

**Report on the Survey Conducted at the Final Workshop of the PRIN
"Safe H2D" Project – Capo d'Orlando, 6 February 2026**

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1. Introduction

This document summarises the results of the survey conducted during the final workshop of the PRIN “Safe H2D” project, held in Capo d’Orlando on 6 February 2026. Although thirty-eight participants attended the workshop, only twenty-one completed and returned the questionnaire. Respondents represented the four categories of the ‘quadruple helix’: government, industry, academia, and civil society.

Tables 1 and 2 present the distribution of respondents across these categories and the specific roles they reported.

Table 1. Categories of respondents.

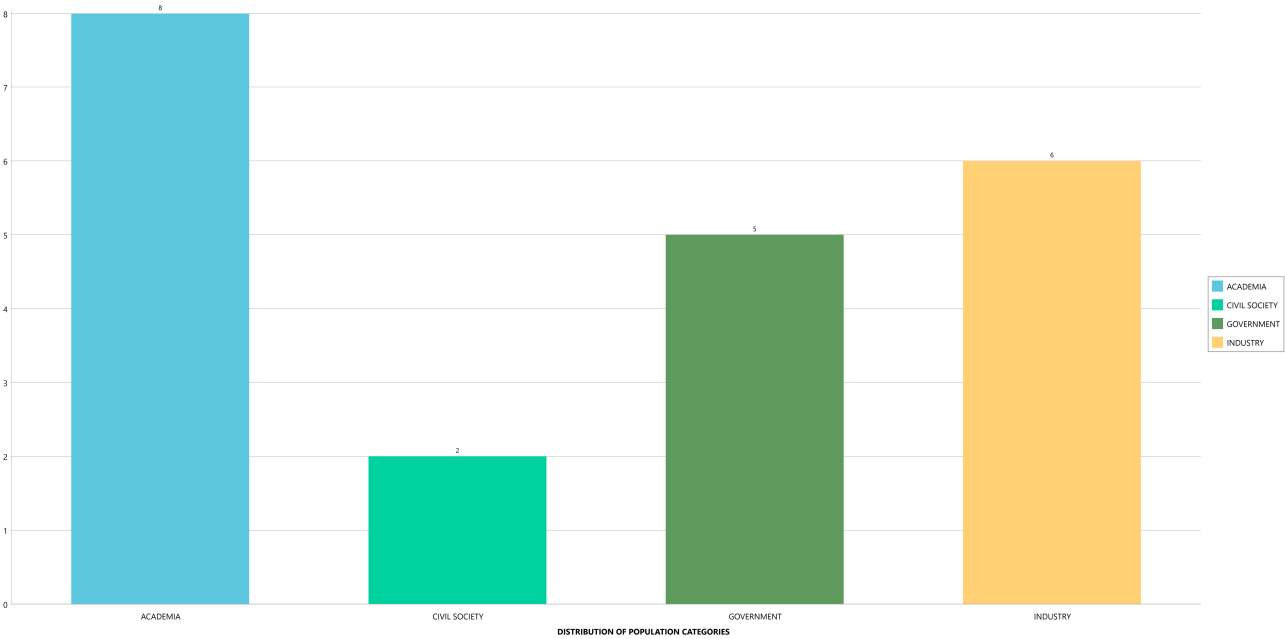
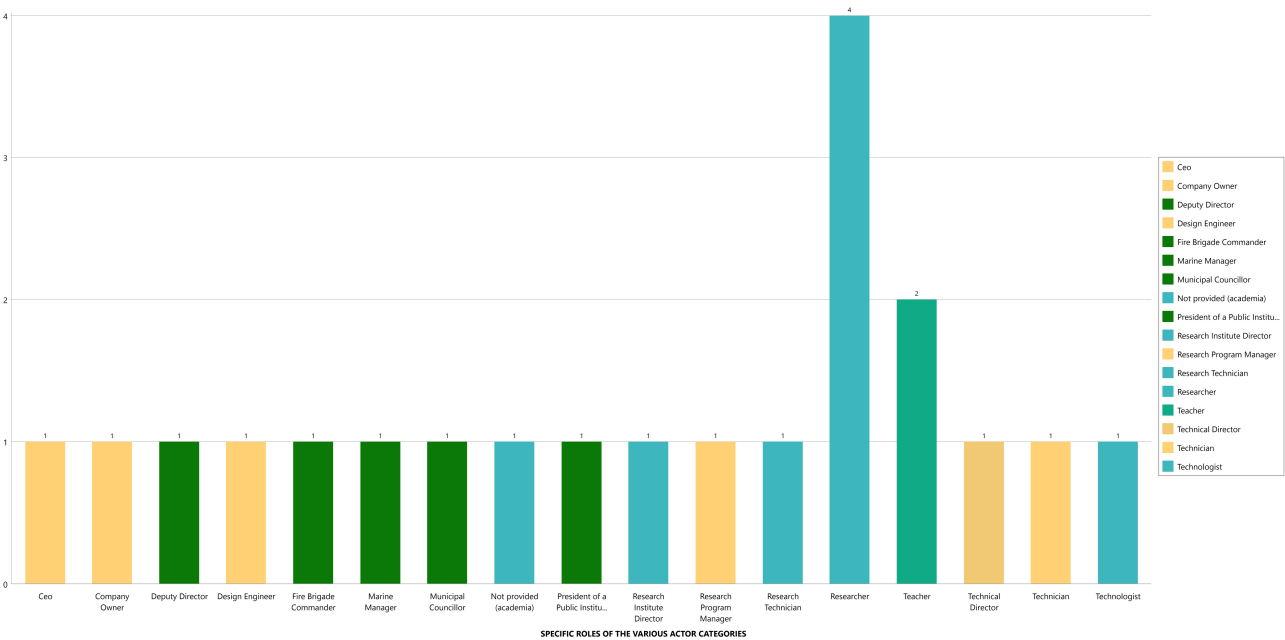


Table 2. Specific roles of respondents.



