Other (please specify)

If Employed or Self-employed: What is your current job title/role?

If Student: What is the primary focus of your studies?

Q7 What are you hoping to gain from this event?

Q8 Do you require any assistance to fully participate in this virtual workshop?

- ☐ Yes
- ☐ No
- ☐ Unsure
- ☐ Prefer not to say

If yes: What accommodation will help you fully participate in this workshop?

Q9

[Likert Scale (5-point: Not at all Familiar - Extremely Familiar)]	**Not at all Familiar**	**Slightly Familiar**	**Somewhat Familiar**	**Moderately Familiar**	**Extremely Familiar**	**Not applicable / No opinion**
How familiar are you with hydrogen energy technologies?						

Q10 What comes to mind when you think of hydrogen energy?
[Textarea]

Q11 Please indicate the extent to which you agree or disagree with the following statements about hydrogen as an energy source. Select the option that best represents your view.

[Likert Scale (5-point: Strongly agree - Strongly disagree)]	**Strongly agree**	**Agree**	**Neither agree nor disagree**	**Disagree**	**Strongly disagree**	**Not applicable / No opinion**
Hydrogen is a safe energy source						
Hydrogen is a sustainable energy source						
Hydrogen is as polluting as Diesel or gasoline						

Q13 Are you aware of any local hydrogen projects in your country?
[Textarea]

Q14 Are you familiar with your country's national hydrogen strategy or policy?

- ☐ I don't know if we have one
- ☐ I know there is a strategy/policy but I am not familiar with it
- ☐ I am familiar with my country's hydrogen strategy/policy

Please click Submit to send your responses.

FEEDBACK SURVEY

We are asking these questions again to **match your registration responses with feedback results**. Your responses will be anonymised before any data or results are published as an open dataset.

Q1 First name

Q2 Last name

Q3 Primary email address

Q4 Gender

- ☐ Male
- ☐ Female
- ☐ Non-binary
- ☐ A gender not listed here
- ☐ Prefer not to say

Q5 Age (enter as a whole number, e.g. 20)

Q6 Did you attend the co-creation workshop?

- ☐ Yes
- ☐ No

Q7 What comes to mind when you think of hydrogen energy?
[Textarea]

Q8 Please indicate the extent to which you agree or disagree with the following statements about hydrogen as an energy source. Select the option that best represents your view.

[Likert Scale (5-point: Strongly agree - Strongly disagree)]	**Strongly agree**	**Agree**	**Neither agree nor disagree**	**Disagree**	**Strongly disagree**	**Not applicable / No opinion**
Hydrogen is a safe energy source						
Hydrogen is a sustainable energy source						
Hydrogen is as polluting as Diesel or gasoline						

Q9 Are you aware of any local hydrogen projects in your country?
[Textarea]

Q10 Are you familiar with your country's national hydrogen strategy or policy?

- ☐ I don't know if we have one
- ☐ I know there is a strategy/policy but I am not familiar with it
- ☐ I am familiar with my country's hydrogen strategy/policy

Q11 Did the workshop highlight any misconceptions you might have had about hydrogen energy?

- ☐ Yes
- ☐ No
- ☐ Unsure
- ☐ Prefer not to say

If yes: Please elaborate.

Q12 What activities or events do you think would be most effective to help people learn about and understand hydrogen energy technologies? Tick all that apply.

- ☐ Hands-on demonstrations and exhibitions
- ☐ Community workshops
- ☐ Public lectures and Q&A sessions
- ☐ Virtual webinars and live-streamed events
- ☐ Social media campaigns
- ☐ Newsletters and local publications
- ☐ Other (please specify)

For each pair of words below, please select the point between them that best describes your views of the event:

Q13 The co-creation workshop was…

	3	**2**	**1**	**0**	**1**	**2**	**3**	
Fascinating								Boring
Worthless								Valuable
Useless								Useful
Important								Unimportant
Irrelevant								Relevant

Q14 Using the response options below, please indicate your views about the co-creation workshop you attended.

[Likert Scale (5-point: Strongly agree - Strongly disagree)]	**Strongly agree**	**Agree**	**Neither agree nor disagree**	**Disagree**	**Strongly disagree**	**Not applicable / No opinion**
I was disappointed with the workshop.						
I found the workshop confusing.						
The workshop was poorly delivered by the speaker(s).						
I felt uncomfortable asking questions at this workshop.						
I enjoyed the workshop.						
This workshop was a poor use of time.						
I was able to actively participate.						
My contribution to the process was valued.						
The process was badly managed.						
I have a clear understanding of the expectations for my						

contribution to the process.						
I needed more information to fully participate.						
All voices have been heard and considered.						

Q15 Any other thoughts or feedback about the HYPOP co-creation workshop you would like to offer?
[Textarea]

Please click Submit to send your responses.

HyPOP

www.hypop-project.eu

info@hypop-project.eu

#HYPOPPROJECT

Let's make the hydrogen revolution

ENVIRONMENT PARK

IMI Institute for Methods Innovation

institute IMDEA energy

APRE

Hidrógeno

REGIONALNA IZBA GOSPODARCZA POMORZA

TWEED

BALKAN HYDROGEN CLUSTER

Clean Hydrogen Partnership

Co-funded by the European Union