Among the 21 respondents, academia included eight individuals: four researchers, one technologist, one research technician, one research institute director, and one who did not specify a role. Civil society included two school teachers. The government category comprised five respondents: one deputy director, one fire brigade commander, one marine manager, one municipal councillor and one

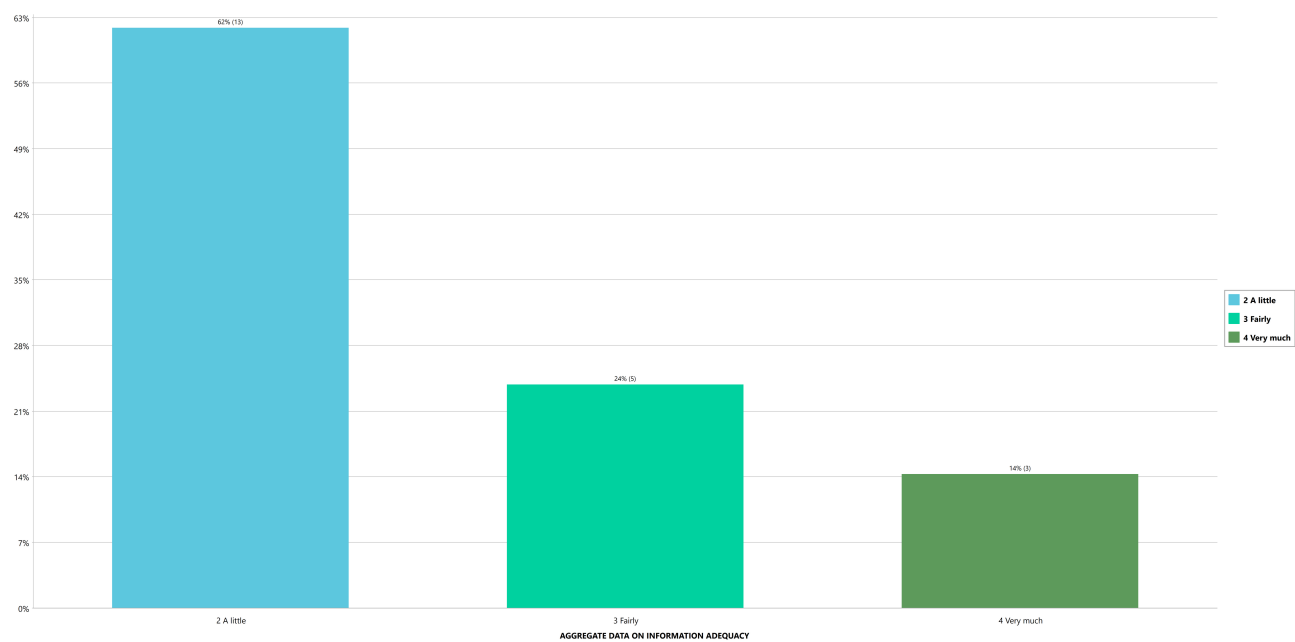
president of a public institution. Industry included six respondents: one CEO, one company owner, one design engineer, one research programme manager, one technical director, and one technician. The questionnaire consisted of 12 multiple-choice questions exploring participants' knowledge, perceptions, and views on hydrogen-related topics, including information and training, bureaucratic, technical, and economic barriers, the role of companies and public policy, collaboration between public and private actors, and the involvement of potential end users in early project stages.

2. Results

- *Q1: Adequacy and diffusion of hydrogen information*

62% of respondents considered available information 'a little' adequate, 24% 'fairly' adequate, and 14% 'very' adequate.

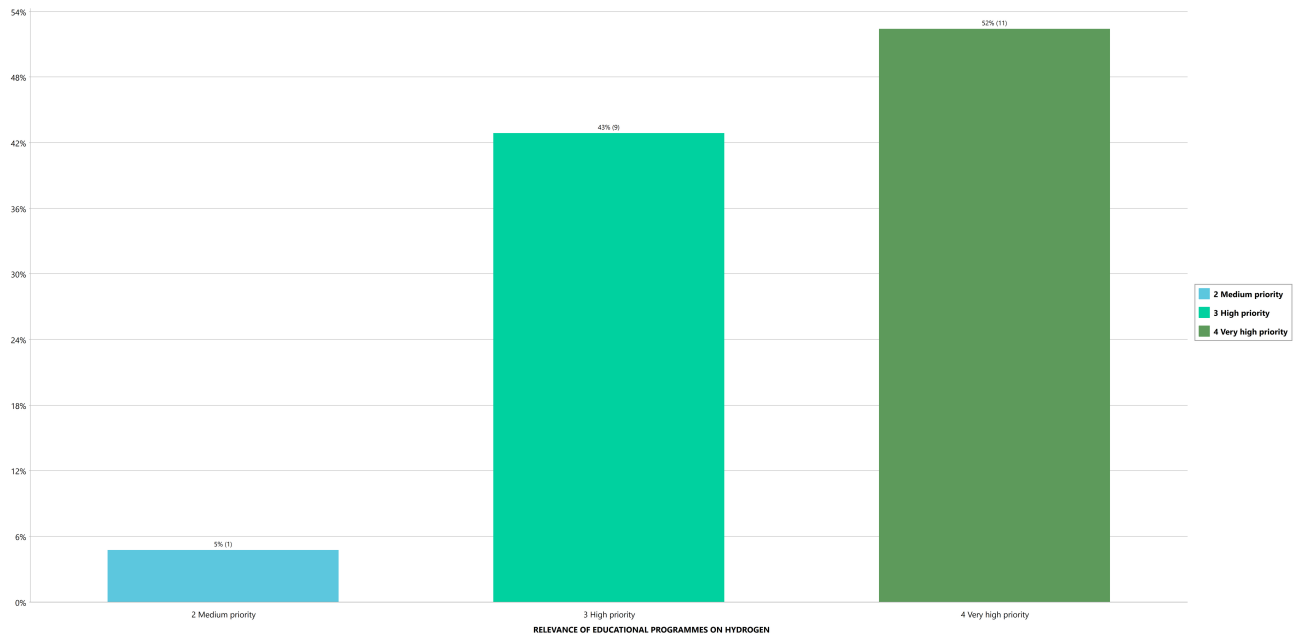
Table 3. Q1: How adequate and widespread do you consider the available information on hydrogen to be?



- *Q2: Importance of training and skills programmes*

Most respondents rated hydrogen education as a high or very high priority (52% and 43%, respectively), with only one respondent considering it medium priority.

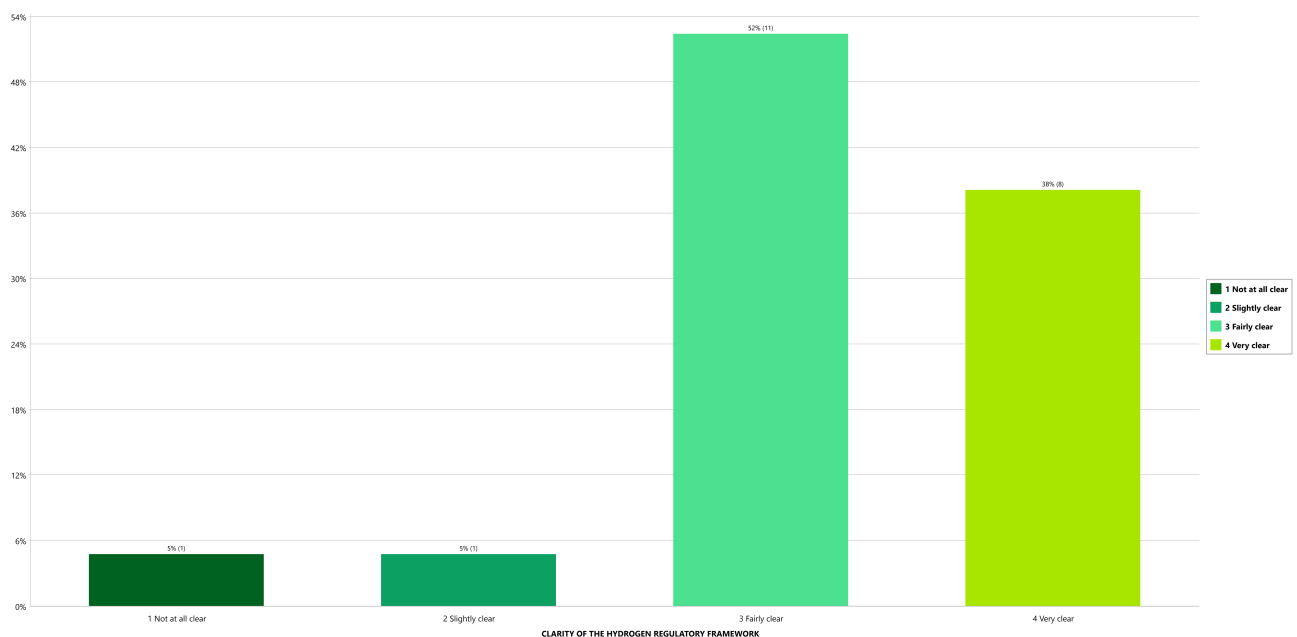
Table 4. Q2: How important do you think it is to develop training and skills programmes in the hydrogen sector?



- *Q3: Clarity of hydrogen regulations*

52% deemed regulations ‘fairly clear’, 38% ‘very clear’, and two respondents rated them as not clear or slightly clear.

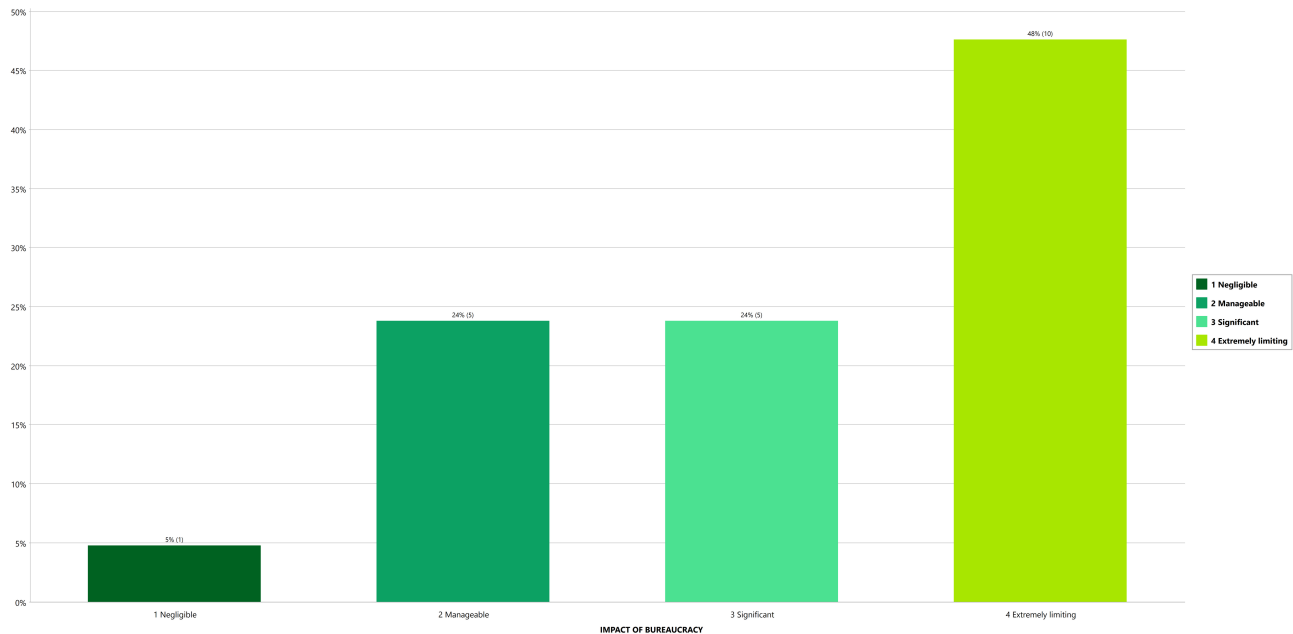
Table 5. Q3: How clear do you find the hydrogen regulations?



- *Q4: Impact of bureaucracy on hydrogen adoption*

48% of respondents considered bureaucracy ‘extremely limiting’, while the remaining respondents were divided between ‘manageable’, ‘significant’, and ‘negligible’.

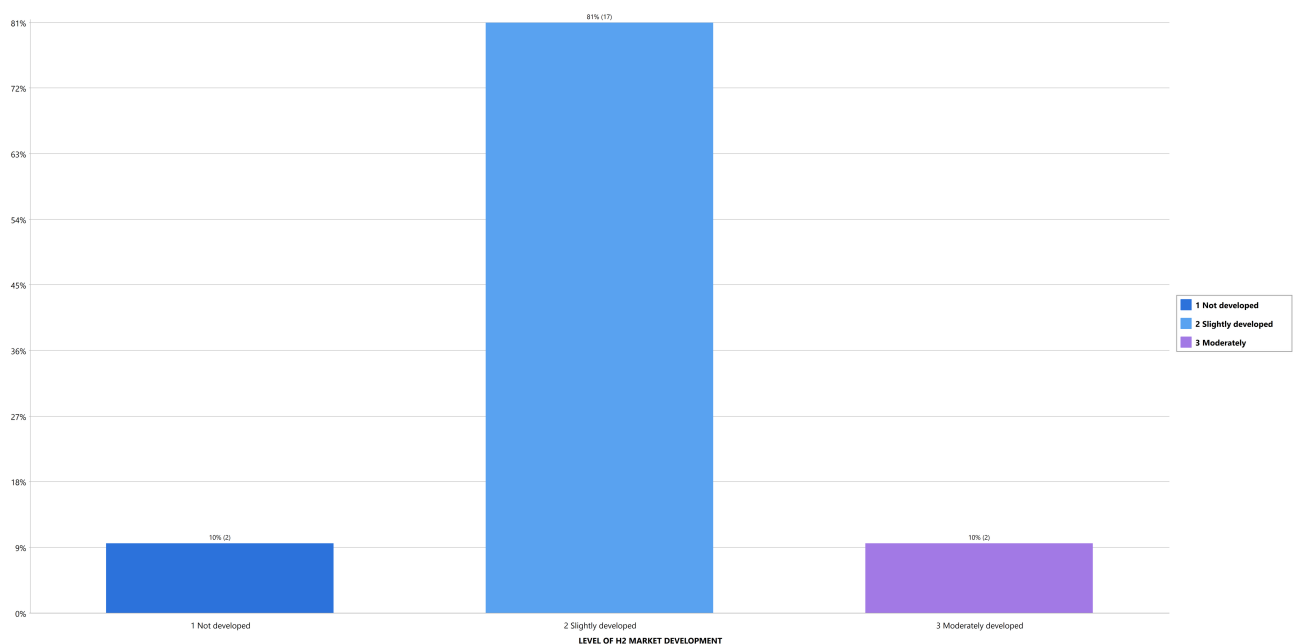
Table 6. Q4: How would you assess the impact of bureaucracy on the potential spread of hydrogen?



- *Q5: Development level of the hydrogen market*

81% considered the hydrogen market ‘slightly developed’; the remaining four respondents were equally split between ‘not developed’ and ‘moderately developed’.

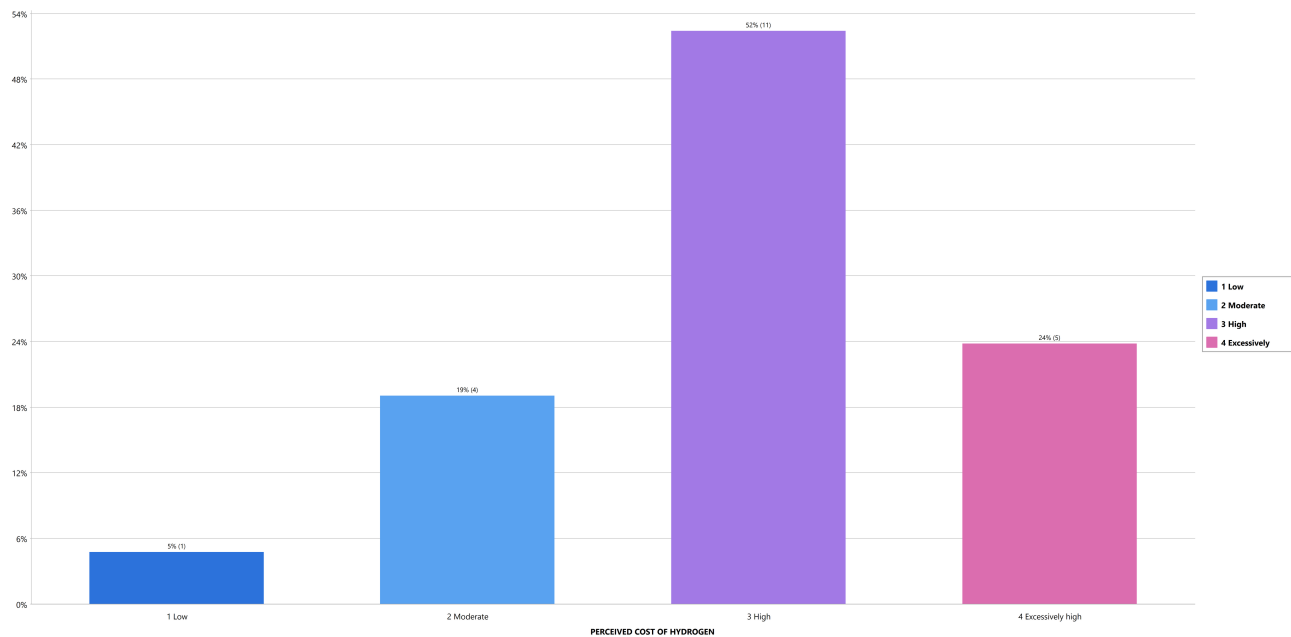
Table 7. Q5: How would you assess the current level of development of the hydrogen market?



- *Q6: Perception of hydrogen costs*

52% perceived costs as 'high', 24% 'excessively high', 19% 'moderate', and one respondent 'low'.

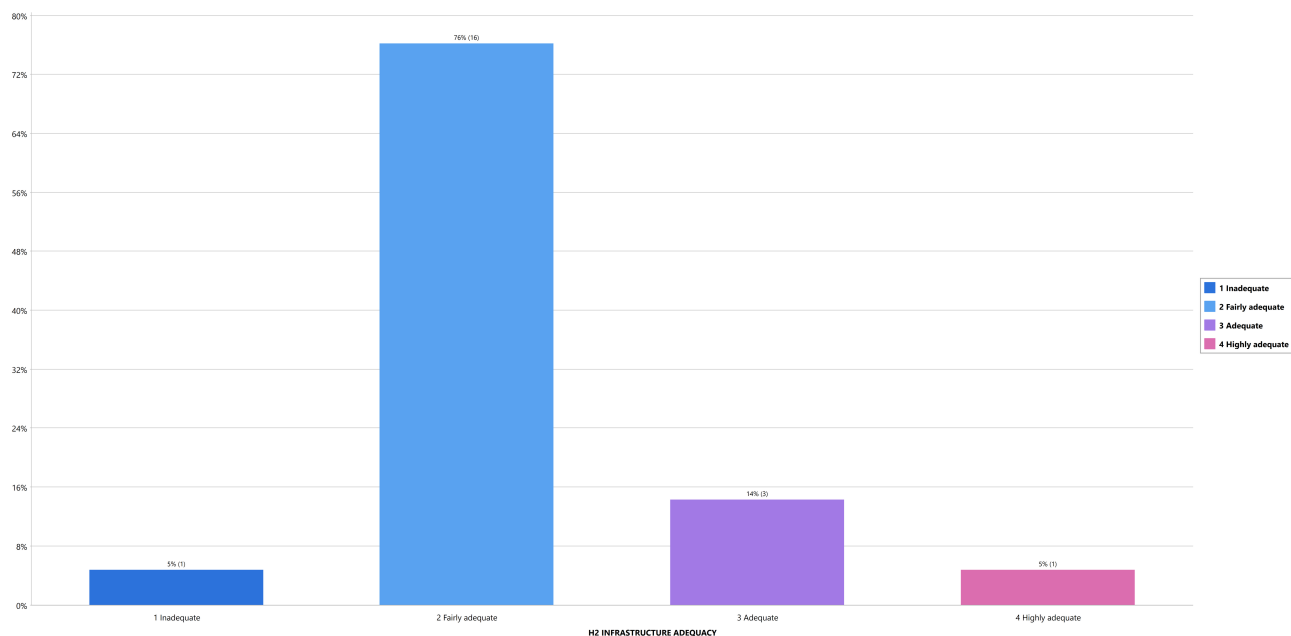
Table 8. Q6: What is your perception of the current cost of hydrogen?



- *Q7: Adequacy of current hydrogen infrastructure*

76% considered infrastructure 'fairly adequate', three 'adequate', and two were divided between 'inadequate' and 'highly adequate'.

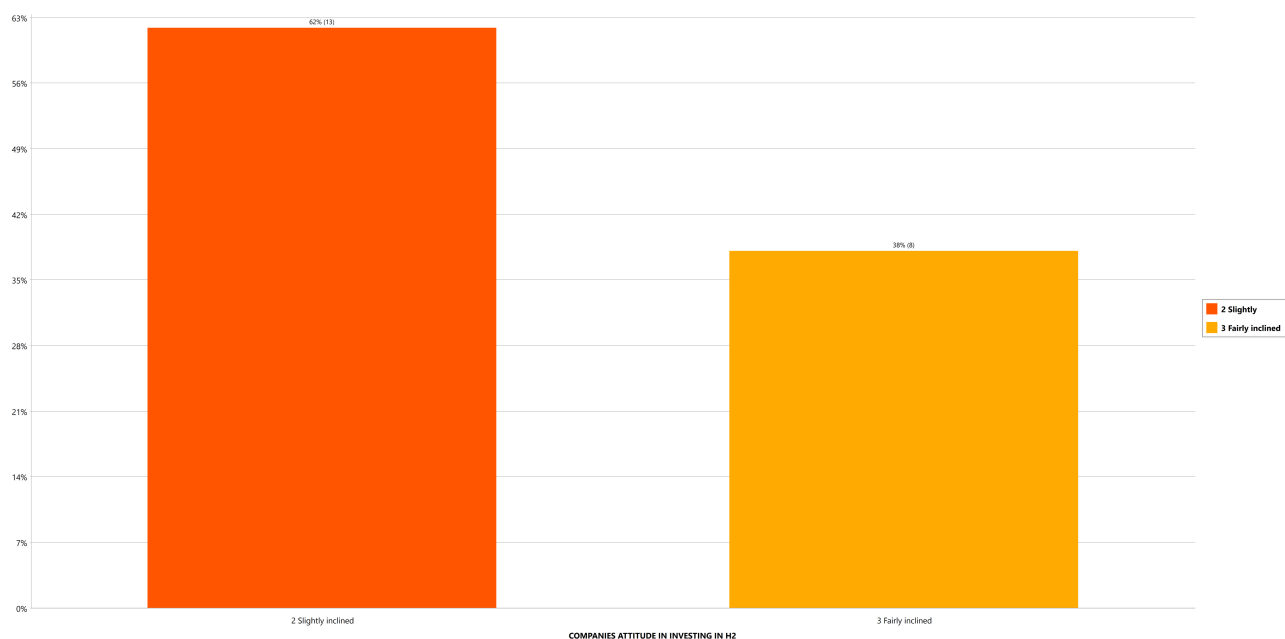
Table 9. Q7: How would you evaluate the adequacy of the current hydrogen infrastructure?



- *Q8: Companies' attitude toward investing in hydrogen*

62% reported companies as 'slightly inclined' to invest, and 38% as 'fairly inclined'.

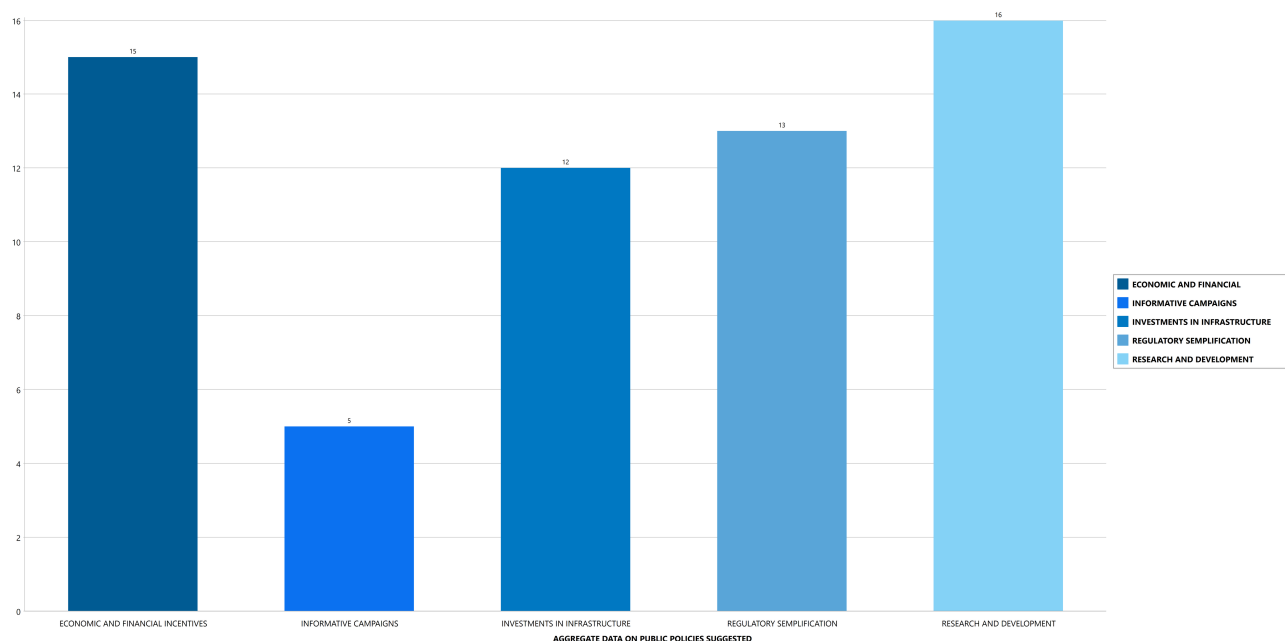
Table 10. Q8: How would you describe the company's attitude towards investing in hydrogen?



- *Q9: Public policy support for hydrogen deployment*

Respondents indicated the most important support measures by public policy: research and development (16 responses), economic and financial incentives (15), regulatory simplification (13), and infrastructure investment (12). Informative campaigns were selected by five respondents. Multiple selections were allowed.

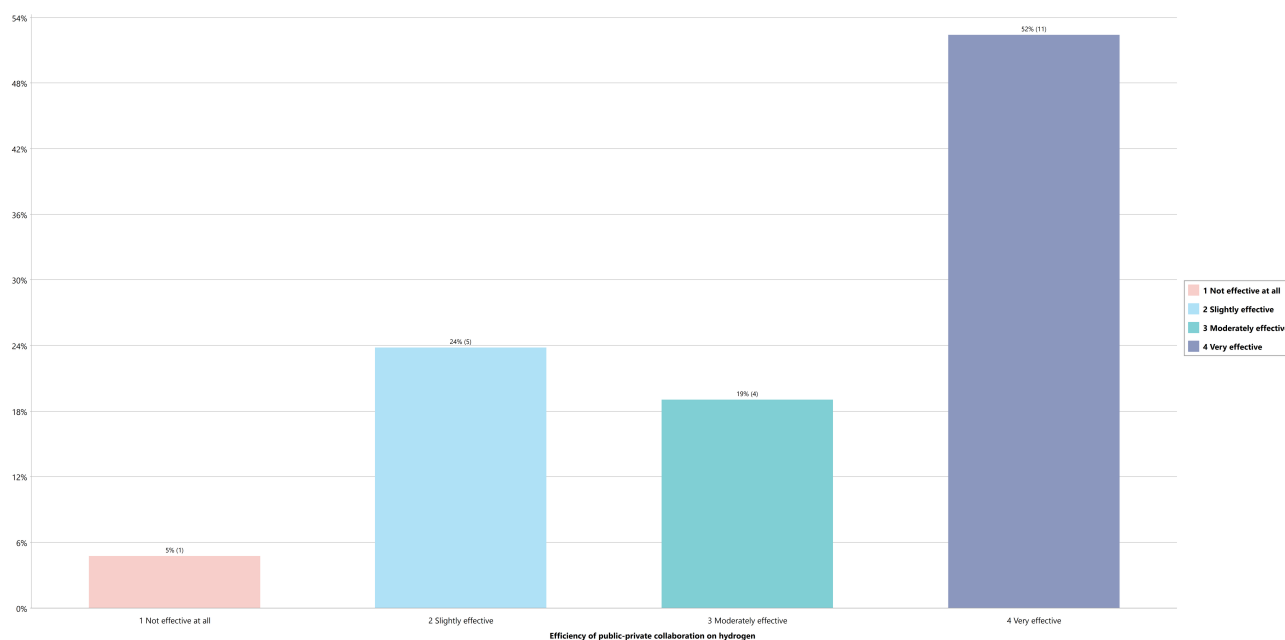
Table 11. Q9: What kind of support could public policy offer for the deployment of hydrogen?



- *Q10: Efficiency of public-private collaboration*

52% considered collaborations ‘very effective’, 24% ‘slightly effective’, 19% ‘moderately effective’, and one respondent ‘not effective at all’.

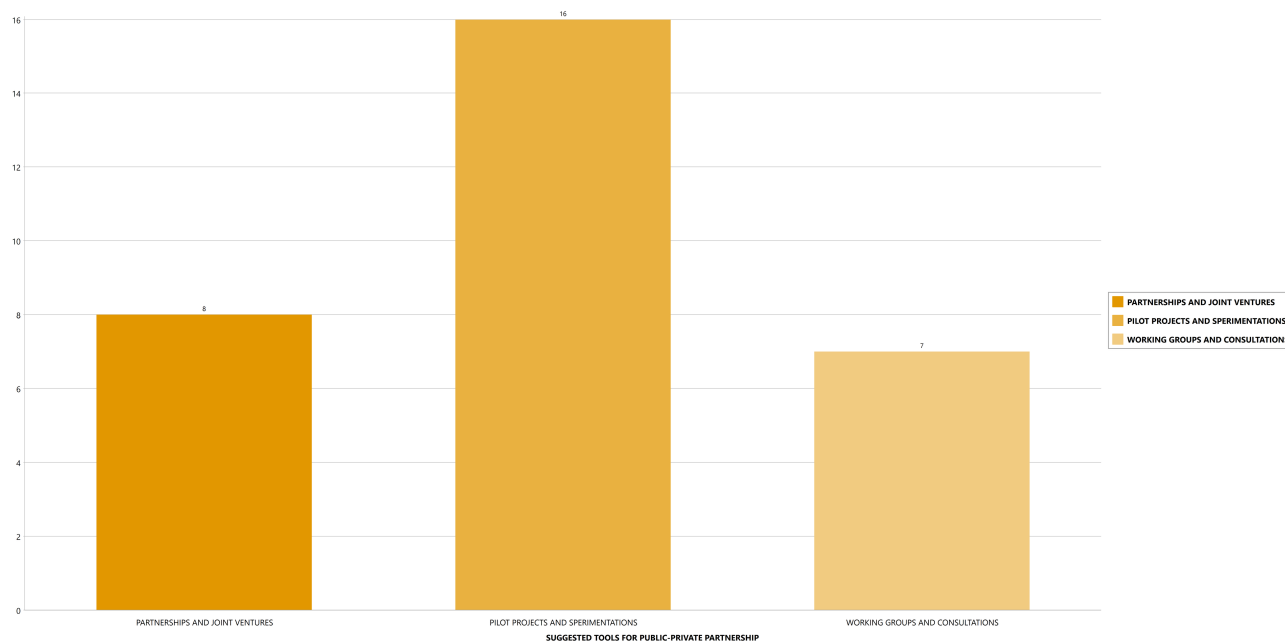
Table 12. Q10: How efficient do you consider the collaboration between public and private actors in the hydrogen sector?



- *Q11: Tools to foster public-private partnerships*

Pilot projects and experiments were considered most useful (16 responses), followed by partnerships/joint ventures (8) and working groups/consultations (7). Multiple selections were allowed.

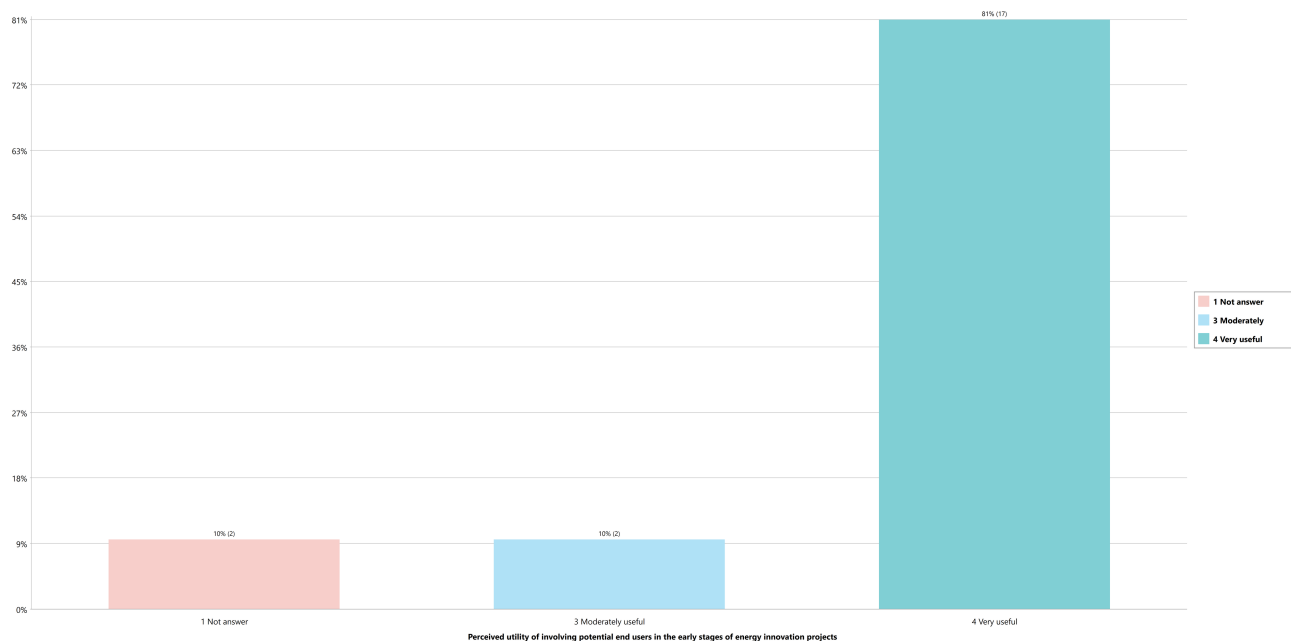
Table 13. Q11: Which tools could help to foster public-private partnerships in the hydrogen sector more effectively?



- *Q12: Involvement of end users in early project stages*

81% considered direct involvement ‘very useful’, two rated it ‘moderately useful’, and two did not respond.

Table 14. Q12: Do you think it would be useful to involve potential end users directly in the early stages of the new energy technologies project?



3. Discussion

Although the survey represents only one component of the broader research investigating the political, economic, and social conditions affecting the development of a local hydrogen economy in the Nebrodi region (linked to the Capo d’Orlando hydrogen refuelling station), the results reveal several noteworthy trends.

Information and Education. Most respondents (62%) considered current hydrogen information to be only slightly adequate, while nearly all respondents (95%) rated education on hydrogen as a high or very high priority. Despite the high perceived importance of hydrogen information and education, only five respondents suggested informative campaigns as a policy measure to be taken (Q9).

Regulations and Bureaucracy. While the regulatory framework is generally perceived as clear — 52% rated it as fairly clear and 38% as very clear — bureaucracy is seen as a major barrier, with 48% considering it extremely limiting. It is interesting to note that 13 respondents specifically highlighted regulatory simplification as a necessary support measure by political-institutional actors (Q9). Further qualitative research could help assess whether these insights are confirmed, clarifying whether this simplification should primarily target bureaucratic obstacles (Q4), rather than addressing the clarity of the regulatory framework, which is already considered sufficient according to Q3 results.

Economic and Market Conditions. The hydrogen market is perceived as only slightly developed by 81% of respondents, while 76% consider hydrogen costs to be high or very high. These perceptions reflect a classic demand–supply paradox, in which limited market demand discourages large-scale investment and production, while high production costs and insufficient scale simultaneously constrain demand growth. In line with this, several respondents (Q9) suggested economic and financial incentives as a way to support the development of the hydrogen market, highlighting concern about the economic conditions surrounding hydrogen adoption. Overall, the survey highlights a gap between the generally positive perception of hydrogen and the structural constraints that still limit its economic and market development.

Infrastructure and Investment. The current hydrogen infrastructure is considered fairly adequate by 76% of respondents. Accordingly, 12 respondents in Q9 recommended additional public investment to strengthen the infrastructure, indicating a perceived need for further support despite the generally adequate status.

Companies' Investment Attitude and Policy Support. Companies' willingness to invest in hydrogen is generally moderate, with 62% of respondents describing it as slightly inclined and 38% as fairly inclined. Policy measures suggested by respondents (Q9) — especially R&D funding (16 respondents), economic and financial incentives (15), and infrastructure investment (12) — highlight potential levers to encourage private sector participation.

Public-Private Collaboration. Public-private partnerships are generally viewed as effective, with 52% rating them very effective and 19% moderately effective. Pilot projects (16 respondents), joint ventures (8), and working groups/consultations (7) were highlighted as preferred tools in Q9, indicating a strong interest in collaborative, risk-sharing approaches.

End User Participation. Direct involvement of end users in the early stages of new energy technology projects is considered highly useful by 81% of respondents. Accordingly, co-creation and open science methodologies can be regarded as promising approaches to engage both technical and non-technical stakeholders. From the perspective of social acceptance and Responsible Research and Innovation (RRI), early stakeholder involvement can enhance transparency, mutual learning, and trust-building, while allowing concerns, expectations, and local knowledge to be integrated into the innovation process. Such participatory processes may therefore contribute not only to identifying key challenges more precisely, but also to increasing the legitimacy and long-term sustainability of a local hydrogen economy.

4. Conclusion

This report presents the results of the survey conducted during the final workshop of the PRIN “Safe H2D” project, held in Capo d’Orlando on 6 February 2026. The questionnaire collected the views of representatives from government, industry, academia, and civil society, providing a structured overview of perceptions related to hydrogen information, regulation, market conditions, infrastructure, public–private collaboration, and end-user involvement.

The survey represents one component of a broader study aimed at analysing the political, economic, and social conditions that may hinder or foster the development of a local hydrogen economy in the Nebrodi area. The wider research is grounded in a qualitative research design that combines semi-structured interviews, focus groups, World Café meetings, and other participatory methods. These methods are designed to examine in greater depth the issues that have emerged both from the interviews conducted so far and from the questionnaire presented in this report. In particular, they seek to explore underlying motivations, perceptions, and interpretative frameworks, and to identify practical, context-sensitive strategies to address the challenges highlighted by stakeholders.

Although the survey constitutes only one phase of the overall research process, this report already provides valuable insights for policymakers, industry actors, and researchers engaged in the development of a local hydrogen ecosystem. The findings highlight key areas of attention, such as regulatory processes, economic conditions, infrastructure development, public–private cooperation, and stakeholder engagement, which may inform future decision-making and strategic planning. In this sense, the survey results contribute to building a shared knowledge base and support evidence-informed approaches to the implementation of hydrogen initiatives at the local level. These preliminary findings should therefore be interpreted as indicative insights that will be further explored in the qualitative phases of the research.